CITY of CLOVIS

AGENDA • CLOVIS CITY COUNCIL

Council Chamber, 1033 Fifth Street, Clovis, CA 93612 (559) 324-2060
www.cityofclovis.com

In compliance with the Americans with Disabilities Act, if you need special assistance to access the City Council Chamber to participate at this meeting, please contact the City Clerk or General Services Director at (559) 324-2060 (TTY – 711). Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to the Council Chamber.

Any writings or documents provided to a majority of the City Council regarding any item on this agenda will be made available for public inspection at City Hall, in the City Clerk's office, during normal business hours. In addition, such writings and documents may be posted on the City's website at www.cityofclovis.com.

July 9, 2018 6:00 PM Council Chamber

The City Council welcomes participation at Council Meetings. Members of the public may address the Council on any item of interest to the public that is scheduled on the Agenda. In order for everyone to be heard, please limit your comments to 5 minutes or less, or 10 minutes per topic.

Meeting called to order by Mayor Whalen
Flag salute led by Councilmember Bessinger

ROLL CALL

PUBLIC COMMENTS (This is an opportunity for the members of the public to address the City Council on any matter within the City Council's jurisdiction that is not listed on the Agenda. In order for everyone to be heard, please limit your comments to 5 minutes or less, or 10 minutes per topic. Anyone wishing to be placed on the Agenda for a specific topic should contact the City Manager's office and submit correspondence at least 10 days before the desired date of appearance.)

ORDINANCES AND RESOLUTIONS (With respect to the approval of resolutions and ordinances, the reading of the title shall be deemed a motion to waive a reading of the complete resolution or ordinance and unless there is a request by a Councilmember that the resolution or ordinance be read in full, further reading of the resolution or ordinance shall be deemed waived by unanimous consent of the Council.)

CONSENT CALENDAR Consent Calendar items are considered routine in nature and voted upon as one item unless a request is made to give individual consideration to a specific item.
(See Attached Consent Agenda.)

1. PUBLIC HEARINGS

A. Consider Approval - Res. 18-__, Review and Certification of an Environmental Impact Report and adopt a Mitigation Monitoring/Reporting Program for the City of Clovis Landmark Commons Civic Center North Project. (Staff: Andrew Haussler)

2. CITY MANAGER COMMENTS

3. COUNCIL ITEMS

A. Council Comments

4. CLOSED SESSION

A. Government Code Section 54956.9(d)(1)
CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION
Brianne Glick v. City of Clovis (Claim for damages filed on May 29, 2018).

ADJOURNMENT

Meetings and Key Issues			
Jul. 16, 2018 (Mon.)	6:00 P.M.	Regular Meeting	Council Chamber
Aug. 6, 2018 (Mon.)	6:00 P.M.	Regular Meeting	Council Chamber
Aug. 7 – Sep. 3, 2018	Summer Recess		
Sep. 4, 2018 (Tue.)	6:00 P.M.	Regular Meeting	Council Chamber
Sep. 10, 2018 (Mon.)	6:00 P.M.	Regular Meeting	Council Chamber
Sep. 17, 2018 (Mon.)	6:00 P.M.	Regular Meeting	Council Chamber
Oct. 1, 2018 (Mon.)	6:00 P.M.	Regular Meeting	Council Chamber
Oct. 9, 2018 (Mon.)	6:00 P.M.	Regular Meeting	Council Chamber
Oct. 15, 2018 (Mon.)	6:00 P.M.	Regular Meeting	Council Chamber

CONSENT CALENDAR - Items considered routine in nature are to be placed upon the Consent Calendar. They will all be considered and voted upon in one vote as one item unless a Councilmember requests individual consideration. A Councilmember's vote in favor of the Consent Calendar is considered and recorded as a separate affirmative vote in favor of each action listed. Motions in favor of adoption of the Consent Calendar are deemed to include a motion to waive the reading of any ordinance or resolution on the Consent Calendar. For adoption of ordinances, only those that have received a unanimous vote upon introduction are considered Consent items.

A. CITY CLERK

1) Approval - Minutes for the June 11, 2018, June 18, 2018, and June 25, 2018 Council meetings.
2) Adopt – Ord. 18-16, Amending Various Sections of the Municipal Code Relating to Development Fees. (Vote: 5-0)
3) Adopt - Ord. 18-17, An Ordinance of the City Council of the City of Clovis Amending Chapter 3.1, of Title 3, of the Clovis Municipal Code Pertaining to Business Registration and Tax Certificates. (Vote: 5-0)

B. ADMINISTRATION

1) No items.

C. COMMUNITY AND ECONOMIC DEVELOPMENT

1) Approval – Res. 18-___, Authorizing the Purchase of the State of California's Employment Development Department Employment Data for Economic Development Activities.

D. FINANCE

1) No items.

E. GENERAL SERVICES

1) Approval – Res. 18-___, Amending the City's FY 2018-2019 Position Allocation Plan by deleting one (1) Community Service Officer and adding one (1) Animal Control Officer.
2) Approval – Res. 18-___, Declaring the City's Intent to continue to be a direct sponsor of the Clovis Senior Services Programs; and, Authorize the City Manager to submit an application for Older Americans Act Funding for Title III C-1 Nutrition Services Through the Fresno-Madera Area Agency on Aging (FMAAA).

F. PLANNING AND DEVELOPMENT SERVICES

1) No items.

G. PUBLIC SAFETY

1) Approval - Res. 18-___, Amending the Police Department's Budget for FY 2018-2019 to reflect the California Department of Justice Tobacco Law Enforcement Grant Award in the amount of $100,798.
2) Approval - Res. 18-___, Amending the Police Department's Budget for FY 2018-2019 to reflect the Collaborative Body-Worn-Camera Implementation Program Grant Award in the amount of $74,665.

H. PUBLIC UTILITIES

1) No items.

I. REDEVELOPMENT SUCCESSOR AGENCY

1) No items.

CLOVIS CITY COUNCIL MEETING

June 11, 2018 **6:00 P.M.** **Council Chamber**

Meeting called to order by Mayor Whalen
Flag Salute led by Boy Scout Troop 007

Roll Call: Present: Councilmembers Ashbeck, Bessinger, Flores, Mouanoutoua
Mayor Whalen
Absent: None

6:02 P.M. - PUBLIC COMMENTS

Steven Zyszkiewicz, resident, commented the need for cannabis dispensaries in Clovis.

6:06 - CONSENT CALENDAR

Motion by Councilmember Ashbeck, seconded by Councilmember Mouanoutoua, that the items on the Consent Calendar, except item E1, be approved. Motion carried by unanimous vote.

A1) Approved - Minutes for the June 4, 2018 Council meeting.
A2) Approved - Purchase of Support and Maintenance contract for Network and Telecommunications equipment from Red River Solutions.
A3) Adopted – **Ord. 18-12**, R2016-07, A request to prezone approximately 48.61 acres from the County R-R (Rural Residential) Zone District to the R-1 (Single-Family Residential) Zone District, and prezone 9.52 acres from County R-R Zone District to the City R-R Zone District. (Vote: 5-0)
A4) Adopted - **Ord. 18-13**, R2018-03, A request to prezone approximately 3.11 acres of land located on the east side of Armstrong Avenue, between Nees and Teague Avenues from the County RR (Rural Residential) Zone District to the Clovis R-R (Rural Residential) Zone District. Ishkhan Bayrakdarian, owner/ applicant. (Vote: 5-0)
C1) Received and Filed – Business Organization of Old Town (B.O.O.T.) Third Quarter Report, January through March 2018.
D1) Received and Filed – Investment Report for the month of March 2018.
D2) Received and Filed – Treasurer's Report for the month of March 2018.
H1) Received and Filed – Public Utilities Report for the month of March 2018.

6:08 - CONSENT CALENDAR ITEM (E1) APPROVED – **RES. 18-77**, APPROVING THE USE OF UNMANNED AIRCRAFT SYSTEMS.

Management Analyst Charles Johnson presented a report on the use of unmanned aircraft systems. Charles Johnson indicated that this item was pulled from the consent calendar due to some minor changes in the staff report after final print last week. There being no public comment, Mayor Whalen closed the public portion. Discussion by the Council. Motion by Councilmember Ashbeck, seconded by Councilmember Flores, for the Council to approve a resolution authorizing the use of unmanned aircraft systems. Motion carried by unanimous vote.

6:10 ITEM 1A - APPROVED INTRODUCTION – **ORD. 18-14**, R2018-04, REZONING APPROXIMATELY 0.9 ACRES OF LAND LOCATED AT THE SOUTHWEST CORNER OF GETTYSBURG AND LAVERNE AVENUES (1912 GETTYSBURG AVENUE) FROM THE R-A (SINGLE-FAMILY RESIDENTIAL – 24,000 SQ. FT.) ZONE DISTRICT TO THE R-1-8500 (SINGLE-FAMILY RESIDENTIAL – 8,500 SQ. FT.) ZONE DISTRICT. CHEU M. & KA K. LEE, OWNERS; JEFF DEYOUNG, APPLICANT; HARBOUR & ASSOCIATES, REPRESENTATIVE.

Associate Planner George Gonzales presented a report on a request to rezone approximately 0.9 acres of land located at the southwest corner of Gettysburg and Laverne Avenues (1912 Gettysburg Avenue) from the R-A (Single-Family Residential – 24,000 Sq. Ft.) Zone District to the R-1-8500 (Single-Family Residential – 8,500 Sq. Ft.) Zone District. Approval of the request will bring the property into conformance with the General Plan Land Use Diagram and permit the subdivision of the parcel for future development of an additional single-family home. Jeff DeYoung, applicant, spoke in favor of the request. Discussion by the Council.

Motion by Councilmember Ashbeck, seconded by Councilmember Flores, for the Council to approve the introduction of ordinance rezoning approximately 0.9 acres of land located at the southwest corner of Gettysburg and Laverne Avenues (1912 Gettysburg Avenue) from the R-A (Single-Family Residential – 24,000 Sq. Ft.) Zone District to the R-1-8500 (Single-Family Residential – 8,500 Sq. Ft.) Zone District. Motion carried by unanimous vote.

6:12 ITEM 1B - CONDUCT A PUBLIC HEARING AND CLOSE THE ELECTION REGARDING AN ASSESSMENT INCREASE IN LANDSCAPE MAINTENANCE DISTRICT NO. 1.

Public Utilities Director Scott Redelfs presented a report on a request to conduct a Public Hearing and close the election regarding an assessment increase in Landscape Maintenance District No. 1. The current assessment established for benefit Zone 2, within the Landscape Maintenance District No.1 (LMD), are insufficient to cover maintenance and capital replacement costs. On February 5, 2018 Council authorized an election to increase the assessment in Zone 2 for the fiscal year 2018/19 levy. Ballots have been mailed to all affected property owners with instructions that they must be returned by mail by 5:00 PM on June 11, 2018, or in person by the close of the public hearing to be held at the June 11 Council Meeting. This public hearing is being held to hear all public comments regarding the proposed increases to LMD assessments, and to close the election at the end of the hearing. The ballots will be tabulated in the City Council Chambers beginning at 8:00 AM on June 12, 2018, and tabulation will be continued on June 13, 2018 in the City Council Chambers beginning at 8:00 AM if there is a need for an additional day. Any interested parties may attend and observe the tabulation. The results of the election will be reported back to Council on June 18, 2018.

Tom Catolano, resident in Zone 2, commented on and raised questions about the LMD and if it does not pass, the impact on existing service levels. Discussion by the Council.

Motion by Councilmember Ashbeck, seconded by Councilmember Flores, for the Council to Conduct a Public Hearing and Close the Election Regarding an Assessment Increase in Landscape Maintenance District No. 1. Motion carried by unanimous vote.

6:26 ITEM 2A1 - APPROVED - REVIEW AND APPROVAL – **RES. 18-78**, 2018-19 ANNUAL BUDGET, AND INFORMATION REGARDING THE CLOVIS SUCCESSOR AGENCY. (CONTINUED FROM THE MEETING OF MAY 14, 2018)

A) Finance Department (Jay Schengel)
B) City Council / City Attorney / City Clerk / City Manager (John Holt)
C) Police Department (Matt Basgall)
D) Public Utilities Department (Scott Redelfs)
E) Planning and Development Services/Community Investment Program (Dwight Kroll)
F) General Services (Shonna Halterman)
G) Community and Economic Development / Successor Agency (Andrew Haussler)

Continued from the May 14, 2018 meeting. City Manager Luke Serpa provided introductory comments. Finance Director Jay Schengel provided an overview of the Finance Department budget. John Holt provided an overview of the City Clerk, City Council, City Manager, and City Attorney divisions. Public Utilities Director Scott Redelfs presented an overview of the Public Utilities Department budget. Planning and Development Services Director Dwight Kroll presented an overview of the Planning and Development Services Department budget. General Services Director Shonna Halterman presented the General Services Department Budget. Community and Economic Development Director Andy Haussler presented the Community and Economic Development Department budget.

Section 2-8.10 of the Clovis Municipal Code provides that the budget must be adopted by June 30 for the ensuing fiscal year. After due public notice, the Council conducted public hearings on the proposed budget and has reviewed all Department budgets. There being no public comment, Mayor Whalen closed the public comment portion. Discussion by the Council.

Motion by Councilmember Ashbeck, seconded by Councilmember Flores, for the Council to approve **Resolution 18-78**, 2018-19 Annual Budget and the 2018-19 Clovis Redevelopment Successor Agency Budget. Motion carried by unanimous vote.

8:23 ITEM 3 - CITY MANAGER COMMENTS

None

8:23 ITEM 4 - COUNCIL COMMENTS

Mayor Whalen reported out on public safety committee meeting attended last week.

8:28 ITEM 5 - CLOSED SESSION

B. <u>Government Code Section 54956.9(a)</u>

CONFERENCE WITH LEGAL COUNCIL- EXISTING LITIGATION
Workers Compensation Case in Regards to: Thong Her

C. Government Code Section 54956.9(a)
CONFERENCE WITH LEGAL COUNCIL- EXISTING LITIGATION
Workers Compensation Case in Regards to: Tommy Harris

Mayor Whalen left the dais at 8:39 p.m.

A. Government Code Section 54956.9
CONFERENCE WITH LEGAL COUNSEL-ANTICIPATED LITIGATION
Significant Exposure to Litigation Pursuant to Paragraph (2) or (3) of Subdivision (d) of Section 54956.9
One Case (March 14, 2018 U.S. Department of Justice Letter)

ADJOURNMENT

Mayor Whalen adjourned the meeting of the Council to June 18, 2018

Meeting adjourned: 9:07 p.m.

Mayor

City Clerk

CLOVIS CITY COUNCIL AND SUCCESSOR AGENCY JOINT MEETING

June 18, 2018 **6:03 P.M.** **Council Chamber**

Meeting called to order by Mayor Whalen
Flag Salute led by Councilmember Flores

Roll Call: Present: Councilmembers Ashbeck, Bessinger, Flores, Mouanoutoua
Mayor Whalen
Absent: None

6:04 Presentation of Lifesaving Awards to Firefighter McGill and Clovis GB3 gym staff for their heroic actions taken on May 4, 2018, as well as Firefighter Snow for his swift actions taken while off-duty on January 31, 2018.

6:14 PUBLIC COMMENTS

Paul Hinkle, Planning Commissioner Chair, spoke on development standards that could be changed to benefit new developments and future City residents. Mayor Whalen asked the toter, sidewalk, and driveway lengths be brought back to Council to be discussed. Suggested by Councilmember Ashbeck to have a joint workshop with the Clovis Planning Commission.

6:23 CONSENT CALENDAR

Motion by Councilmember Ashbeck, seconded by Councilmember Flores, that the items on the Consent Calendar be approved, including the waiver of the reading of the ordinance. Motion carried by unanimous vote.

A1) Approved - Minutes for the June 4, 2018 Council meeting.
A2) Adopted – Ord. 18-14, R2018-04, A request to approve a rezone of approximately 0.9 acres of land located at the southwest corner of Gettysburg and Laverne Avenues (1912 Gettysburg Avenue) from the R-A (Single-Family Residential – 24,000 Sq. Ft.) Zone District to the R-1-8500 (Single-Family Residential – 8,500 Sq. Ft.) Zone District. Cheu M. & KA K. Lee, owners; Jeff DeYoung, applicant; Harbour & Associates, representative. (Vote 5-0)
C1) Approved – FY 2018-19 Agreement between the City of Clovis and the Economic Development Corporation Serving Fresno County.
D1) Received and Filed – Investment Report for the month of April 2018.
D2) Received and Filed – Treasurer's Report for the month of April 2018.
E1) Approved – **Res. 18-79**, Authorizing Amendments to the Executive Assistant Classification.
F1) Approved – **Res. 18-80**, Final Map for Tract 6190, located east of Locan Avenue, between Powers and Teague Avenues (WC CLOVIS 6190, LLC, Wathen-Castanos Homes).
F2) Approved – **Res. 18-81**, Annexation of Proposed Tract 6190, located east of Locan Avenue, between Powers and Teague Avenues, to the Landscape Maintenance District No. 1 (WC CLOVIS 6190, LLC, Wathen-Castanos Homes).

6:24 MAYOR Whalen stated a conflict with item 1A as his residence resides near the project site and left the meeting.

6:25 - ITEM 1A – CONTINUED - ACTIONS RELATED TO CUP2018-03, A REQUEST TO APPROVE A CONDITIONAL USE PERMIT FOR A PROPOSED 28 BED MEMORY CARE AND 80 UNIT ASSISTED SENIOR LIVING FACILITY ON APPROXIMATELY 3.57 ACRES LOCATED AT 587 & 637 W. NEES AVENUES. O'BRIEN DEVELOPMENT, LLC, OWNER/APPLICANT; THE TAYLOR GROUP ARCHITECTS, REPRESENTATIVE ("PROJECT")

City Planner Orlando Ramirez presented a report on a proposed construction of a 28 bed memory care and 80 unit assisted senior living facility on approximately 3.57 acres located at 587 & 637 W. Nees Avenue. The Council denied a Conditional Use Permit ("CUP) for a similar Project on the same Site on April 6, 2015. The Developer recently submitted a new application. Along with the new application, the Developer is requesting that the City provide a reasonable accommodation for the Project under both the Federal Fair Housing Act ("FHA") and Title II of the Americans with Disabilities Act ("ADA"). The new application provides changes to the Site Plan that do not modify building size, number of beds and units, footprint or elevations, but provide additional open space and greater distance from adjacent property boundaries. Staff and the Planning Commission recommend the requested approval.

7:26 - Mayor Pro Tem Bessinger opened the Public comment portion.

Applicant Matt O'Brien presented to Council requesting a reasonable accommodation, details on the project, need for the project, who will own and operate the facility, landscaping details, adjacency to the school, changes made to work with the neighborhood, and desire to address delivery concerns.

Chris Brown, the applicant's attorney spoke in favor of the project and need for significant evidence to deny the application. Kathy Jayson, area resident, spoke in support of the project and the need for this type of housing. Debby Sing, Fresno resident, spoke in support of the project and the need for the project. Russ Taylor, architect for the project located, spoke in support of the project. Teresa Complongo, resident, spoke in support of the project and the need and limited impact on adjacent neighbors.

8:34 - Lee Smith, attorney for Buchannan Estates Neighborhood Association presented to Council opposition with reasons Council could and should deny the application based on the City's development code.

Nancy Donnelly and Kim Ewing, area residents, presented opposition due to the size and density of the project. Asked questions of the use of the reasonable accommodation request. Reviewed development code in relation to the application, project type, and potential lack of compliance of the project.

Arra Mossi, area resident, spoke in opposition to the project and questioned the water study done for the project, staffing and resident projection calculations used in environmental analysis. Reviewed other similar projects in the area staffing, occupancy,

and density in comparison to the project. Kathy Westley, area resident, spoke in opposition to the project. Ron Sheppard, area resident, spoke on the American Disabilities Act application. Stated the project does not serve all persons. Jake Gallinette, area resident, spoke in opposition to the project. Requested one story project and no parking adjacent to residential, and no secondary access through neighborhood. Valerie Anderson, area employee, and administrator of Valley Crescent School, expressed concern with adjacent driveway for student safety and noise will distract students. Rod Lakovich, area resident, Clovis spoke in opposition of the project. Darrel Borona lives in the neighborhood and is a nurse and spoke in opposition of the project and questioned the staffing ratios indicated. Ted Hew, area resident, spoke in opposition of the project due to the traffic. Eric Smanske, area resident, spoke of accident at Timmy and Nees and concerns of traffic. David Ewing, area resident, spoke in opposition to the project due to traffic safety concerns. Randy Bishor, area resident, Clovis, spoke in opposition to the project. Joann Franks, area resident, Clovis, spoke in opposition to the project. Sharon Anaya, area resident, Clovis, spoke in opposition to the project. Scott Berglin, area resident, Clovis, spoke in opposition to the project. Joel Thomas, Clovis, spoke in opposition to the project and encouraged more research. Quincy Johnson, adjacent to project, expressed opposition to the project and height of building.

10:20 - Applicant Matt O'Brien presented a rebuttal to Council showing other similar projects. Addressed delivery and operational concerns. Described changes made to the project.

Chris Brown, applicant's attorney, spoke on Department of Justice issues, the little impact of traffic and questioned testimony on traffic issues.

Council discussion.

11:05 Motion by Councilmember Flores, seconded by Councilmember Ashbeck, for the Council to continue the items 1A1 and 1A2 to June 25, 2018. Motion carried 4-0-0-1 with Mayor Whalen Abstaining.

11:05 Mayor Whalen Returned to the Meeting

11:11 Councilmember Mouanoutoua stated a conflict with item 1B as he is on the board of Clovis Community Medical Center and left the meeting.

11:12 ITEM 1B1 - APPROVED - RES. 18-82, REVIEW AND CERTIFICATION OF A PROGRAM ENVIRONMENTAL IMPACT REPORT, ADOPT STATEMENTS OF OVERRIDING CONSIDERATIONS, AND ADOPT A MITIGATION MONITORING/REPORTING PROGRAM FOR CUP85-18A11,AND A CAPITAL INVESTMENT PROJECT FOR THE WIDENING OF HERNDON AVENUE FROM TEMPERANCE AVENUE TO DEWOLF AVENUE; AND ITEM 1B2 - APPROVED - RES. 18-83, CUP85-18A11, APPROVING A CONDITIONAL USE PERMIT AMENDMENT FOR THE EXPANSION OF THE CLOVIS MEDICAL CENTER MASTER PLAN

City Planner Bryan Araki presented a report a request from Clovis Community Medical Center to expand their Campus Master Plan to accommodate future growth within their property at the northeast corner of Herndon and Temperance Avenues. Additionally the

expansion would include properties on the west side of Temperance Avenue and south side of Herndon Avenue. An Environmental Impact Report (EIR) was prepared for the Project. The EIR considers impacts of the Clovis Community Medical Center Master Plan expansion as well as a Capital Investment Project for the widening of Herndon Avenue from Temperance Avenue to DeWolf Avenue. The City Council is being requested to consider the EIR, and the Clovis Community Medical Center Master Plan expansion.

11:22 Councilmember Ashbeck stated a conflict with item 1B as she is employed by an adjacent property owner and left the meeting. Discussion by the Council.

Motion by Councilmember Flores, seconded by Councilmember Bessinger, for the Council to adopt **Resolution 18-82** of the City Council of the City of Clovis Reviewing and Certification of a Program Environmental Impact Report, adopt Statements of Overriding Considerations, and adopt a Mitigation Monitoring/Reporting Program for CUP85-18A11, and a Capital Investment Project for the widening of Herndon Avenue from Temperance Avenue to DeWolf Avenue. Motion carried 3-0-0-2 (Mouanoutoua and Ashbeck Abstaining)

Motion by Councilmember Bessinger, seconded by Councilmember Flores, for the Council to adopt **Resolution 18-83** of the City Council of the City of Clovis approve a conditional use permit amendment to CUP 85-A11 for the expansion of the Clovis Medical Center Master Plan. Motion carried 3-0-0-2 (Mouanoutoua and Ashbeck Abstain)

11:34 Councilmember Mouanoutoua and Councilmember Ashbeck returned to the meeting

11:34 ITEM 1D. APPROVED INTRODUCTION - **ORD. 18-15**, R2018-05, A REQUEST TO REZONE APPROXIMATELY 4.20 ACRES OF PROPERTY LOCATED NORTH OF SIERRA AVENUE BETWEEN FOWLER AND ARMSTRONG AVENUES, FROM R-A (SINGLE-FAMILY RESIDENTIAL VERY LOW DENSITY) ZONE DISTRICT TO THE R-1-MD (SINGLE-FAMILY RESIDENTIAL MEDIUM DENSITY) ZONE DISTRICT. DE YOUNG PROPERTIES, APPLICANT/OWNER; SCOTT ZAAYER, REPRESENTATIVE.

City Planner Bryan Araki presented a report on a request to rezone approximately 4.20 acres of property located on the north side of Sierra Avenue between Fowler and Armstrong Avenues, from R-A (Single-Family Residential – 24,) Zone District to R-1-MD (Single-Family Residential Medium Density) Zone District. Council Discussion. Ernie Escobar with DeYoung Properties requested Council's support. Council Discussion

Motion by Councilmember Ashbeck, seconded by Councilmember Flores, for the Council to approve **Ordinance 18-15, R2018-05**, rezoning approximately 4.20 acres of property located north of Sierra Avenue between Fowler and Armstrong Avenues, from R-A (Single-Family Residential Very Low Density) Zone District to the R-1-MD (Single-Family Residential Medium Density) Zone District. Motion carried by unanimous vote.

11:37 ITEM 1C - APPROVED – **RES. 18-84**, A RESOLUTION CONFIRMING THE DIAGRAM AND ASSESSMENTS FOR THE ANNUAL LEVY, 2018-19 LANDSCAPE MAINTENANCE DISTRICT NO. 1.

Public Utilities Director Scott Redelfs presented a report on Landscape Maintenance District No. 1 and the request for Council to confirm the diagram and assessments for the 2018-19 annual levy. There being no public comment, Mayor Whalen closed the public portion. Discussion by the Council.

Motion by Councilmember Ashbeck, seconded by Councilmember Bessinger, for the Council to approve **Resolution 18-84**, confirming the Diagram and Assessments for the Annual Levy, 2018-19 Landscape Maintenance District No. 1. Motion carried by unanimous vote.

11:41 ITEM 2A1 - APPROVED – **RES 18-87**, A RESOLUTION OF THE SUCCESSOR AGENCY TO THE CLOVIS COMMUNITY DEVELOPMENT AGENCY AUTHORIZING THE ISSUANCE AND SALE OF TAX ALLOCATION REFUNDING BONDS TO REFINANCE OUTSTANDING LOAN AGREEMENTS OF THE FORMER CLOVIS COMMUNITY DEVELOPMENT AGENCY, AND APPROVING RELATED DOCUMENTS AND MATTERS

Assistant Finance Director Gina Daniels presented a report on an opportunity to refund $19,100,000 in Tax Allocation Revenue Bonds to reduce the interest rate and save $1,400,000 while keeping the same term. There being no public comment, Mayor Whalen closed the public portion. Discussion by the Council.

Motion by Councilmember Ashbeck, seconded by Councilmember Flores, for the Council to approve **Resolution 18-87**, A Resolution of the Successor Agency to the Clovis Community Development Agency authorizing the issuance and sale of Tax Allocation Refunding Bonds to refinance outstanding loan agreements of the former Clovis Community Development Agency, and approving related documents and matters. Motion carried by unanimous vote.

11:45 – ITEM 3 - CITY MANAGER COMMENTS

Luke Serpa stated he will be on vacation for a week and a half.

11:46 – ITEM 4A - COUNCIL COMMENTS

Councilmember Bessinger has been offered position of Police Chief for the City of Atwater.

11:47 ADJOURNMENT

Mayor Whalen adjourned the meeting of the Council to June 25, 2018

Meeting adjourned: 11:47 p.m.

Mayor

City Clerk

CLOVIS CITY COUNCIL MEETING

July 25, 2018 **6:00 P.M.** **Council Chamber**

Meeting called to order by Mayor Pro Tem Bessinger
Flag Salute led by Councilmember Mouanoutoua

Roll Call: Present: Councilmembers Ashbeck, Bessinger, Flores, Mouanoutoua
Absent: Mayor Whalen

6:01 ITEM 1A1 - APPROVED - RES. 18-85, A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS DENYING CONDITIONAL USE PERMIT CUP2018-03, FOR AN ASSISTED SENIOR LIVING FACILITY ON PROPERTY LOCATED AT 587 AND 637 W. NEES AVENUE, AND MAKING FINDINGS WITH RESPECT THERETO

Senior Planner Orlando Ramirez and City Attorney David Wolfe presented a report on correspondence received since the June 18, 2018 and a resolution as directed by City Council on the July 18, 2018 meeting to deny a Conditional Use permit to a proposed 28 bed memory care and 80 unit assisted senior living facility on approximately 3.57 acres located at 587 & 637 W. Nees Avenue. On June 18, 2018, following a lengthy public hearing, the Council provided direction that it intended to deny approval of a Conditional Use Permit ("CUP") for the construction of a 28 bed memory care and 80 unit assisted senior living facility on approximately 3.57 acres located at 587 & 637 W. Nees Avenue ("Project"). The Council based its decision on the overwhelming evidence and testimony in the record of the negative impacts the Project would have. The Council also questioned the applicant's basis or need for a reasonable accommodation of such a large Project on the site under the Federal Fair Housing Act ("FHA") and Title II of the Americans with Disabilities Act ("ADA"). The Council continued the item so that staff and the City Attorney's office could prepare the necessary resolution and findings for the Council's decision.

Mayor Pro Tem Bessinger opened the Public comment portion on the proposed resolution. Matt O'Brien, the developer of the project asked Council what would be acceptable for the project to gain approval. Asked question on 700% increase in density cited in resolution. Lee Smith, attorney representing Buchannan Estates neighborhood stated 700% came from court case on matter several years ago. David Ewing thanked the Council for doing analysis and supporting neighborhood. Matt O'Brien, the developer asked Council to deny the project without prejudice to allow Mr. O'Brien to bring an adjusted project back to the City for consideration. City Attorney David Wolfe stated denial of the project without prejudice would allow project to be reconsidered earlier than one year if the project was adjusted. Lee Smith, attorney representing Buchannan Estates neighborhood stated client would object to Council denying project without prejudice. If this done a requested a full CEQA, traffic, and neighborhood meeting being conducted. Discussion by Council.

Motion by Councilmember Ashbeck to include additional language regarding the lack of neighborhood outreach, further definition of the 700% increase in density, statement that no conclusion has been reached on the Department of Justice investigation, attachment

of the previous proposed project and the project being denied site plan, statement that the project exceeded the 40% coverage ratio per the Development Code, and to deny without prejudice with condition that the owner work with the neighbors to find and acceptable project for the site, that the impact to nearby neighborhood be minimized, limit noise and deliveries, move driveway location, address traffic concerns, reduce site coverage ratio to meet Development Code, and limit secondary access from Kenosha Avenue to emergency vehicles only, seconded by Councilmember Flores, for the Council to adopt **Resolution 18-85** of the City Council of the City of Clovis Denying Conditional Use Permit CUP2018-03 without prejudice, for an Assisted Senior Living Facility on Property Located at 587 And 637 W. Nees Avenue, and making findings with respect thereto. Motion carried 4-0-1 (Whalen Absent)

6:42 ITEM 2A - CLOSED SESSION

Government Code Section 54956.9
CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION
Significant Exposure to Litigation Pursuant to Paragraph (2) or (3) of Subdivision (d) of Section 54956.9
One Case (March 14, 2018 U.S. Department of Justice Letter)

ADJOURNMENT

Mayor Pro Tem Bessinger adjourned the meeting of the Council to July 2, 2018

Meeting adjourned: 6:53 p.m.

Mayor

City Clerk

AGENDA ITEM NO: **CC-A 2&3**

CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Administration

DATE: July 9, 2018

SUBJECT: Adopt – Ord. 18-16, Amending Various Sections of the Municipal Code Relating to Development Fees. (Vote: 5-0)

Adopt - Ord. 18-17, An Ordinance of the City Council of the City of Clovis Amending Chapter 3.1, of Title 3, of the Clovis Municipal Code Pertaining to Business Registration and Tax Certificates. (Vote: 5-0)

Please direct questions to the City Manager's office at 559-324-2060.

AGENDA ITEM NO: **CC-C-1**
City Manager: LS

CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Community and Economic Development

DATE: July 9, 2018

SUBJECT: Approval – Res. 18-__, Authorizing the Purchase of the State of California's Employment Development Department Employment Data for Economic Development Activities

ATTACHMENTS: Res. 18-_____

CONFLICT OF INTEREST

None

RECOMMENDATION

For the City Council to approve a resolution authorizing the purchase of the State of California's Employment Development Department (EDD) employment data for economic development activities.

EXECUTIVE SUMMARY

Approval of the attached resolution is necessary to provide for the purchase of employment data from the EDD for use in the reporting on the Economic Development Strategy progress.

BACKGROUND

Semi-annually, a report will is made to the Council on the City's Economic Development Strategy progress. One of the pieces of data that will be useful in understanding the Community's economy is current employment data. The State of California's Employment Development Department collects employment data and can make it

available for economic development purposes. With the approval of this resolution, staff will have the authorization to purchase the database. Information contained in the EDD database is sensitive and strictly confidential so only a few staff members will be authorized to view the information.

FISCAL IMPACT

The cost to purchase the data for three years is estimated to be $3,000 and planned for in the 2018-19 Community and Economic Development budget.

REASON FOR RECOMMENDATION

The State of California EDD collects employment data from companies operating within the City of Clovis. With the approval of the attached resolution, the City will have the ability to purchase the data for use in the Economic Development Strategy update.

ACTIONS FOLLOWING APPROVAL

The application for employment data will be submitted to the EDD.

Prepared by: Andrew Haussler, Community and Economic Development Director

Submitted by: Andrew Haussler, Community and Economic Development Director

RESOLUTION 18-____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS AUTHORIZING THE PURCHASE OF THE STATE OF CALIFORNIA'S EMPLOYMENT DEVELOPMENT DEPARTMENT (EDD) EMPLOYMENT DATA FOR ECONOMIC DEVELOPMENT ACTIVITIES

WHEREAS, at the direction of the City Council of the City of Clovis the Community and Economic Development Department provides information and recommendation to the City Council regarding economic development opportunities and resources, the needs of existing businesses, and attraction of businesses to the Community; and

WHEREAS, on July 14, 2014, the City Council of the City of Clovis adopted the City's Economic Development Strategic Plan; and

WHEREAS, the Economic Development Strategic Plan identifies business attraction and expansion goals for the City of Clovis in order to improve the City's strong fiscal position; and

WHEREAS, Strategic Plan Section Business Attraction Section 2.4, calls for City staff to identify workforce clusters; and

WHEREAS, Strategic Plan Industrial Development Section 3.1, calls for an update of the Jobs/Housing Balance Study; and

WHEREAS, Strategic Plan Workforce Section 7.2, calls for identification of workforce needs; and

WHEREAS, the Economic Development Strategic Plan progress will regularly be reported to the Clovis City Council; and

WHEREAS, obtaining the State of California Department of Employment Development Department's employment database will provide for the basis for market trend analysis.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Clovis does hereby find, determine, and declare as follows:

Section 1. The recitals above are adopted as findings of the City Council.

Section 2. The City Council hereby authorizes the City Manager to purchase the State of California's Employment Development Department employment data for economic development activities and to execute a 3-year Memorandum of Understanding with EDD for this purpose.

Section 3. As the information contained in the EDD database is sensitive and strictly confidential, only the following officers and employees of the City of Clovis will be authorized to view the database: City Manager, Assistant City Manager, Director of Community and Economic Development, Director of Planning and Development Services, Deputy City Planner, Finance Director, Assistant Finance Director, Information Technology Manager, and Business Development Manager.

Section 4. The City Manager or his designee is hereby authorized to notify EDD of title changes to existing positions on the authorized contact list as they occur.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on July 9, 2018, by the following vote to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

DATED: July 9, 2018

Mayor	City Clerk

AGENDA ITEM NO: **CC-E-1**
City Manager: LS

CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: General Services Department

DATE: July 9, 2018

SUBJECT: Approval - Resolution 18-___; Amending the City's FY 2018-2019 Position Allocation Plan by Deleting One (1) Community Service Officer and Adding One (1) Animal Control Officer.

ATTACHMENTS:
(A) Res. 18-___, Amending the City's FY 2018-2019 Position Allocation Plan
(B) Exhibit A - Position Allocation Adjustment

CONFLICT OF INTEREST
None

RECOMMENDATION
For the City Council to approve Resolution 18- ___; Amending the Position Allocation Plan in the FY 2018-2019 Budget by deleting one (1) Community Service Officer Position and adding one (1) Animal Control Officer Position in the Police Department.

EXECUTIVE SUMMARY
Currently, the Police Department is authorized seventeen (17) Community Service Officer Positions and three (3) Animal Control Officer Positions. Following an assessment of work assignment needs in the department, it is recommended that the City's Position Allocation Plan be amended by deleting one (1) Community Service Officer Position and replacing the position with one (1) Animal Control Officer Position. Council approval is required for changes to the Position Allocation Plan.

BACKGROUND
The Police Department has recently evaluated the work assignments in the department and has determined that the addition of one (1) Animal Control Officer Position and the elimination of one (1) Community Service Officer Position will more efficiently support the current needs of the department. The desired change results in the need to modify the City's Position Allocation Plan which requires Council approval.

FISCAL IMPACT

The recommended change in the City's Position Allocation Plan would be a decreased cost of approximately $6,200 in FY18-19.

REASON FOR RECOMMENDATION

The addition of one (1) Animal Control Officer and the elimination of one (1) Community Service Officer better suits the staffing needs of the Police Department. The change must be reflected in the authorized FY18-19 Police Department position allocation. Modification of the Position Allocation Plan requires Council Approval.

ACTIONS FOLLOWING APPROVAL

The FY18-19 Position Allocation Plan in the Police Department will be modified as noted in Exhibit A. The Police Department has a current eligibility list to utilize to select a new Animal Control Officer.

Prepared by: Lori Shively, Personnel/Risk Manager

Submitted by: Shonna Halterman, General Services Director

RESOLUTION 18-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING AN AMENDMENT TO THE FY 2018-2019 POSITION ALLOCATION PLAN

WHEREAS, the FY18-19 Position Allocation Plan was approved as part of the FY18-19 City budget adoption process; and,

WHEREAS, the results of a recent evaluation of work assignments in the Police Department have determined that it is appropriate to amend the department's FY18-19 position allocation by deleting one (1) Community Service Officer position and adding one (1) Animal Control Officer position; and,

WHEREAS, amending the City's adopted FY18-19 Position Allocation Plan requires City Council authorization.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Clovis, that the City's FY18-19 Police Department Position Allocation shall be adjusted as noted in Exhibit A attached.

* * * * * * * * * * * *

The foregoing Resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on July 9, 2018, by the following vote to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

Dated: July 9, 2018

Mayor	City Clerk

Exhibit A

POSITION ALLOCATION ADJUSTMENT BY DEPARTMENT FY18-19

DEPARTMENT		NUMBER OF POSITIONS
Police Department		
Add:	Animal Control Officer	1.0
Delete:	Community Service Officer	1.0

AGENDA ITEM NO: **CC-E-2**
City Manager: LS

CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: General Services Department

DATE: July 9, 2018

SUBJECT: Approval – Res. 18-___; Declaring the City's intent to continue to be a direct sponsor of the Clovis Senior Services Programs; and, authorize the City Manager to Submit an application for Older Americans Act Funding for Title III C-1 Nutrition Services Through the Fresno-Madera Area Agency on Aging (FMAAA)

ATTACHMENT: Res. 18-_____

CONFLICT OF INTEREST
None

RECOMMENDATION
For City Council to approve Resolution 18-___; declaring the City's intent to continue to be a direct sponsor of the Clovis Senior Services programs; and, authorize the City Manager to submit an application for Older Americans Act Funding for Title III C-1 Nutrition Services through the Fresno-Madera Area Agency on Aging (FMAAA).

EXECUTIVE SUMMARY
The City of Clovis has annually received funding for nutrition programs through the FMAAA. The total nutrition grant request for FY 2018-2019 is $16,000. The funding will allow the Clovis Senior Activity Center to continue to provide both in-center and homebound meals for those seniors who are in the most need of a nutritious meal.

BACKGROUND
The City of Clovis has received grant funds from the FMAAA for senior service programs since 1981. The funding is made available on an annual basis and the City must reapply each year for the funds. The FMAAA recently released its request for proposal for FY 2018-2019 senior services program funding for the nutrition program.

The City of Clovis' proposal requests a total of $16,000 for nutrition services. The expected FY 2018-2019 funding is used for senior nutrition site management, which

includes homebound assessments, nutrition information, coordinated meal orders and on-site management of the lunch program at the Clovis Senior Activity Center. An average of 65 hot meals are served at the center daily. This program also provides groceries and prepared meals on a weekly basis to approximately 32 homebound seniors. The hot meals are prepared and delivered to the Clovis Senior Activity Center by Fresno County EOC. The Clovis Senior Activity Center has managed the senior nutrition program since 1994 and meets all of the monitoring criteria for this program.

The Clovis Committee on Senior Activities recommends that the City Council approve the proposed Resolution for continued program funding.

FISCAL IMPACT
The FMAAA grant funding for FY 18-19 is as follows:

• Title III C-1 Congregate Nutrition July, 2018-June 2019	$16,000
Total FMAAA Funding for FY18/19	**$16,000**

REASON FOR RECOMMENDATION
The FMAAA funds are essential in continuing the nutrition programs at the Clovis Senior Activity Center. The grant funding helps to provide staff and supplies for the nutrition program.

ACTIONS FOLLOWING APPROVAL
Upon approval of the grant proposal by the FMAAA, the City Manager will sign contract 19-0051 for the funding.

Prepared by: Amy Hance, General Services Manager

Submitted by: Shonna Halterman, General Services Director

RESOLUTION 18-___

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS FOR OLDER AMERICANS ACT FUNDING

The City Council of the City of Clovis hereby resolves as follows:

WHEREAS, the City of Clovis is the direct sponsor of the Clovis Senior Services Program with partial funding from an Older Americans Act Grant from the Fresno Madera Area Agency on Aging; and,

WHEREAS, the Clovis Community Services Division provides multi-purpose supportive services at the Clovis Senior Activity Center, which includes information and assistance, nutrition, consumer services, community services, education and recreation services for the older adult population in Clovis; and,

WHEREAS, the City of Clovis intends to reapply for Older Americans Act funding for Title III C-1 (Nutrition services) to be administered through the Senior Services Program of the Clovis Community Services Division located at the Clovis Senior Activity Center.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Clovis:

1. Intends to continue to be a direct sponsor of the Clovis Senior Services Program.

2. Authorizes the City Manager to submit the application for Older Americans Act funding, grant #19-0051 for the fiscal year beginning July 1, 2018 through June 30, 2019, including any subsequent amendments and all necessary supporting documents.

* * * * * * * * * * * * *

The foregoing Resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on July 9, 2018, by the following vote to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

Date: _____

_____ Mayor

_____ City Clerk

AGENDA ITEM NO: **CC-G-1**
City Manager: LS

CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Police Department

DATE: July 9, 2018

SUBJECT: Approval - Res. 18-___, Amending the Police Department's Budget for FY 2018-2019 to reflect the California Department of Justice Tobacco Law Enforcement grant award in the amount of $100,798.

ATTACHMENTS: (A) Summary of Expenditures
(B) Resolution 18-_____

CONFLICT OF INTEREST

None

RECOMMENDATION

For the City Council to approve a Resolution amending the 2018-2019 Budget for the Police Department to reflect the grant award.

EXECUTIVE SUMMARY

The Clovis Police Department has been awarded a grant through the California Department of Justice Tobacco Law Enforcement Program for $100,798. These funds are to be used to promote long-term goals aimed at tobacco use among youth and minors under the age of 21. The grant funds will be utilized for overtime operations that focus on the illegal marketing of tobacco products to underage users, training of businesses and employees that have tobacco sales, and facilitating programs that emphasize education and prevention.

BACKGROUND

The department applied for the Tobacco Enforcement grant with the goal to take actionable steps aimed at improving enforcement of laws concerning the use of tobacco

by minors and under the age adults. Grant funding is necessary to provide and enforce the laws related to the sales and marketing of tobacco products and violations of the laws, and execute state and local ordinances pertaining to the locations where the use of tobacco products is prohibited.

FISCAL IMPACT

The Police Department will utilize grant funds to pay for all overtime costs for officers to work enforcement and education details. All details will be staffed with overtime assigned personnel, and will not pull resources from other patrol responsibilities. Some administrative activities associated with the grant will be conducted during the regular duty hours of the program manager. The grant will also completely cover miscellaneous expenses associated with education materials and investigations.

Acceptance of this grant is not expected to have any impact on the allocation of funds in the current city budget.

REASON FOR RECOMMENDATION

It is necessary for the City Council to take action to approve the acceptance of the grant and amend the Police Department budget.

ACTIONS FOLLOWING APPROVAL

After the Council approval, the 2018-2019 Police Department Annual Budget will be amended as described in the resolution.

Prepared by: Sandi Macy

Submitted by: Matt Basgall, Chief of Police

SUMMARY OF EXPENDITURES BY DEPARTMENT

DEPARTMENT	Police	$100,798

SUMMARY OF EXPENDITURES BY FUND

FUND	General Fund	$100,798

SUMMARY OF REVENUES BY DEPARTMENT

DEPARTMENT	Police	$100,798

SUMMARY OF REVENUES BY FUND

FUND	General Fund	$100,798

All expenditures will be from 56300 (Police Department Grants)

ATTACHMENT A

RESOLUTION NO. 18-_____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING AN AMENDMENT TO THE ANNUAL BUDGET FOR FISCAL YEAR 2018-2019

WHEREAS, the City Council of the City of Clovis approved the 2018-2019 Budget on May 7, 2018; and

WHEREAS, the Police Department is to be awarded $100,798 from the California Department of Justice Tobacco Enforcement Grants Program; and

WHEREAS, the Police Department has need to establish a tobacco program aimed at the enforcement of tobacco laws, and to promote the department's goal to reduce tobacco use among youth through education; and

WHEREAS, the City Council determines that the expenditures are necessary.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Clovis that the 2018-2019 Budget reflects these expenditures.

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on July 9, 2018, by the following vote to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

DATED: July 9, 2018

_____ Mayor

_____ City Clerk

ATTACHMENT B

AGENDA ITEM NO: **CC-G-2**
City Manager: LS

CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Police Department

DATE: July 9, 2018

SUBJECT: Approval - Res. 18-___, Amending the Police Department's Budget for FY 2018-2019 to reflect the Collaborative Body-Worn-Camera Implementation Program grant award in the amount of $74,665.

ATTACHMENTS: (A) Summary of Expenditures
(B) Resolution 18-_____

CONFLICT OF INTEREST

None

RECOMMENDATION

For the City Council to approve a Resolution amending the 2018-2019 Budget for the Police Department to reflect the grant award.

EXECUTIVE SUMMARY

The Clovis Police Department has been awarded a grant through the Department of Justice Bureau of Justice Assistance (JAG) Body-Worn-Camera Policy and Implementation Program for $74,665. These funds are to be used to enhance the department's current body worn camera (BWC) program by providing additional BWC equipment, and storage and software to support the hardware.

BACKGROUND

The department applied for this grant with the assistance of Fresno Police Department (FPD). In collaboration with FPD, this program is intended to enhance each agency's BWC program by providing 30 additional BWC for law enforcement officers to increase

officer safety and accountability. Grant funding is necessary to provide these cameras and required storage capabilities.

FISCAL IMPACT

The Police Department has received the JAG Body-Worn-Camera Implementation Program grant. The grant award is in the amount of $45,000 with a match from the City for $29,665 for a total of $74,665. The additional funds required for the fiscal match will be incorporated into the police department's budget. A complete breakdown of expenditures is shown in Attachment A.

REASON FOR RECOMMENDATION

It is necessary for the City Council to take action to approve the acceptance of the grant and amend the Police Department budget.

ACTIONS FOLLOWING APPROVAL

After the Council approval, the 2018-2019 Police Department Annual Budget will be amended as described in the resolution.

Prepared by: Sandi Macy

Submitted by: _____
Matt Basgall, Chief of Police

SUMMARY OF EXPENDITURES BY DEPARTMENT

POLICE DEPARTMENT	56300-68320	$45,000
	51000-68320	$29,665

SUMMARY OF EXPENDITURES BY FUND

GENERAL FUND	$74,665

SUMMARY OF REVENUES BY DEPARTMENT

POLICE DEPARTMENT	56300-68320	$45,000

SUMMARY OF REVENUES BY FUND

GENERAL FUND	$45,000

ATTACHMENT A

RESOLUTION NO. 18-_____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING AN AMENDMENT TO THE ANNUAL BUDGET FOR FISCAL YEAR 2018-2019

WHEREAS, the City Council of the City of Clovis approved the 2018-2019 Budget on May 7, 2018; and

WHEREAS, the Police Department is to be awarded $74,665 from the Department of Justice Bureau of Justice Assistance Body-Warn-Camera Policy and Implementation Grant Program; and

WHEREAS, the Police Department has need to enhance the department's current body worn camera program and extend necessary storage capabilities; and

WHEREAS, the City Council determines that the expenditures are necessary.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Clovis that the 2018-2019 Budget reflects these expenditures.

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on July 9, 2018, by the following vote to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

DATED: July 9, 2018

_____ _____

Mayor City Clerk

ATTACHMENT B

AGENDA ITEM NO: 1-A
City Manager:

CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Planning and Development Services

DATE: July 9, 2018

SUBJECT: Consider Approval - Res. 18-____, Review and Certification of an Environmental Impact Report, and adopt a Mitigation Monitoring/Reporting Program for the City of Clovis Landmark Commons Civic Center North Project.

ATTACHMENTS:

Attachment "A:"	Vicinity Map
Attachment "B:"	Resolution
Attachment "C:"	Landmark Commons Civic Center North Draft Environmental Impact Report
Attachment "D:"	Landmark Commons Civic Center North Final Environmental Impact Report

CONFLICT OF INTEREST

None

RECOMMENDATION

For the City Council to approve a resolution certifying the Environmental Impact Report and adopting a Mitigation Monitoring/Reporting Program for the City of Clovis Landmark Commons Civic Center North Project (Attachment "B").

EXECUTIVE SUMMARY

Consistent with the California Environmental Quality Act (CEQA), the attached Environmental Impact Report (Draft and Final) was prepared to analyze the environmental impacts of the City of Clovis Landmark Commons Civic Center North Project. The proposed project would entail the development of approximately 63,000 square feet of community and office use, including a County library building, City senior center, and City transit center, at a vacant site located north of Third Street and east of Clovis Avenue

(Attachment "A"). Staff recommends the approval of the attached resolution (Attachment "B").

BACKGROUND

The proposed project would entail the development of approximately 63,000 square feet of community and office uses at a 5.33 acre vacant site north of Third Street and east of Clovis Avenue (Attachment "A"). The project components include a City senior center and clinic, a City transit center, a County regional branch library, and associated parking and landscaping. A public plaza would be located between the senior activity center and regional library. The County library would be moved from its current location in the Clovis Civic Center, and the City senior center would be moved from its current location at 850 Fourth Street.

This is a joint City/County project. For CEQA purposes, the City of Clovis is the lead agency and Fresno County is the responsible agency. The City is developing the senior center and transit hub and the County is developing the regional library. Buildout of the project would likely occur over a 2 year period.

Consistent with the requirements of CEQA, staff contracted with ICF International to prepare an Initial Study to examine the impacts of the project on the natural and man-made environment. The Initial Study and related technical studies concluded that the project had the potential for significant and unavoidable impacts in several resource areas (air quality, greenhouse gas emissions, noise, and transportation/traffic) and a Draft EIR (Attachment "C") was prepared.

The Draft EIR was prepared in accordance with the requirements of CEQA for content and analysis. It discloses the environmental impacts that would occur if this project is approved by the City Council and includes mitigation measures that will reduce or avoid those impacts. It also analyzes two alternatives to the project, including a no-project alternative. The Draft EIR finds that the project will not result in significant and unavoidable impacts with the incorporation of the identified mitigation measures. The attached resolution (Attachment "B"), includes findings to support the certification of the Environmental Impact Report.

The Draft EIR was circulated for public and agency review and comment from April 6, 2018 to May 21, 2018. After the closure of the review period, the City and its consultant prepared a Final EIR. The Final EIR (Attachment "D") consists of the Draft EIR, the comments received during the review period, written responses to those comments, and revisions to the Draft EIR. None of the comments submitted identified any new significant impacts that were not identified and analyzed in the Draft EIR.

The Initial Study, Draft EIR, Final EIR and associated public record are on file in the Clovis Planning and Development Services Department, and have been available for inspection

by the public, agencies, and decision-makers pursuant to the notice published in the Business Journal.

FISCAL IMPACT

The cost for the Environmental Impact Report was budgeted previously. The cost for required Mitigation Monitoring and Reporting Program is being planned for in the costs to develop the overall site. The overall estimated development costs and a financial plan once finalized will be brought to Council for consideration to allow the project to move forward.

REASON FOR RECOMMENDATION

The Project is not anticipated to create any significant effects on the environment with the incorporation of the identified mitigation measures. The proposed project will accommodate the community's expanding needs for library, transit, and senior services. Approval of the Environmental Impact Report satisfies the requirements of CEQA for this project.

ACTIONS FOLLOWING APPROVAL

Staff will file a Notice of Determination with the Fresno County Clerk's Office.

The following is a list of additional approvals needed for the project:

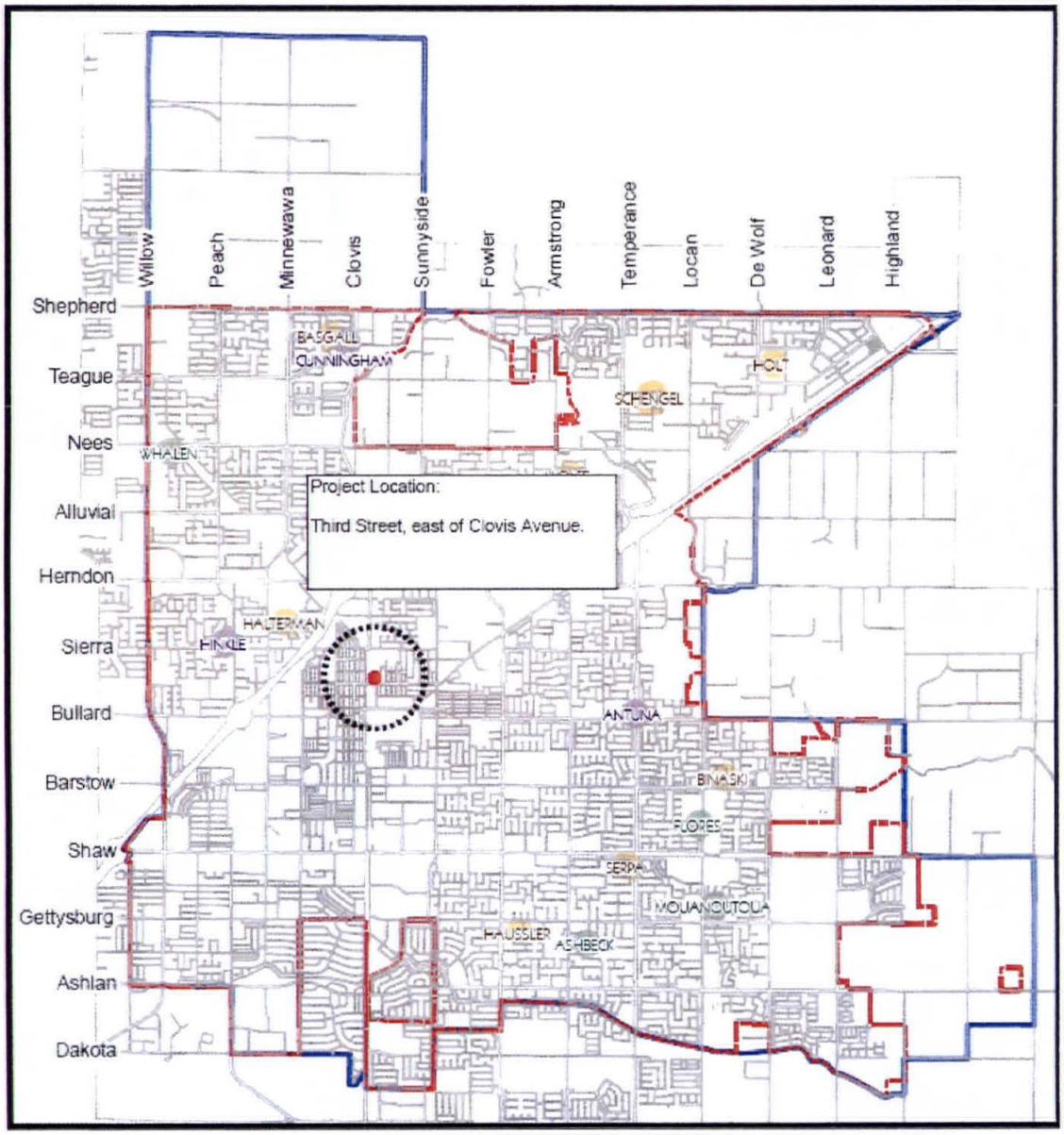
- Approval by the City of Clovis City Council of the transit center and senior center design review.
- Approval by the City of Clovis City Council of the site plan.
- Approval by the Fresno County Board of Supervisors of the library design.
- Approval of the property exchange agreement between the City of Clovis and County of Fresno by the respective governing bodies.

Prepared by: Ryan C. Burnett, AICP, Engineering Program Supervisor

Submitted by: _____
Dwight Kroll
Director of Planning and
Development Services

VICINITY MAP

Landmark Commons/Civic Center North



ATTACHMENT A

February 9, 2018

CITY LIMITS SPHERE OF INFLUENCE

Prepared By: Thomas K. Cheng

RESOLUTION 18-_____

LANDMARK COMMONS CIVIC CENTER NORTH

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS: (1) CERTIFYING THE LANDMARK COMMONS CIVIC CENTER NORTH ENVIRONMENTAL IMPACT REPORT; (2) ADOPTING THE CEQA FINDINGS, FACTS IN SUPPORT OF FINDINGS; AND (3) ADOPTING A MITIGATION MONITORING AND REPORTING PROGRAM

WHEREAS, the proposed Project includes the development of 5.33 acres located on the north side of Third Street, east of Clovis Avenue with approximately 63,000 square feet of community and office uses, including a County regional library, City transit center, and City senior center and clinic ("Project"), as sought by the City of Clovis ("City"); and

WHEREAS, the City of Clovis and County of Fresno have been jointly working together to develop the site for public purposes; and

WHEREAS, the City of Clovis and the County of Fresno have hired two separate architects for the design of the public buildings and the development of the site plan; and

WHEREAS, the objectives of the Project are to accommodate the community's expanding needs for civic facilities located in central Clovis and to optimize public transit, pedestrian, and bicycle access to the site by locating the Project adjacent to local transit lines and adjacent to routes that provide safe and convenient access for pedestrians and bicycles; and

WHEREAS, the City caused to be prepared a Draft Environmental Impact Report ("Draft EIR") for the Project in April 2018 to evaluate potentially significant adverse environmental impacts; and

WHEREAS, the Draft EIR was prepared, circulated, and was made available for public comment from April 6, 2018 through May 21, 2018 pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code, Sections 21000 et seq., and the Guidelines for Implementation of CEQA, 14 California Code of Regulations, Sections 15000 et seq. (the "CEQA Guidelines"); and

WHEREAS, written comments were received on the Draft EIR during its public review period; and

WHEREAS, the City caused to be prepared a Final Environmental Impact Report ("Final EIR") for the Project in June 2018, which contains the written comments upon the Draft EIR and responses thereto, as well as changes and additions to the Draft EIR text; and

WHEREAS, the Draft EIR and the Final EIR collectively make up the Environmental Impact Report (the "EIR") for the Project; and

WHEREAS, on June 29, 2018, the City published Notice of a City Council Hearing (the "Notice") for July 9, 2018, to consider the Final EIR, and provided the Notice to interested parties; and

WHEREAS, on July 9, 2018, the City Council held a duly noticed public hearing to consider the Final EIR; and

WHEREAS, the City Council considered testimony and information received at the public hearing and the oral and written reports from City staff, as well as other documents

contained in the record of proceedings relating to the Project and Final EIR, which are maintained at the offices of the City of Clovis Planning and Development Services; and

WHEREAS, the City Council has independently reviewed and considered the Final EIR; and

WHEREAS, the City Council has evaluated and considered all comments, written and oral, received from persons who reviewed the Draft EIR and Final EIR, or otherwise commented on the Project; and

WHEREAS, the City Council has independently reviewed and considered the CEQA Findings, Facts In Support of Findings (Exhibit A) and Mitigation Monitoring and Reporting Program (Exhibit B).

WHEREAS, a final site plan will be brought to City Council for consideration in the fall of 2018.

NOW, THEREFORE, the City Council of the City of Clovis adopts the foregoing recitals as true and correct and resolves as follows:

1. Certifies that the Final EIR is adequate and has been completed in compliance with CEQA and the CEQA Guidelines.

2. Finds and declares that the Final EIR was presented to the City Council and that the City Council has independently reviewed and considered the information contained in the Final EIR prior to considering approval of the Project.

3. Based upon its review of the Final EIR, finds that the Final EIR is an adequate assessment of the potentially significant environmental impacts of the Project as described in the Final EIR, sets forth a reasonable range of alternatives to the Project, and represents the independent judgment of the City Council.

4. Finds that the Final EIR additions, clarifications, amplifications, modifications and other information in response to comments on the Draft EIR are not significant new information as that term is defined under the provisions of CEQA or the CEQA Guidelines because such changes and additional information do not indicate that (i) any new significant environmental impacts not already evaluated would result from the Project; (ii) there is any substantial increase in the severity of any environmental impact from the Project unless mitigation measures are adopted that reduce the impact to a level of insignificance; (iii) any feasible alternatives or mitigation measures considerably different from those previously analyzed in the Draft EIR have been proposed that would lessen significant environmental impacts of the Project but the proponents decline to adopt it. Accordingly, the City Council hereby finds and determines that recirculation of the Final EIR for further public review and comment is not warranted.

5. The City Council has considered all feasible mitigation measures and has examined potentially feasible alternatives to the Project.

6. Finds that none of the project alternatives analyzed in the Draft EIR meet the Project objectives to the same degree as the Project.

7. Finds that, after considering all feasible mitigation measures and weighing the advantages and disadvantages of the Project, as proposed, with the project alternatives, the feasibility of project alternatives, and the "no project" alternative, the Project as proposed and described in the Final EIR may be approved.

8. Adopts the CEQA Findings, Facts In Support of Findings as set forth in Exhibit A.

9. Adopts the Mitigation Monitoring and Reporting Program set forth in Exhibit B.

10. Directs that the record of these proceedings be contained in the Department of Planning and Development Services located at 1033 Fifth Street, Clovis, CA 93612, and that the custodian of the record be Michael Harrison, City Engineer, or other person designated by the Planning and Development Services Director.

11. Authorizes the Planning and Development Services Director, or his designee, to file a Notice of Determination for the Project in accordance with CEQA and to pay any fees required for such filing, including Department of Fish and Wildlife fees.

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on July 9, 2018, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

DATED:_____, 2018

_____ _____

Mayor City Clerk

Exhibit A: CEQA Findings, Facts In Support of Findings
Exhibit B: Mitigation Monitoring/Reporting Program

LANDMARK COMMONS CIVIC CENTER NORTH DRAFT ENVIRONMENTAL IMPACT REPORT

PREPARED FOR:

City of Clovis
1033 Fifth Street
Clovis, CA 93612
Contact: Andrew Haussler
(559) 324-2095

PREPARED BY:

ICF
630 K Street, Suite 400
Sacramento, CA 95814
Contact: Cherry Zamora
(916) 737-3000

April 2018

ICF International. 2018. Landmark Commons Civic Center North Draft Environmental Impact Report Draft EIR. Administrative Draft. April. (ICF 00598.15.) Sacramento, CA. Prepared for City of Clovis, Clovis, CA.

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Acronyms and Abbreviations

$\mu g/m^3$	micrograms per cubic meter
2014 RTP	2014 Regional Transportation Plan and Sustainable Communities Strategy
AAQA	ambient air quality analysis
AB	Assembly Bill
ambient air quality analysis	AAQA
APNs	Assessor's Parcel Numbers
ARB	Air Resources Board
ASFs	age sensitivity factors
A-weighted decibel	dBA
BAU	business-as-usual
BPS	Best Performance Standards
BPS	best performance standards
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
California Ambient Air Quality Standards	CAAQS
Caltrans	California Department of Transportation
carbon monoxide	CO
Carl Moyer Program	Carl Moyer Memorial Air Quality Standards Attainment Program
CCAA	California Clean Air Act
CCAs	Community Choice Aggregators
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
City	City of West Sacramento
City Guidelines	City of Clovis Traffic Impact Study Guidelines
CMP	Congestion Management Process
CNEL	community noise equivalent level
CO_2	carbon dioxide
community noise equivalent level	CNEL
CPUC	California Public Utilities commission
CVC	California Vehicle Code
dB	decibel
dBA	A-weighted decibels
DBR	breathing rates
decibel	dB
ED	exposure duration
EIR	environmental impact report
EO	executive order
EPA	Environmental Protection Agency

equivalent sound level	Leq
ESPs	energy service providers
FAH	Fraction of Time at Home
FHWA	Federal Highway Administration
fine particulate matter	PM2.5
Fresno COG	Fresno Council of Governments
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gases
GWP	global warming potential
HFCs	Hydroflourocarbons
HRA	health risk assessment
HVAC	heating, ventilation, and air-conditioning
ICF	ICF International
IOUs	investor-owned utilities
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
L_{dn}	Day-Night Level
L_{eq}	Equivalent Sound Level
level of service.	LOS
L_{max}	Maximum Sound Levels
LOS	level of service
maximum sound level	Lmax
mg/m^3	milligrams per cubic meter
micrograms per cubic meter	g/m3
milligrams per cubic meter. TC	mg/m3
MLD	Most Likely Descendant
MPEM	Multi-Pollutant Evaluation Method
mph	mile per hour
MPOs	Metropolitan Planning Organizations
MSL	mean sea level
MTC	Metropolitan Transportation Commission
$MTCO_2e$	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NGOs	nongovernmental organizations
NO	nitric oxide
No emissions	N/A
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
OEHHA	Office of Environmental Health Hazard Assessment
particulate matter.	PM10
parts per billion	ppb
parts per million	Ppm

parts per trillion	ppt
PBIA	Parking and Business Improvement Area
PFCs	perfluorocarbons
PM 2.5	particulate matter less than or equal to 2.5 microns in diameter
PM10	particulate matter less than or equal to 1 microns in diameter
ppm	parts per million
PPV	Peak Particle Velocity
PRC	Public Resources Code
project	Landmark Commons Civic Center North project
proposed project	Landmark Commons Civic Center North Project
RCNM	roadway construction noise model
reactive organic compounds	ROG
REL	Reference Exposure Level
RMS	root-mean-square
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
SB	Senate Bill
SCS	sustainable communities strategy
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide
SO_X	sulfur oxides
SO_x	sulfur oxides
SR	State Route
TACs	toxic air contaminants
Tanner Act	Toxic Air Contaminant Identification and Control Act
TCMs	traffic control measures
TCR	tribal cultural resources
VdB	level in decibel units
VMT	vehicle miles traveled

Executive Summary

This Draft EIR has been prepared for the Landmark Commons Civic Center North project. The Draft EIR meets the requirements of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines for content and analysis. It discloses the environmental impacts that would occur if this project is approved by the City Council and includes mitigation measures that will reduce or avoid those impacts. It also analyzes two alternatives to the project, including the no-project alternative.

The Draft EIR will be circulated for public and agency review and comment. After the closure of the review period, the City will prepare a Final EIR. The Final EIR will consist of the Draft EIR, the comments received, written responses to those comments, and any revisions to the Draft EIR made as a result of the comments. The City planning commission and City Council will consider the proposed project, informed by the Final EIR about the project's potential environmental impacts.

ES.1 Project Overview

The proposed project would entail the development of approximately 63,000 square feet of community and office uses. This is a joint city/county project. For CEQA purposes, the City of Clovis is the lead agency and Fresno County is the responsible agency. The City of Clovis is developing the proposed senior center and transit hub; the County is developing the regional branch library. The county library would be moved here from its current location in the Clovis civic center.

ES.1.1 Project Entitlements

The proposed project would require site plan approval from the City. The project is consistent with *Clovis General Plan* designations for the site and the site zoning, and so it would not require a general plan amendment or zone change. No County entitlement is either necessary or proposed.

ES.1.2 Project Features

The proposed project would include a senior activity center and health clinic, a transit center, a regional branch County library, and associated parking and landscaping. A public plaza would be located between the senior activity center and the branch library in Site Plan 1 and plazas will be adjacent to the senior activity center and the library in Site Plan 2. Each of these features is described below. Site Plan 1 reflects the layout of the project.

ES.1.3 Senior Activity Center and Clinic

An approximately 25,000-square-foot, one-story senior activity center and clinic is proposed in the southwest portion of the site. It would include banquet facilities, office space, classrooms, and space for fitness activities. This new facility would replace the existing senior activity center located at 850 Fourth Street.

The number of people in the facility would vary hour-to-hour, depending upon the activity. Most people will come for an activity or two and not stay all day. The minimum expected attendance is 100 people a day and 500 a day during peak times. Regular facility hours are 8:00 am to 5 pm

weekdays, but there are limited activities and events happening in the evening and on the weekend due to outside groups, classes, and special events.

The multipurpose room is expected to hold 300 people and will be available for rent on Saturday afternoons and evenings. The hours of the gym are expected to go beyond the regular office hours as well. Special events could include a car show, rummage sale, 5K running event; all of which could increase the number of people in attendance. Regarding the number of vehicles, people will come and go throughout the day. At the most, 100 cars would be in the parking lot at any one time. Many seniors take public transit, ride a bus, or take a van provided by their apartment complex, or ride together which reduces the number of single occupant vehicles. For weekend hall rentals, there could be up to 200 cars. These would typically be in the evening when transit is no longer operating and the library is closed. The city will coordinate with the library for special events to make sure that they are not both having events on the same day.

ES.1.4 Transit Center

An approximately 7,000 square-foot, one-story transit building would contain office space, a ticket/public information counter, staff break areas, loading areas, and bicycle parking. In addition, there would be a meeting/training room for 80-100 people that could also be used by the public on request. Buses would collect and drop off passengers at the transit center. Buses would access the site via Third Street. An estimated 6-8 fixed-route buses would stop at the center per hour, plus there will be Roundup dial-a-ride type buses that will stop to use the restroom or meet with staff on and off throughout the day. Passengers may wait for the bus inside or outside the building.

Buses will not be stored at the site, but some could be parked there for an extended time during training. Bus drivers will be required to shut off bus engines and not allow them to idle more than 5 minutes. However, if there are passengers on board and it's very hot or cold, engines can run longer.

ES.1.5 Library

An approximately 30,000-square-foot County regional branch library is proposed in the northwestern portion of the site. This one-story building would replace the existing public library currently located in the Civic Center on Fifth Street. The existing 8.600 square-foot Civic Center library would be converted to city office space.

The new building will provide services that are presently not available in the current facility due to space limitations. The branch library will feature all of the amenities of a 21st Century modern library including: a children's garden, multiple study rooms, a meeting room (minimum 50 person capacity), a conference room (minimum 200 capacity), innovation lab, quiet reading room, children's story time area, and a dedicated teen lounge. The branch library will house many personal computers for public use, early literacy stations for children, and fast, reliable Wi-Fi during open hours. Back-of-house operations will also be included, allowing ample storage of library materials and a means for shipping and receiving trucks and miscellaneous deliveries to conveniently access the branch library.

The branch library's hours of operation are to be Monday through Thursday 9:00 am to 9:00 p.m., Friday and Saturday 9:00 a.m. to 5:00 p.m. and Sunday 12 pm to 5:00 pm. There may be times outside operating hours when the public will use the building for special events and programming. For example, stargazing events, author talks, teen evening and weekend events and a host of

additional programming are planned for this branch library, in keeping with events at facilities of similar size throughout the County Library system.

The new branch library is anticipated to host an average of 1,200 people throughout the course of the day. For special events, groups of up to 300 may be in the facility at one time to enjoy programming. Such events will be limited to 2-3 monthly.

ES.1.6 Parking

Approximately 246 paved parking spaces are proposed for the site to serve the new facilities. The parking area would accommodate visitors to the proposed transit center, branch library, and senior center, as well as employees. The parking area is sized to accommodate the heavier demand when there are events at the senior center or the transit center meeting/training room is in full use. Approximately 204 parking stalls are expected to be in regular use by the library.

Public Spaces and Landscaping

There will be a public plaza between the senior activity center and the library in Site Plan 1. Landscaping would be installed at the locations of the proposed buildings. The proposed parking lot would contain shade trees and drought tolerant landscaping consistent with City requirements outlined in Chapter 10.1 of the Clovis Municipal Code and the City's Water Efficient Landscape Ordinance. There also would be a small courtyard by the library.

ES.1.7 Project Phasing and Construction

Buildout of the project would likely occur over 2 years. It is anticipated construction would be phased within the project site. Construction is anticipated to begin in 2018.

Construction hours of all phases would conform to City noise ordinances, which apply to construction activities from 7 am to 7 pm Monday through Friday, and 9 am and 5 pm on weekends. Work can start at 6 AM June 1 – September 15 per City Code. Construction would utilize typical crews and machinery for one-story construction and installation of the parking lot.

ES.2 Project Objectives

There are two primary objectives for the proposed project.

- Accommodate the community's expanding needs for civic facilities located in central Clovis, including a transit service center, senior services activity center and clinic, and County regional branch library.
- Optimize public transit, pedestrian, and bicycle access to the site by locating the proposed project adjacent to local transit lines and adjacent to routes that provide safe and convenient access for pedestrians and bicycles.

ES.3 Project Impacts and Mitigation Measures

ES.3.1 Summary of Project Impacts

The Project impacts are summarized in Table ES-1 (presented at the end of this summary). For potentially significant impacts, mitigation measures are identified, where feasible, to reduce the impact on environmental resources to a less-than-significant level. Refer to Chapter 3, *Impact Analysis*, for a detailed discussion of Project impacts and detailed descriptions of the mitigation measures.

ES.3.2 Significant and Unavoidable Impacts

State CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects of a project, including those that can be mitigated but not reduced to a level of insignificance. The impact analysis presented in Chapter 3, *Impact Analysis*, has identified that the Project would result in no significant and unavoidable impacts.

ES.4 Proposed Project and Project Alternatives

The Draft EIR analyzes the proposed project and the two alternatives to the project, including the No-Project Alternative. The alternatives (other than No-Project) are potentially feasible, meet most of the project objectives, and reduce one or more of its significant impacts. Because Alternative 2 (Site Plan 2) proposes development identical to the project, but with a different layout, it is analyzed in similar detail to the project (Site Plan 1).

ES.4.1 Proposed Project

The proposed project is a mixed-use development consisting of community and public uses. Specifically, it would entail the development of a combined 63,000 square feet of community and office uses including 30,000 square feet for the library. The county library would be moved from its current location in the Clovis Civic Center. The Senior Center would also be moved from its current location at 850 4th Street. The project layout, as originally conceived, is illustrated in Site Plan 1.

Project Entitlements

The proposed project would require a site plan review by the City of Clovis. The project is consistent with Clovis General Plan designations for the site and the site zoning, and so it would not require a general plan amendment or zone change. No County entitlement is either necessary or proposed.

Project Features

The proposed project would include a senior activity center and clinic, a transit center, a library, and associated parking and landscaping. A public plaza would be located between the senior activity center, the library, and necessary off-site improvements. Figure 2.1-4 and Figure 2.1-5 show the proposed project site plan. Each of these features is described below.

Senior Activity Center and Clinic

An approximately 25,000-square-foot, one-story senior activity center and clinic is proposed in the southeastern portion of the site. The senior center would be a recreational activity center for people at least 50 years of age. No one would live at the senior center. It would contain classrooms, meeting rooms, an exercise room, gym, multipurpose room with commercial kitchen, and offices. This new facility would replace the existing senior activity center located at 850 Fourth Street. The number of people in the facility would vary hour-to-hour, depending upon the activity. Most people would come for an activity or two and not stay all day. Attendance is expected to range from 100 to 500 people a day. Regular facility hours would be 8:00 a.m. to 5 p.m. on weekdays, but there would be limited activities and events in the evening and on weekends for outside groups, classes, and special events.

The multipurpose room is expected to hold 300 people and would be available for rent on Saturday afternoons and evenings. The hours of the gym are expected to go beyond the regular office hours as well. Special events could include car shows, rummage sales, and 5K running events, all of which could increase the number of people in attendance. Regarding the number of vehicles, people would come and go throughout the day. At the most, 100 cars would be in the parking lot at any one time. Many seniors ride public transit, take a van provided by their apartment complex, or ride together, all of which reduces the number of single-occupant vehicles. For weekend hall rentals, there could be up to 200 cars. These events would typically be in the evening when transit is no longer operating and the library is closed. The city would coordinate with the library for special events to make sure that they are not both having events on the same day. There would be some service deliveries to the kitchen/multipurpose room: senior meals are delivered daily in a van and supplies are delivered weekly on average. During hall rentals or special events, deliveries of food, decorations, rental equipment, and other items would occur throughout the day. During hall rentals and special events, there may be live or recorded music inside the building or, if it is an outside event, outside the building. This could occur as early as 7:00 a.m., and as late as midnight for weekend special events and 10:00 p.m. on weekdays. There may be outside cooking such as barbecue, as well.

The clinic would provide medical, imaging, and lab services. Clinic staffing would consist of three clinical providers comprised of physicians and nurse practitioners. Each provider would be able to accommodate approximately 3,400 patient visits annually. Hours of operation for the clinic would be 7:30 a.m. to 5:30 p.m. on weekdays.

The building would have an emergency generator, but the generator would only run when the power is out or during testing of the unit.

Transit Center

An approximately 7,000 square-foot, one-story transit building would contain office space, a ticket and public information counter, staff break areas, loading areas, and bicycle parking. In addition, there would be a meeting and training room for 80 to 100 people that could also be used by the public. Buses would collect and drop off passengers at the transit center. The primary project access point will be a new driveway connecting to Third Street at Veterans Way. Secondary access will be provided via an existing north-south alley along the eastern edge of the project site that currently connects to Third Street at the south end and to the Osmun Circle cul de sac at the north end. An estimated 6 to 8 fixed-route buses per hour would stop at the center, plus there would be Roundup dial-a-ride type buses that stop intermittently throughout the day so that drivers may use the

restroom or meet with staff. Passengers may wait for the bus inside or outside the building. Buses would not be stored at the site, but some could be parked there for an extended time during training. Bus drivers would be required to shut off bus engines and not allow them to idle more than 5 minutes. However, if there are passengers on board and it's very hot or cold, engines may run longer.

Library

An approximately 30,000-square-foot library is proposed in the western portion of the site. This one-story building would replace the existing library currently located in the Civic Center on Fifth Street. The proposed library would be county library and would be subject to county design and approval.

The current Civic Center library would be renovated to support future offices uses at a future date.

The new building will provide services that are presently not available in the current facility due to space limitations. The branch library will feature all of the amenities of a 21st Century modern library including: a children's garden, multiple study rooms, a meeting room (minimum 50 person capacity), a conference room (minimum 200 capacity), innovation lab, quiet reading room, children's story time area, and a dedicated teen lounge. The branch library will house many personal computers for public use, early literacy stations for children, and fast, reliable Wi-Fi during open hours. Back-of-house operations will also be included, allowing ample storage of library materials and a means for shipping and receiving trucks and miscellaneous deliveries to conveniently access the branch library.

The branch library's hours of operation are to be Monday through Thursday 9:00 am to 9:00 p.m., Friday and Saturday 9:00 a.m. to 5:00 p.m. and Sunday 12 pm to 5:00 pm. There may be times outside operating hours when the public will use the building for special events and programming. For example, stargazing events, author talks, teen evening and weekend events and a host of additional programming are planned for this branch library, in keeping with events at facilities of similar size throughout the County Library system.

The new branch library is anticipated to host an average of 1,200 people throughout the course of the day. For special events, groups of up to 300 may be in the facility at one time to enjoy programming. Such events will be limited to 2-3 monthly.

Parking

Approximately 246 paved parking spaces are proposed for the site to serve the new facilities. The parking area would accommodate visitors to the proposed transit center, branch library, and senior center, as well as employees. The parking area is sized to accommodate the heavier demand when there are events at the senior center or the transit center meeting and training room is in full use. Approximately 204 parking stalls are expected to be in regular use by the library.

Public Spaces and Landscaping

There would be a public plaza between the senior activity center and the library. Landscaping would be installed at the locations of the proposed buildings. The proposed parking lot would contain shade trees and drought tolerant landscaping consistent with City requirements outlined in Chapter

10.1 of the Clovis Municipal Code and the City's Water Efficient Landscape Ordinance. There also would be a small courtyard by the library.

ES.4.2 Alternative 1/No-Project Alternative

The No-Project Alternative assumes that the project site would be developed as allowable under the City's general plan and zoning.

ES.4.3 Alternative 2/Site Plan 2

The site plan layout for Alternative 2 is shown in Figure 2.1-5. Building square footage and operations for Alternative 2 are similar to the project, however, the public plaza would be located west of the senior activity center, the library would be located slightly further east, and the transit center building and loading zones would be oriented differently. With Alternative 2, two bus loading zones would be in regular use north of the transit center building and one bus loading zone situated at the front of the library would be used on a non-regular basis. Alternative 2 is the preferred alternative as it maximizes the public benefit of the parcel by optimizing parking fields and the public plaza spaces.

ES.5 Potential Areas of Controversy/Issues to be Resolved

No potential areas of controversy or issues to be resolved have been identified.

ES.6 How to Comment on this Draft EIR

Readers of this EIR are invited to provide their comments about the project's potential environmental impacts to the City. The City will accept written comments during the review period described below. Please focus your comments on the adequacy of the Draft EIR. The Draft EIR will be available for public review for the statutory 45-day public review period, beginning **April 6, 2018**. During that time, agency representatives and members of public will have the ability to submit written comments on the Draft EIR to the address provided below.

City of Clovis
1033 Fifth Street
Clovis, CA 93612
Contact: Andrew Haussler, Community & Economic Development Director
PHONE : (559) 324-2095
E-MAIL: andrewh@ci.clovis.ca.us

Table ES-1. Summary of Impacts and Mitigation Measures

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Aesthetic				
Impact AE-1: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area	Less than significant	Mitigation Measure AES-1: Implement Lighting Design That Limits Light Spill	Less than significant	City
Agricultural and Forestry	No impact	--	--	--
Air Quality				
Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan	Less than Significant	--	--	--
Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	Less than Significant	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	Less than Significant	--	--	--
Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations	Less than Significant	--	--	--
Impact AQ-5: Create objectionable odors affecting a substantial number of people	Less than Significant	--	--	--
Biological Resources	No impact	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Cultural Resources				
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5.	Significant	Mitigation Measure CUL-1: Stop Work at Discovery of Cultural Resources	Less than significant	City
Impact CUL-2: Destroy directly or indirectly a unique paleontological resource or site or unique geologic feature	Significant	Mitigation Measure CUL-2: Stop Work at Discovery of Paleontological Resources	Less than significant	City
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	Significant	Mitigation Measure CUL-3: Stop Work at Discovery of Human Remains	Less than significant	City
Geology and Soil	Less than significant	--	--	--
Greenhouse Gases	Less than significant			--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact GHG-1: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	Less than Significant	--	--	--
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	Less than Significant	--	--	--
Hazards and Hazardous Materials	Less than significant	--	--	--
Hydrology and Water Quality				
Impact WQ-1: Violation of any water quality standards or waste discharge requirements	Significant	Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District Mitigation Measure HYD-3: Implement stormwater collection measures	Less than Significant	City

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge	Less than significant	--	--	--
Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite	Less than Significant	--	--	--
Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite	Less than Significant	--	--	--
Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	Less than Significant	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact WQ-6: Other substantial degradation of water quality	Significant	Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District Mitigation Measure HYD-3: Implement stormwater collection measures	Less than Significant	City
Impact WQ-7: Placement of housing within a 100-year flood hazard area	No impact	--	--	--
Impact WQ-8: Placement of structures that would impede or redirect floodflows within a 100-year flood hazard area	No impact	--	--	--
Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam	No impact	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow	No impact	--	--	--
Land use and Planning	No impact	--	--	--
Mineral Resources	No impact	--	--	--
Noise				
Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	Significant	Mitigation Measure M-NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: Noise Reduction Measures for Special Events	Less than significant	City, County
Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	Less than Significant	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	Significant	Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: Noise Reduction Measures for Special Events Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events.	Less than Significant	City, County
Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity	Less than Significant	--	--	--
Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels	No Impact	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting of exposure to people residing or working in the project area to excessive noise levels	No Impact	--	--	--
Population and Housing	Less than significant	--	--	--
Public Services	No impact	--	--	--
Recreation	No impact	--	--	--
Transportation and Traffic				
Impact TRA-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system	Less than significant	--	Less than significant	City
Impact TRA-2: Conflict with an applicable congestion management program	Less than significant	--	Less than significant	City
Impact TRA-3: Potential to cause a change in air traffic patterns that results in substantial safety risks	No impact	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact TRA-4: Result in a substantial increase in hazards because of a design feature (e.g., sharp curves, dangerous intersections) or incompatible uses (e.g., farm equipment)	Significant	Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings	Less than significant	City
Impact TRA-5: Cause inadequate emergency access	Less than significant	--	--	--
Impact TRA-6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (less than significant with mitigation)	Significant	Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings	Less than significant	City
Utilities and Service Systems	No impact	--	--	--

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Cumulative Impacts				
Impact C-NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	Significant	Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: Noise Reduction Measures for Special Events Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events	Less than Significant	City, County
Impact C-NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	Less than Significant	--	--	--
Impact C-NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	Significant	Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: Noise Reduction Measures for Special Events Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events	Less than Significant	City, County

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact C-NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity	Less than Significant	--	--	--
Impact C-NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels	No Impact	--	--	--
Impact C-NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting of exposure to people residing or working in the project area to excessive noise levels	No Impact	--	--	--

Chapter 1

Introduction and Scope of Environmental Impact Report

The City of Clovis (City) is proposing the Landmark Commons Civic Center North project (project). This environmental impact report (EIR) has been prepared to evaluate and disclose the significant environmental impacts associated with development and operations of the new senior center, transit center, and county library facilities that make up this project.

1.1 The California Environmental Quality Act

This EIR has been prepared according to California Environmental Quality Act (CEQA) California Resources Code Section 21000 et seq. and the Guidelines for the California Environmental Quality Act (Title 14 California Code of Regulations [CCR] Chapter 3). It evaluates the potential environmental impacts associated with implementation of the proposed Landmark Commons Civic Center North project.

1.1.1 The Purpose of this Environmental Impact Report

The purpose of this EIR is to inform City decision makers, representatives of other affected/responsible agencies, the public, and other interested parties of the potential environmental effects that may be associated with the project; identify mitigation measures to reduce those effects; and analyze a range of alternatives to the project that would reduce one or more of its significant effects.

According to Section 15002 of the CEQA Guidelines, the basic purposes of CEQA are to accomplish the following.

- Inform government decision makers and the public about the potential significant environmental effects of proposed activities.
- Identify ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governing agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The process of preparing an EIR involves the following discrete steps.

- Notice of Preparation (NOP). Prior to preparing the Draft EIR, the lead agency releases an NOP to solicit the comments of public agencies and interested organizations and individuals regarding the scope and content of the EIR. The NOP is available for comment for at least 30 days. An NOP was distributed for this EIR on April 4, 2017. The comments to the NOP received from agencies and the public are included in Appendix A of this EIR.

- Scoping Meeting. A scoping meeting to offer an additional opportunity for input prior to preparation of the Draft EIR. A scoping meeting was held for public agencies and members of the public at the City of Clovis on April 18, 2017.
- Preparation and release for public review and comment of the Draft EIR. The Draft EIR must be available for 45 days for review and comment by public agencies and interested organizations and individuals.
- Preparation of the Final EIR. The Final EIR will present the comments received during the public review period (and a complete list of commenters), written responses to the comments related to environmental issues, and any revisions that are made to the Draft EIR in response to the comments. The City Council will certify the Final EIR prior to taking action on the project.

1.1.2 Level of Detail in this EIR

This is a project-level EIR which analyzes the impacts of the proposed project. The EIR's level of detail matches the level of detail in the current design of the project. The project is compared to existing conditions on its site to determine the extent to which its construction and operations will result in significant environmental impacts. Where such impacts are identified, the EIR includes specific mitigation measures to reduce or avoid the significance of those impacts.

The City prepared an Initial Study prior to drafting this EIR. The Initial Study undertook a preliminary analysis of the project's potential impacts in light of the "environmental checklist" found in Appendix G of the State CEQA Guidelines. The Initial Study and related technical studies concluded that the project has the potential for significant, unavoidable impacts in four resource areas. Accordingly, this EIR will focus on analyzing those impacts. Consistent with CEQA Guidelines Section 15143, the effects found to be less than significant in the Initial Study will be discussed only briefly in the EIR. The Initial Study and supporting studies are included in the EIR as Appendix A.

The project has evolved since its original conception. Two alternative approaches are presented in this EIR, both of which contain the same facilities and services. Site Plan 1 is the project site layout as originally conceived. It is detailed in the project description. Site Plan 2 is a revised layout. Site Plan 2 is the preferred alternative. This EIR examines three alternatives in all: Alternative 1 – No Project, Alternative 2 – Site Plan 1, and Alternative 3 – Site Plan 2.

1.1.3 Document Format

This EIR is organized into the following sections.

- The Executive Summary presents an overview of the contents and findings presented in this document. It also contains a brief description of the proposed project, the alternatives, areas of known controversy, and summary tables listing all project impacts and comparisons between alternatives.
- Chapter 1, *Introduction*, describes this EIR's purpose and legal requirements, as well as its intended use. It contains an outline of the document and a list of the environmental issues that are discussed in this EIR.
- Chapter 2, *Project Description*, describes the proposed project and its objectives.
- Chapter 3.0, *Impact Analysis*, presents the environmental analysis by environmental topic. It begins with a brief summary of the impacts found to be less than significant in the Initial Study.

Focused discussions of existing setting, thresholds of significance, impacts, and mitigation measures by environmental topic (e.g., air quality and noise) follow, as shown below.

- 3.1 Air Quality
- 3.2 Greenhouse Gas Emissions
- 3.3 Tribal Cultural Resources
- 3.3 Noise
- 3.4 Transportation and Traffic

- Chapter 4, *Other CEQA Considerations*, presents discussions of additional topics required by CEQA, including cumulative impacts, growth-inducing impacts, significant and unavoidable impacts, and significant irreversible environmental changes.
- Chapter 5, *List of Preparers*, identifies the people who prepared the EIR.
- The Appendices contain the Initial Study and its supporting studies, and technical reports.

1.2 Intended Use of this EIR

The City of Clovis Planning Commission and City Council will use the EIR to inform themselves of the impacts of the proposed project before taking action on the project. They will also consider other information and testimony submitted during deliberations on the project. After weighing this information, they will make their decisions.

The City may implement the following discretionary actions based on this EIR:

- Approval of the Landmark Commons Civic Center North project.

Fresno County will use this EIR in making decisions regarding the relocation of the County library from the Clovis Civic Center to the Landmark Commons Civic Center North.

1.3 Reviewing an EIR

1.3.1 Making Effective Comments

Readers of this EIR are invited to provide their comments about the project's potential environmental impacts to the City. The City will accept written comments during the review period described below. Please focus your comments on the adequacy of the Draft EIR.

1.3.2 Submitting Comments

The Draft EIR will be available for public review for the statutory 45-day public review period, beginning **April 6, 2018**. During that time, agency representatives and members of public will have the ability to submit written comments on the Draft EIR to the address provided below.

City of Clovis
1033 Fifth Street
Clovis, CA 93612
Contact: Andrew Haussler
(559) 324-2095
andrewh@ci.clovis.ca.us

1.4 Final EIR

After the end of the public review period the City will prepare written responses to all environmental issues raised through the public review process. The Final EIR will present the comments received, the written responses to comments, a complete list of commenters, and any revisions being made to the Draft EIR in response to comments received. It may also contain additional information necessary to respond to the comments. All public agencies that submit comments will be sent a copy of the City's response to their comment at least 10 days prior to the public hearing at which the Final EIR will be considered for certification by the City Council.

The City Council will certify the Final Program EIR prior to taking action on the proposed project.

Chapter 2
Project Description

The proposed Landmark Commons Civic Center North Project (proposed project) consists of construction and operation of a new senior activity center and clinic, public library, and transit center. The proposed project would be developed in multiple phases with full build-out anticipated in 2018 - 2020. This section describes the project setting and project objectives; provides an overview of the project entitlements, land use plan, and project features; and identifies the approvals required to implement the proposed project.

2.1 Project Setting

The project site is centrally located in the City of Clovis, Fresno County. The project site is a vacant lot, previously the site of a lumber yard located in Old Town Clovis and directly north of the parking lot of the Clovis Veterans Memorial Building and the San Joaquin College of Law. Figure 2.1-1 shows the regional location of the proposed project.

The project site previously contained five buildings occupied by a variety of commercial businesses, including a lumberyard, a lawnmower repair service, an auto engine and brake service, a taxidermist, and a towing service. The buildings were demolished and the site was graded in 2015. The prior uses occupied the site to the exclusion of any native plants or habitat.

2.1.1 Location

The 5.33-acre project site is located on the north side of Third Street, between Clovis Avenue and Osmun Avenue. Second Street dead-ends into the eastern edge of the site. It is approximately 1 mile northeast of the State Route 168/Bullard Avenue interchange and 0.75 mile south of the State Route 168/Herndon Avenue interchange. Figure 2.1-2 shows the project location.

2.1.2 Existing Conditions and Land Uses

The project site is vacant. It is relatively flat, at an elevation of approximately 365 feet above mean sea level (MSL), and at the same approximate elevation of the surrounding area. Figure 2.1-3 shows the project area, existing conditions, and proposed future development areas. The project site is bound by residential uses to the east, the Clovis Old Town Trail and commercial uses to the west, residential, industrial, and office uses to the north, and public, commercial, and office uses to the south.

The site consists of Assessor's Parcel Numbers (APNs) 492-010-46 and 492-131-07. Table 2-1 presents land uses and zoning by APN.

Table 2-1. Existing Land Use Designations and Zoning

Assessor's Parcel No.	Project Area (acres)[a]	Land Use	Zoning
492-010-46	1.21	MU-V	C-3
492-131-07	4.12	MU-V	C-3
Total	**5.33**		

MU-V Mixed Use Village (15.1-43.0 dwelling units per acre; mix of commercial, office, and/or residential uses on the same parcel).
C-3 Central Trading District
[a] Provided by the City of Clovis.

2.2 Project Objectives

There are two primary objectives for the proposed project.

- Accommodate the community's expanding needs for civic facilities located in central Clovis, including a transit service center, senior services activity center and clinic, and county regional branch library.
- Optimize public transit, pedestrian, and bicycle access to the site by locating the proposed project adjacent to local transit lines and adjacent to routes that provide safe and convenient access for pedestrians and bicycles.

2.3 Project Overview

The proposed project would entail the development of approximately 63,000 square feet of community and office uses. The county library would be moved from its current location in the Clovis Civic Center. The Senior Center would be moved from its current location at 850 4th Street. This is a joint city/county project. For CEQA purposes, the City of Clovis is the lead agency and Fresno County is the responsible agency. The City of Clovis is developing the senior center and transit hub; the County is developing the regional library.

2.4 Proposed Project and Project Alternatives

The Draft EIR analyzes the proposed project and two alternatives to the project, including the No-Project Alternative. The Alternative 2 (Site Plan 2) is potentially feasible, meets most of the project objectives, and reduces one or more of its significant impacts. As authorized under CEQA, the alternatives are analyzed at a lesser level of detail than the project. However, because Alternative 2 differs from the project only in its layout, it is examined at nearly the same level as the project.

2.4.1 Proposed Project

The proposed project is a mixed-use development consisting of community and public uses. It is illustrated in Site Plan 1 and reflects the first concept for the layout of the site. Specifically, the project would entail the development of a combined 63,000 square feet of community and office

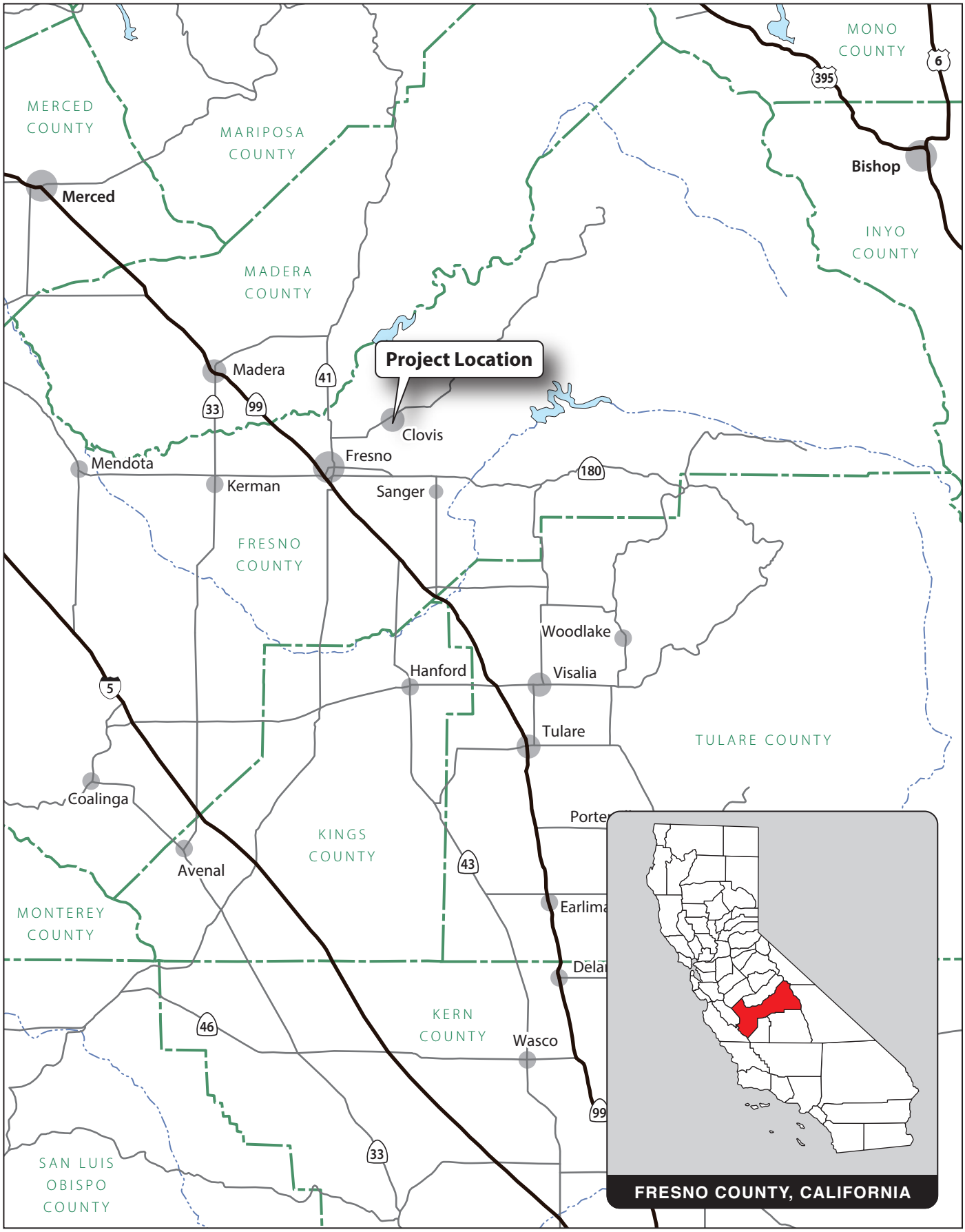

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Figure 2.1-1
Regional Location

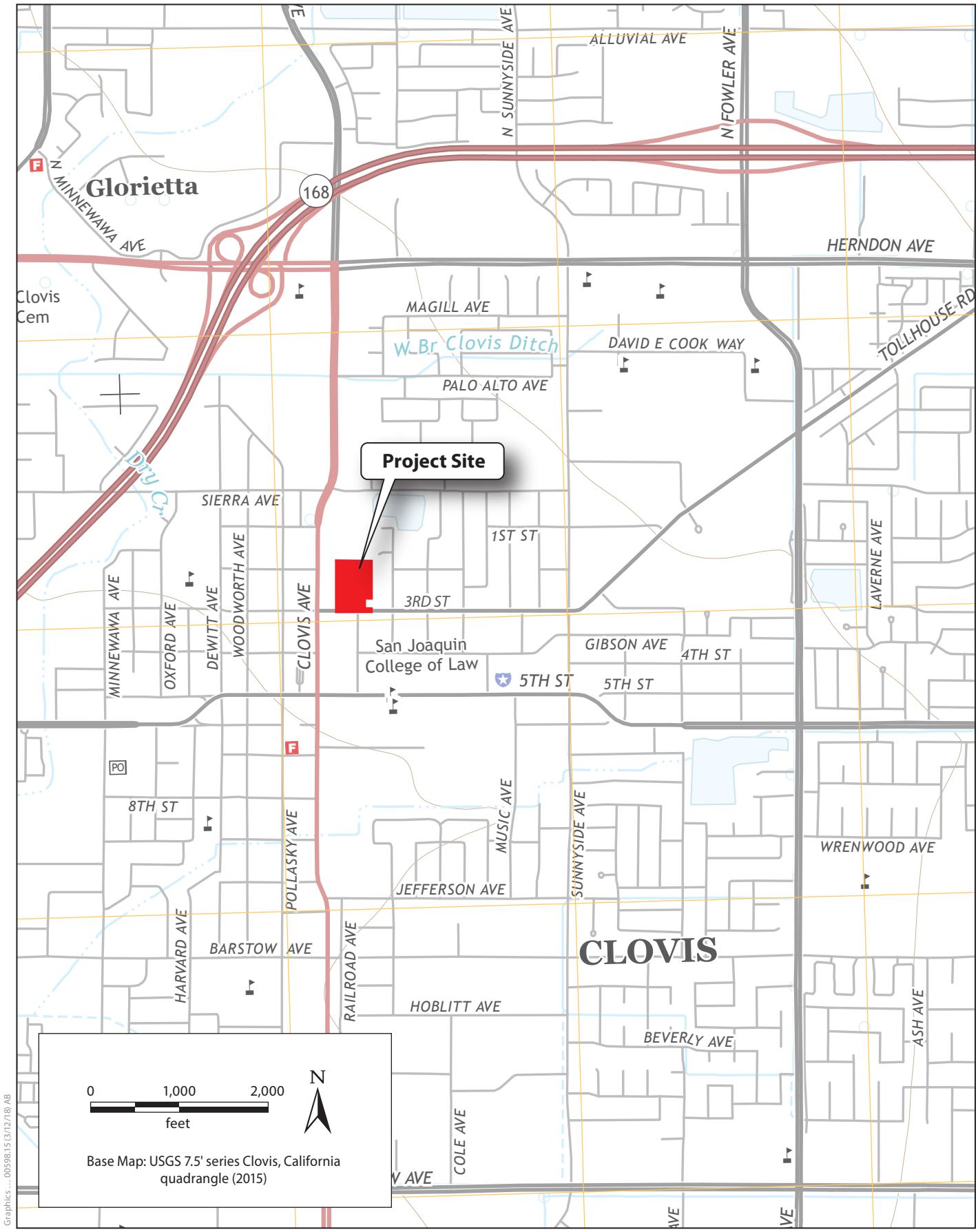

Figure 2.1-2
Project Site Location

Figure 2.1-3
Existing Project Site

uses including 36,000 square feet for the library. The county library would be moved from its current location in the Clovis Civic Center and the Senior Center would be moved from its current location at 850 4th Street.

Project Entitlements

The proposed project would require a site plan review by the City of Clovis. The project is consistent with *Clovis General Plan* designations for the site and the site zoning, and so it would not require a general plan amendment or zone change. No County entitlement is either necessary or proposed.

Project Features

The proposed project would include a senior activity center and clinic, a transit center, a county regional branch library, and associated parking and landscaping. A public plaza would be located between the senior activity center and the regional library. Each of these features is described below and illustrated in Site Plan 1 and Site Plan 2 (see Figure 2.1-4 and Figure 2.1-5).

Senior Activity Center and Clinic

The senior center is to be a recreational activity center for seniors age 50+. The building will contain classrooms, meeting rooms, an exercise room, gym, multipurpose room with commercial kitchen, and offices. A health clinic will also be accommodated within the building. The building would be one-story in height and approximately 25,000-square-feet in area. This new facility would replace the existing senior activity center located at 850 Fourth Street.

The number of people in the facility would vary hour-to-hour, depending upon the activity. Most people will come for an activity or two and not stay all day. The minimum expected attendance is 100 people a day and 500 a day during peak times. Regular facility hours are from 8:00 am to 5 pm weekdays, but there are limited activities and events happening in the evening and on the weekend due to outside groups, classes, and special events.

The multipurpose room is expected to hold 300 people and will be available for rent on Saturday afternoons and evenings. The hours of the gym are expected to go beyond the regular office hours as well. Special events could include a car show, rummage sale, 5K running event, all of which could increase the number of people in attendance. Regarding the number of vehicles, people will come and go throughout the day. At the most, 100 cars would be in the parking lot at any one time. Many seniors visiting the center will take public transit or take a van provided by their apartment complex, or ride together which reduces the number of single occupant vehicles. For weekend hall rentals, there could be up to 200 cars. These would typically be in the evening when transit is no longer operating and the library is closed.

During hall rentals and special events, there may be either live or recorded music played inside the building or outside, if it is an outside event. This could occur as early as 7:00 am and as late as midnight for weekend special events and 10:00 pm on weekdays. There may be outside cooking such as BBQ as well.

The facility will be a designated emergency evacuation site. As such, it will have an emergency generator. The generator would only run when the power is out or during routine testing of the unit.

Transit Center

The Transit Center will serve three functions: a transit hub for passengers to transfer buses, purchase bus passes, and get transit information; staff offices and lunchroom; and a meeting/training room for 80-100 people that could also be used by the public. The building would be one-story in height and approximately 7,000 square-feet in area.

Transit office hours are expected to be from 6:00 am to 7:30 pm weekdays and from 7:00 am to 5:00 pm weekends. Groups may use the meeting room outside of these hours. During regular use, there would be from 6-8 staff personal vehicles in the parking lot. During meetings or training, up to 50 personal vehicles can be expected to use the parking lot. There will be a minimal number of members of the public driving their personal car to the office as most will be on public transit.

Buses would collect and drop off passengers at the transit center. Buses would access the site via Third Street and Second Street. An estimated 6-8 fixed-route buses would stop at the center per hour, plus there will be Roundup dial-a-ride type buses that will stop to use the restroom or meet with staff on and off throughout the day. Passengers may wait for the bus inside or outside the building. Buses will not be stored at the site, but some could be parked there for an extended time during training. Bus drivers will be required to shut off bus engines and not allow them to idle more than 5 minutes. However, if there are passengers on board and it's very hot or cold, engines can run longer.

County Regional Branch Library

An approximately 30,000-square-foot regional branch library (branch library) is proposed in the southwestern portion of the site. This one-story building would replace the existing County public library currently located in the Civic Center on Fifth Street. The existing Civic Center library would be converted to office space for City staff.

The new branch library is expected to serve both city residents and residents from other areas outside of the city. Residents from as far west as Highway 41, south of Kings Canyon, north of Herndon Avenue to Friant Road and east of Quail Lake up to the mountains are expected to visit this facility.

The new branch library will replace the 8,600 square foot library building currently located in the City's main civic center campus on Fifth Street. The new building will provide services that are presently not available in the current facility due to space limitations. The branch library will feature all of the amenities of a 21st Century modern library including: a children's garden, multiple study rooms, a meeting room (minimum 50-person capacity), a conference room (minimum 200 capacity), innovation lab, quiet reading room, children's story time area, and a dedicated teen lounge. The branch library will house many personal computers for public use, early literacy stations for children, and fast, reliable Wi-Fi during open hours. Back-of-house operations will also be included, allowing ample storage of library materials and a means for shipping and receiving trucks and miscellaneous deliveries to conveniently access the branch library.

The branch library's hours of operation are to be Monday through Thursday 9:00 am to 9:00 p.m., Friday and Saturday 9:00 a.m. to 5:00 p.m. and Sunday 12 pm to 5:00 pm. There may be times outside operating hours when the public will use the building for special events and programming. For example, stargazing events, author talks, teen evening and weekend events and a host of

additional programming are planned for this branch library, in keeping with events at facilities of similar size throughout the County Library system.

The new branch library is anticipated to host an average of 1,200 people throughout the course of the day. For special events, groups of up to 300 may be in the facility at one time to enjoy programming. Such events will be limited to 2-3 monthly.

The current Clovis branch library staffing will be adjusted in light of the proposed building. The County Library anticipates the need for 7 part-time library aides, 8 full-time library assistants, 1 senior library assistant and 2 programming librarians. A supervising librarian will manage the operation as well as other facilities.

As a county library, the branch library will be designed by architects contracted by the County. Design considerations will include energy efficiency and effective use of artificial and natural light within the building. The branch library is to have a garden-like setting around the building, with outdoor benches and paths connecting to the Fresno-Clovis Rail Trail. Landscaping and irrigation will be part of the building project. It is expected xeriscaping will be used to address the drought conditions of the region and to proactively conserve resources. The architect, landscape architect, County Library architect, and City of Clovis will work together as a team to create a mutually agreeable landscape that transitions people from inside the library to the garden-like setting, then again to the parking lot or other destinations like the trail and proposed transit hub.

In addition to benches throughout the landscaping, there will be a covered, outdoor space for events. Three concrete patio tables, approximately 5 feet in diameter with benches will also be installed. There will be at least four multi-use racks for safely securing bicycles, jogger strollers, etc.

Parking

Approximately 259 paved parking spaces are proposed on the site to serve the new facilities. The parking area would be shared by the proposed transit center, library, and senior center, as well as employees. The parking area is sized to accommodate the heavier demand when there are events at the senior center or the library, or when the transit center meeting/training room is in full use. The combined staff and public parking for a branch library of this size is expected to occupy 204 parking stalls. There will be no separate parking for library delivery vehicles, but the vehicles will have access to an approach on the side of the branch library building for delivery and pick up of goods. The City will coordinate with the County Library for special events to make sure that the events will not occur simultaneously and exceed the capacity of the parking areas.

Public Spaces and Landscaping

There will be a public plaza between the senior activity center and trail and the branch library and trail. Landscaping would be installed at the locations of the proposed buildings. The proposed parking lot would contain shade trees and drought tolerant landscaping consistent with City requirements outlined in Chapter 10.1 of the Clovis Municipal Code and the City's Water Efficient Landscape Ordinance. There also would be a small courtyard by the branch library.

Roundabout at Third Street and Clovis Avenue

The intersection will be modified by 2039 to a single-lane modern roundabout designed in accordance with typical industry standards, which currently are primarily based on the

Transportation Research Board's National Cooperative Research Program Report 672: Roundabouts: An Informational Guide, Second Edition, 2010.

Construction of a roundabout at the intersection of Veterans Way and Third Street will create a minimized crosswalk length across Third Street and will be beneficial to the Clovis Old Town Trail, which crosses Third Street at Veterans Way. The roundabout will include narrow roadways and a pedestrian refuge in the splitter island that allows pedestrians and bicyclists to cross against only one direction of vehicular travel at a time.

A roundabout may be installed at the time of project construction or may be deferred until the intersection is observed operating at an unacceptable Level of Service D or lower or there is an increase in the average delay if already operating at an unacceptable Level of Service. If deferred, the City will install the roundabout no later than 2039, even if the intersection operates at an acceptable Level of Service D and above or its average delay does not increase. The City will add the cost of the roundabout to the City's development fee program. Alternative 1/No-Project Alternative

The No-Project Alternative assumes that the project site would be developed as allowable under the City's general plan and zoning.

2.4.2 Alternative 2/Site Plan 2

The site plan layout for Alternative 2/Site Plan 2 is shown in Figure 2.1-4. Building square footage and operations for Alternative 2/Site Plan 2 are similar to the project, however, the public plaza would be located west of the senior activity center, the library would be located slightly further east, and the transit center building and loading zones would be oriented differently. With Alternative 2/Site Plan 2, two bus loading zones would be in regular use north of the transit center building and one bus loading zone situated at the front of the library would be used on a non-regular basis. Alternative 2 reflects an evolution of the site design of the project. It is the preferred alternative.

2.4.3 Project Phasing and Construction

Buildout of the project would likely occur over 2 years. It is anticipated construction would be phased within the project site. Construction is anticipated to begin in 2018.

Construction would be typical for one-story buildings and a parking lot. This would include site preparation involving grading of building pads and the parking areas. The site is vacant of structures, so there would be no demolition needed. Construction machinery would likely include compressors, nail guns, power saws, and lifts. Vehicles would include workers personal vehicles, delivery trucks and vans, backhoes, and grader. Temporary fencing will be installed as needed for site security and access would be limited to construction crews.

Construction hours of all phases would comply with the City noise ordinance, which applies to construction activities from 7 am to 7 pm Monday through Friday, and 9 am and 5 pm on weekends. During the summer (June 1 – September 15) construction can begin at 6 AM per City Code.

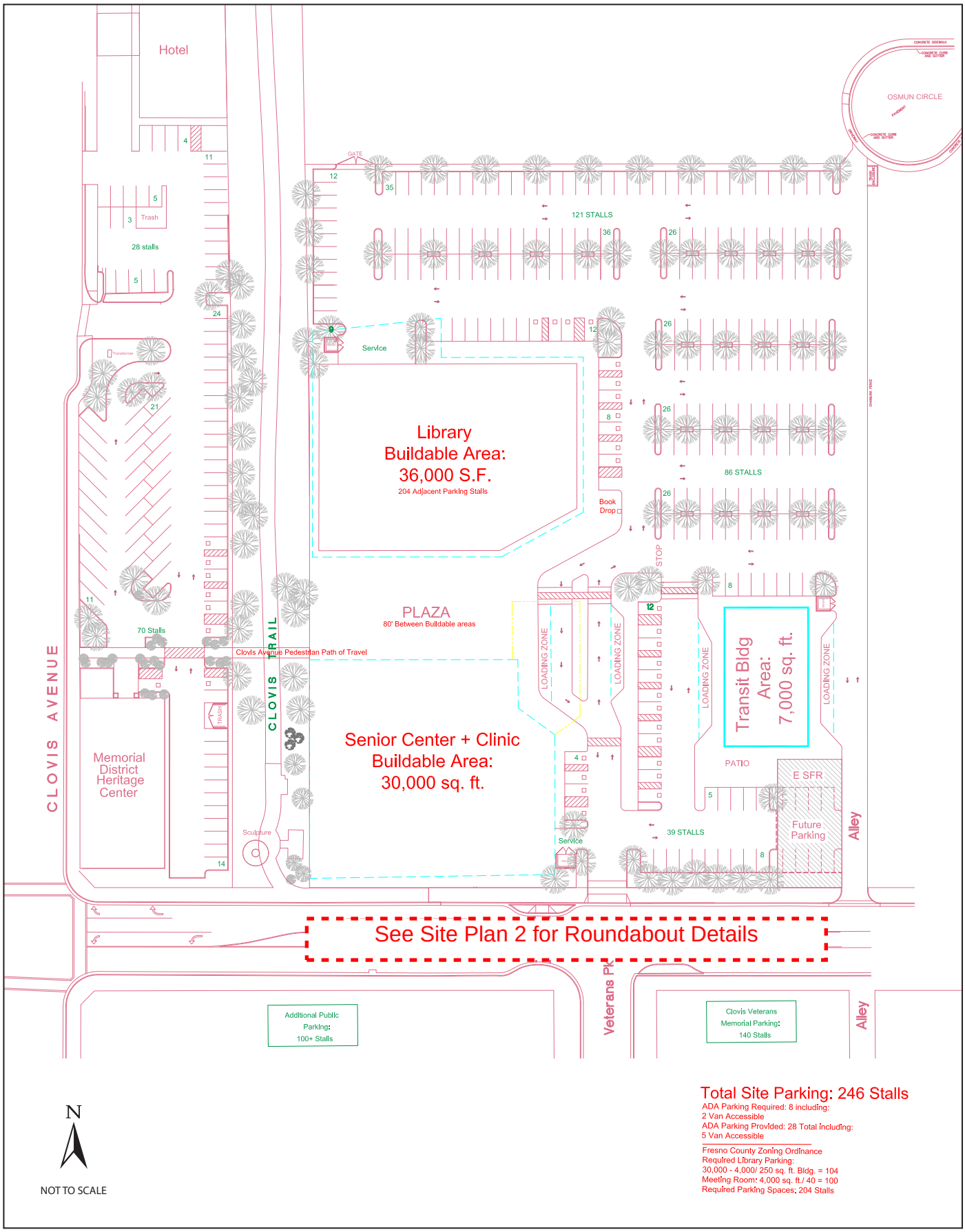

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Figure 2.1-4
Project Site Plan 1

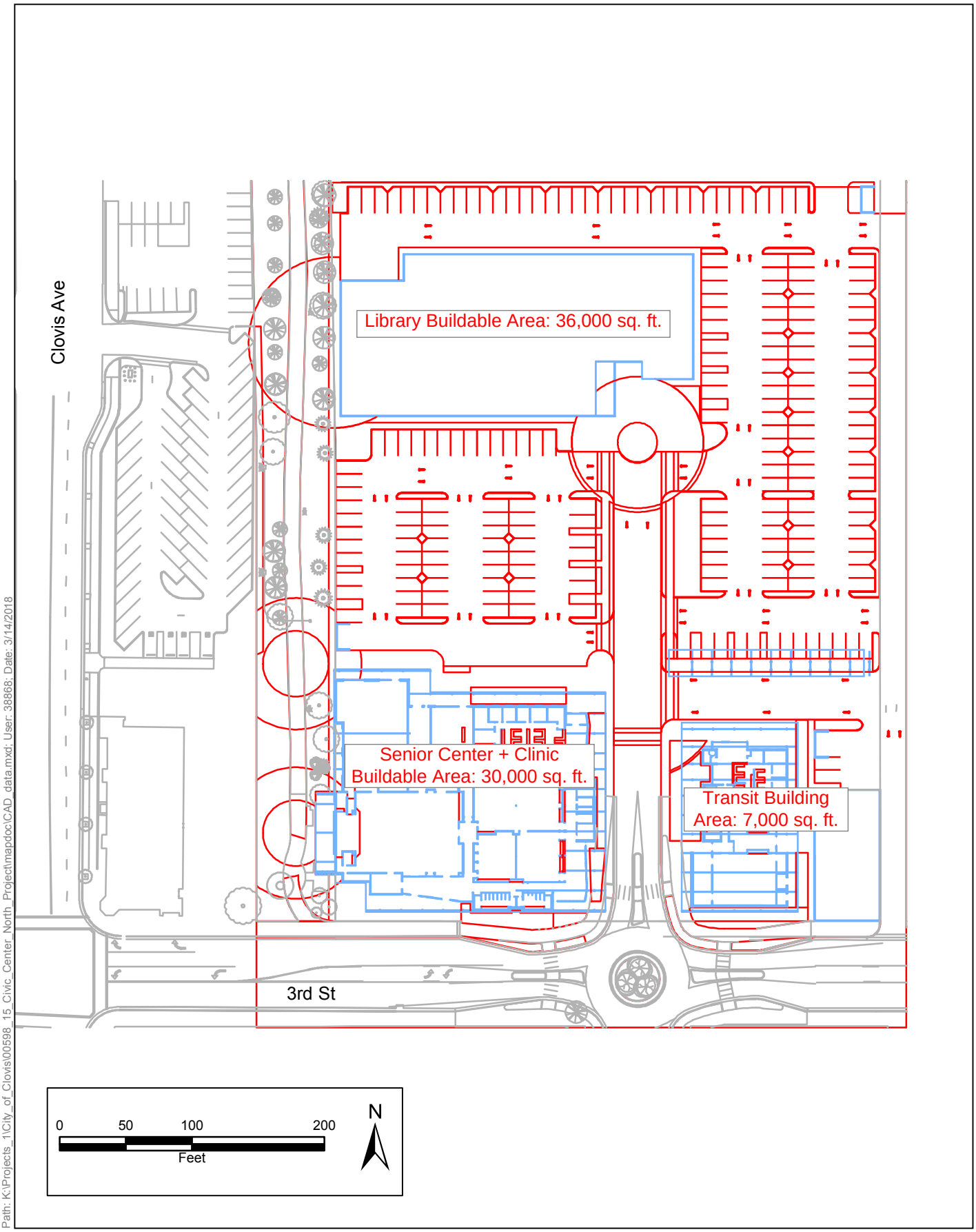

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Figure 2.1-5
Project Site Plan 2

2.5 Required Approvals

The City is the lead agency under the California Environmental Quality Act (CEQA) for the proposed project. This EIR will be used by the City and the County during their deliberations over the proposed project. The following approvals would be needed for the project to proceed:

- Certification by the City of Clovis City Council of the Final EIR
- Approval by the City of Clovis City Council of the transit center and relocated senior center design review
- Approval by the City of Clovis City Council of the Site Plan and any necessary zoning updates
- Approval by the Fresno County Board of Supervisors of the library design
- Approval of property exchange agreement between the City of Clovis and County of Fresno by the respective governing bodies

Chapter 3
Impact Analysis

The primary purpose of this EIR is to analyze the proposed project and disclose its potential significant impacts. The State CEQA Guidelines defines a significant environmental impact as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (State CEQA Guidelines Section 15382). Not all the changes that may result from the proposed project are significant.

The following impact analysis sections address the short- and long-term adverse impacts on the physical (natural and built) environment. Existing conditions are the baseline against which the potential impacts of the project are evaluated for significance, except where noted. This means that the reasonably foreseeable impacts of the project are compared to the existing environment (i.e., an empty lot), not to the provisions of the current General Plan or zoning for the project site. The *project* for purposes of the following analyses consists of the update to the General Plan.

Each impact analysis section comprises the following components.

- A description of the regulatory setting (i.e., the federal, state, and local environmental regulations that apply to that resource).
- A description of the environmental setting for the particular resource (i.e., air quality, greenhouse gases, etc.).
- An identification of the significance thresholds or criteria that will be used to determine whether the project will have a significant effect on that resource.
- A description of the significant environmental impacts of the proposed project.
- Specific mitigation measures that will reduce or avoid the identified significant effects, when feasible mitigation exists. The City or other specified agencies will have the responsibility of requiring these measures.

The EIR is an informational document that represents the City's good faith effort at disclosing these impacts, examining a range of alternatives to the project, and identifying mitigation measures that would reduce the project's environmental impacts. The EIR neither approves nor disapproves the proposed project. The Planning Commission and the City Council will consider the findings of the EIR, along with testimony from the public and other interested parties at the hearings prior to taking action on the project.

Insignificant Impacts

State CEQA Guidelines Section 15143 states, in part, that "[e]ffects dismissed in an Initial Study as clearly insignificant and unlikely to occur need not to be discussed further in the EIR unless the Lead Agency subsequently receives information inconsistent with the finding in the Initial Study." The Initial Study prepared for this project has eliminated the following topics from further analysis. A copy of the Initial Study and supporting studies is included in this EIR as Appendix A.

Aesthetics

The project structures will be one-story in height and are compatible with adjoining civic uses to the south. The following mitigation measure will ensure that lighting from the project does not have a significant effect on nearby residences.

Mitigation Measure AES-1: Implement Lighting Design That Limits Light Spill

All exterior lighting will be shielded to avoid release of light upward. Exterior building and walkway lighting shall be directed downward and light fixtures shall be no taller than necessary to provide secure lighting of buildings and walkways. Light spill onto adjoining properties shall be avoided through design and shielding of light fixtures. The parking lot lighting will be of no greater intensity or height than is necessary to provide secure lighting of the parking lot. Parking lot light fixtures shall be directed downward so that no light is emitted above a 90 degree angle from vertical, and light fixtures shall be shielded to keep light from spilling off the site.

Agricultural and Forestry Resources

The project is within an urbanized area. There are no agricultural or forestry resources on the site or nearby that would be affected by the project.

Biological Resources

The project is located on a vacant site that does not support any biological resources.

Cultural Resources

The cultural resources study prepared for the project determined that there are no significant cultural resources that would be affected by the project. To ensure that any unknown resources are not significantly affected, the following mitigation measures will be applied to the project.

Mitigation Measure CUL-1: Stop Work at Discovery of Cultural Resources

If buried cultural resources, such as chipped or ground stone, historic debris, or building foundations, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop a response plan, with appropriate treatment measures, in consultation with Fresno County, the State Historic Preservation Officer, and other appropriate agencies. Preservation in place shall be the preferred treatment method pursuant to State CEQA Guidelines Section 15126.4(b) (avoidance, open space, capping, easement). Data recovery of important information about the resource, research, or other actions determined during consultation is allowed if it is the only feasible treatment method.

Mitigation Measure CUL-2: Stop Work at Discovery of Paleontological Resources

The construction contractor and subcontractors shall stop all work in the area immediately in the event that paleontological resources are encountered during grading, construction, landscaping, or other construction-related activity. The Clovis Utilities Department or City Engineer shall be notified and a qualified archaeologist will be contacted to evaluate the resources and recommend appropriate mitigation.

Work may resume after the find has been mitigated appropriately.

Mitigation Measure CUL-3: Stop Work at Discovery of Human Remains

If human skeletal remains are encountered, ground-disturbing activities will be stopped within a 100-foot radius of the discovery. The Fresno County coroner must be contacted immediately and is required to examine the discovery within 48 hours. If the county coroner determines that the remains are Native American, the coroner is required to contact the Native American Heritage Commission (NAHC) within 24 hours. A qualified archaeologist should also be contacted immediately. The coroner is required to notify and seek out a treatment recommendation of the NAHC-designated Most Likely Descendant (MLD).

- If NAHC identifies an MLD, and the MLD makes a recommendation, and the landowner accepts the recommendation, then ground-disturbing activities may resume after a qualified archeologist verifies and notifies Fresno County that the recommendations have been completed.
- If NAHC is unable to identify the MLD, or the MLD makes no recommendation, or the landowner rejects the recommendation, and mediation pursuant to Public Resources Code Section 5094.98(k) fails, then ground-disturbing activities may resume, but only after a qualified archeologist verifies and notifies Fresno County that the landowner has completely reinterred the human remains and items associated with Native American burials with appropriate dignity on the property, and ensures no further disturbance of the site pursuant to Public Resources Code Section 5097.98(e) by County recording, open space designation, or a conservation easement.

If the coroner determines that no investigation of the cause of death is required and that the human remains are not Native American, then ground-disturbing activities may resume after the coroner informs Fresno County of such determination. According to state law, six or more human burials at one location constitute a cemetery and disturbance of Native American cemeteries is a felony (Public Resources Code Sections 21083.2, 5094.98, 5097.5, 5097.9; Health and Safety Code Sections. 7050.5, 7052).

Geology and Soils

The project will involve routine site preparation activities on an urban site that was previously developed. Standard regulatory requirements, including the seismic risk provisions of the California Building Code, will avoid any potential impacts.

Hazards and Hazardous Materials

The Phase 1 Environmental Assessment prepared for the project found no evidence of hazardous materials on the project site. Hazardous materials that were present in the buildings previously on the site were remediated with removal of those buildings. The project will involve only routine use of hazardous materials during construction.

Land Use and Planning

The project will not have any land use impacts.

Mineral Resources

The site is within a developed urban area. There are no mineral resources on the project site.

Population and Housing

The project would not displace housing and does not add any population to the city. Therefore, it has no impact.

Public Services

The project is located within an urbanized area and is able to be served by the city. The project has no impact.

Recreation

The project will not affect recreational facilities.

Utilities and Service Systems

The project will be adequately served by utilities and service systems.

3.1 Air Quality

This section describes the regulatory and environmental setting for air quality in the project area. It also analyzes environmental impacts associated with air quality that could result from implementation of the proposed project and provides mitigation measures for significant impacts, where appropriate.

3.1.1 Existing Conditions

Regulatory Setting

This section summarizes federal, state, and local regulations that apply to air quality. The project area is located in Fresno County within the San Joaquin Valley Air Basin (SJVAB). The air quality management agencies of direct importance in the area are the U.S. Environmental Protection Agency (EPA), California Air Resources Board (ARB), and the San Joaquin Valley Air Pollution Control District (SJVAPCD). EPA has established federal air quality standards for which ARB and SJVAPCD have primary implementation responsibility. ARB and SJVAPCD are also responsible for ensuring that state air quality standards are met.

Federal Regulations

Clean Air Act

The Clean Air Act (CAA) was first enacted in 1963 and has been amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), for six criteria pollutants and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. Table 3.1-1 shows the NAAQS currently in effect for each criteria pollutant, as well as the California Ambient Air Quality Standards (CAAQS) (discussed below).

Table 3.1-1. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards[a]	
			Primary	Secondary
Ozone	1-hour	0.09 ppm	None[b]	None[b]
	8–hour	0.070 ppm	0.070 ppm	0.070 ppm
Particulate Matter (PM10)	24-hour	50 μg/m³	150 μg/m³	150 μg/m³
	Annual mean	20 μg/m³	None	None
Fine Particulate Matter (PM2.5)	24-hour	None	35 μg/m³	35 μg/m³
	Annual mean	12 μg/m³	12.0 μg/m³	15 μg/m³
Carbon Monoxide	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide[c]	Annual mean	None	0.030 ppm	None
	24-hour	0.04 ppm	0.014 ppm	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day Average	1.5 μg/m³	None	None
	Calendar quarter	None	1.5 μg/m³	1.5 μg/m³
	3-month average	None	0.15 μg/m³	0.15 μg/m³
Sulfates	24-hour	25 μg/m³	None	None
Visibility Reducing Particles	8-hour	-[d]	None	None
Hydrogen Sulfide	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

ppm= parts per million

μg/m³ = micrograms per cubic meter

[a] National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

[b] The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for State Implementation Plans.

[c] The annual and 24-hour National Ambient Air Quality Standards for sulfur dioxide only apply for 1 year after designation of the new 1-hour standard to those areas that were previously in nonattainment for 24-hour and annual National Ambient Air Quality Standards.

[d] California Ambient Air Quality Standards for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more due to particles when relative humidity is less than 70%.

Source: California Air Resources Board 2016.

Nonroad Diesel Rule

EPA has established a series of increasingly strict emission standards for new offroad diesel equipment, onroad diesel trucks, and locomotives. New construction equipment used for the proposed project, including heavy-duty trucks and offroad construction equipment, would be required to comply with the emission standards.

State Regulations

California Clean Air Act

In 1988, the state legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. The CCAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the CAA, the CCAA does not set precise attainment deadlines. Instead, the CCAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The CAAQS and NAAQS are shown in Table 3.1-1.

ARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through district-level air quality management plans incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to ARB, which, in turn, has delegated that authority to individual air districts. ARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The CCAA substantially adds to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The CCAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

Statewide Truck and Bus Regulation

Originally adopted in 2005, the on-road truck and bus regulation requires heavy trucks to be retrofitted with PM filters. The regulation applies to privately and federally owned diesel fueled trucks with a gross vehicle weight rating greater than 14,000 pounds. Compliance with the regulation can be reached through one of two paths: 1) vehicle retrofits according to engine year or 2) phase-in schedule. Compliance paths ensure that by January 2023, nearly all trucks and buses will have 2010 model year engines or newer.

State Tailpipe Emission Standards

ARB has established a series of increasingly strict emission standards for new offroad diesel equipment, onroad diesel trucks, and harbor craft. New construction equipment used for the project, including heavy duty trucks and offroad construction equipment would be required to comply with the standards.

State Nitrogen Oxide Reduction Program

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) is a voluntary program that offers grants to owners of heavy-duty vehicles and equipment. The program is a partnership between ARB and the local air districts throughout the state to reduce air pollution emissions from heavy-duty engines. Locally, the air districts administer the Carl Moyer Program.

Toxic Air Contaminant Regulations

California regulates toxic air contaminants (TACs) primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Hot Spots" Act). In the early 1980s, ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce exposure to air toxics. The Hot Spots Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

In August 1998, ARB identified particulate emissions from diesel-fueled engines (i.e., diesel particulate matter [DPM]) as TACs. In September 2000, ARB approved a comprehensive *Diesel Risk Reduction Plan* to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce DPM (respirable particulate matter) emissions and the associated health risk by 75% by 2010 and by 85% by 2020. The plan identifies 14 measures that ARB will implement over the next several years. Because the ARB measures would be enacted before any phase of construction, the proposed project would be required to comply with applicable diesel control measures.

Regional Regulations

At the regional level, responsibilities of air quality districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA. The air quality districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and for ensuring that NAAQS and CAAQS are met.

The project area falls under the jurisdiction of SJVAPCD. SJVAPCD (2015a) has adopted CEQA emission thresholds in its *Guide for Assessing and Mitigating Air Quality Impacts* to assist lead agencies in determining the level of significance of project-related emissions. According to the SJVAPCD handbook, emissions that exceed the recommended threshold levels are considered potentially significant and should be mitigated where feasible.

Under the CCAA, SJVAPCD is required to develop an air quality plan for nonattainment criteria pollutants in the air district. The air district has adopted attainment plans to address ozone, particulate matter (PM), and carbon monoxide (CO). The *2016 Ozone Plan* contains a comprehensive list of regulatory and incentive-based measures to reduce reactive organic gases (ROG) and nitrogen oxides (NO_X) emissions. In particular, the plan proposes a 60% reduction in NO_X by 2031. SJVAPCD's *2007 PM10 Maintenance Plan* and *2016 Moderate Area Plan for the 2012 PM2.5 Standard* likewise include strategies to reduce PM emissions throughout the air basin. Finally, the *2004 California State Implementation Plan for Carbon Monoxide* addresses CO emissions throughout the state.

The project may be subject to the following district rules. This list of rules may not be all encompassing, as additional SJVAPCD rules may apply to the alternatives as specific components are identified. These are rules that have been adopted by SJVAPCD to reduce emissions throughout the San Joaquin Valley.

- Rule 2201 (New and Modified Stationary-Source Review Rule). This rule applies to all new stationary sources and all modifications to existing stationary sources subject to SJVAPCD

permit requirements that, after construction, emit or may emit one or more pollutants regulated by the rule.

- Rule 3135 (Dust Control Plan Fees). This rule requires the applicant to submit a fee in addition to a dust control plan. The purpose of this rule is to recover SJVAPCD's cost for reviewing these plans and conducting compliance inspections.
- Rule 4101 (Visible Emissions). This rule prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants.
- Rule 4102 (Nuisance). This rule applies to any source operation that emits or may emit air contaminants or other materials. In the event that the project or construction of the project creates a public nuisance, it could be in violation and subject to SJVAPCD enforcement action.
- Rule 4641 (Cutback, Slow-Cure, and Emulsified Asphalt, Paving, and Maintenance Operations). This rule applies to the manufacture and use of cutback asphalt, slow-cure asphalt, and emulsified asphalt for paving and maintenance operations.
- Rule 4701 (Internal Combustion Engines—Phase 1). This rule limits the emissions of NO_X, CO, and ROG from internal combustion engines. These limits are not applicable to standby engines as long as they are used fewer than 200 hours per year (e.g., for testing during non-emergencies).
- Rule 4702 (Internal Combustion Engines—Phase 2). This rule limits the emissions of NO_X, CO, and ROG from spark-ignited internal combustion engines.
- Rule 9510 (Indirect Source Review). This rule requires emission reductions of construction and operational emissions of PM10 and NO_X from development projects. If the required emissions reductions are not achieved through traditional means, projects may purchase offsets on a per ton basis from SJVAPCD through Rule 9510's offsite emission reduction fee program to comply with the requirements of this rule. Rule 9510 applies to any applicant that seeks to gain a final discretionary approval for certain development projects, or any portion thereof.
- Regulation VIII (Fugitive PM10 Prohibitions). This is a series of rules (Rules 8011–8081) designed to reduce PM emissions (predominantly dust/dirt) generated by human activity, including construction, road construction, bulk materials storage, landfill operations, and other activities. The proposed project would be required to comply with Regulation VIII by law.

Local Regulations

City of Clovis General Plan

The following goals and policies from the *City of Clovis General Plan* (City of Clovis 2014a) relevant to air quality are applicable to the proposed project.

Goal 1: A local environment that is protected from air pollution and emissions.

- Policy 1.1 Land use and transportation. Reduce greenhouse gas and other local pollutant emissions through mixed use and transit-oriented development and well-designed transit, pedestrian, and bicycle systems.
- Policy 1.2 Sensitive Land Uses. Prohibit, without sufficient mitigation, the future siting of sensitive land uses within the distances of emission sources as defined by the California Air Resources Board.

- Policy 1.3 Construction activities. Encourage the use of best management practices during construction activities to reduce emissions of criteria pollutants as outlined by the San Joaquin Valley Air Pollution Control District (SJVAPCD).
- Policy 1.4 City buildings. Require that municipal buildings be designed to exceed energy and water conservation and greenhouse gas reduction standards set in the California Building Code.
- Policy 1.5 Fleet operations. Purchase low- or zero-emission vehicles for the city's fleet where feasible. Use clean fuel sources for city-owned mass transit vehicles, automobiles, trucks, and heavy equipment where feasible.
- Policy 1.6 Alternative fuel infrastructure. Encourage public and private activity and employment centers to incorporate electric charging and alternative fuel stations.
- Policy 1.7 Employment measures. Encourage employers to provide programs, scheduling options, incentives, and information to reduce vehicle miles traveled by employees.
- Policy 1.8 Trees. Maintain or plant trees where appropriate to provide shade, absorb carbon, improve oxygenation, slow stormwater runoff, and reduce the heat island effect.

Goal 2: A region with healthy air quality and lower greenhouse gas emissions.

- Policy 2.1 Regional coordination. Support regional efforts to reduce air pollution (criteria air pollutants and greenhouse gas emissions) and collaborate with other agencies to improve air quality at the emission source and reduce vehicle miles traveled.
- Policy 2.2 Cross-jurisdictional issues. Collaborate with regional agencies and surrounding jurisdictions to address cross-jurisdictional transportation and air quality issues.
- Policy 2.3 Valleywide programs. Establish parallel air quality programs and implementation measures with other communities across the San Joaquin Valley.
- Policy 2.4 Public participation. Encourage participation of local citizens, the business community, and interested groups and individuals in air quality planning and implementation.
- Policy 2.5 Public education. Promote programs that educate the public about regional air quality issues and solutions.
- Policy 2.6 Innovative mitigation. Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.

Environmental Setting

Ambient air quality is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. The area potentially affected by the project is within the SJVAB. The following discussion describes relevant characteristics of the SJVAB, describes key pollutants of concern, summarizes existing ambient pollutant concentrations, and identifies sensitive receptors.

Climate and Meteorology

The SJVAB contains all of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties, as well as the western portion of Kern County. Climate within the SJVAB is characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100 degrees Fahrenheit.

Climate is modified by topography. The bowl shaped topography inhibits movement of pollutants out of the SJVAB and creates climatic conditions that are particularly conducive to air pollution formation. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and by transporting the

pollution to other locations. Two significant diurnal wind cycles that occur frequently in the Valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley.

The vertical dispersion of air pollutants in the SJVAB can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height". This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually encountered 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (San Joaquin Valley Air Pollution Control District 2015a).

Pollutants of Concern

Criteria Pollutants

As discussed above, the federal and state governments have established NAAQS and CAAQS, respectively, for six criteria pollutants: ozone, lead, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and PM, which consists of PM less than or equal to 10 microns in diameter (PM10) and PM less than or equal to 2.5 microns in diameter (PM2.5). Ozone and NO_2 are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and lead are considered local pollutants that tend to accumulate in the air locally.

The primary pollutants of concern in the project vicinity are ozone (including NO_X and ROG), CO, and PM. Principal characteristics of these pollutants are discussed below.

Ozone, or smog, is a photochemical oxidant that is formed when ROG and NO_X (both byproducts of the internal combustion engine) react with sunlight. Ozone poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, ozone has been tied to crop damage, typically in the form of stunted growth and premature death. Ozone can also act as a corrosive, resulting in property damage such as the degradation of rubber products.

Reactive Organic Gases are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROG are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROG but rather by reactions of ROG to form secondary pollutants such as ozone.

Nitrogen Oxides serve as integral participants in the process of photochemical smog production. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and

oxygen. NO_X acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Carbon Monoxide is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.

Particulate Matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized—inhalable coarse particles, or PM10, and inhalable fine particles, or PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Both PM10 and PM2.5 may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems.

Toxic Air Contaminants

Although NAAQS and CAAQS have been established for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, ARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA).

Air toxics are generated by a number of sources, including: stationary sources, such as dry cleaners, gas stations, auto body shops, and combustion sources; mobile sources, such as diesel trucks, ships, and trains; and area sources, such as farms, landfills, and construction sites. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to the brain and nervous system, and respiratory disorders. The principal TAC associated with the proposed project is DPM, which was identified as a TAC by ARB in 1998.

Valley Fever

Although not considered a criteria pollutant, Valley Fever (also known as Coccidioidomycosis), an infectious disease caused by the fungus *Coccidioides immitis* commonly found in the SJVAB, is transmitted through the air and poses a significant health risk to local residents. Valley Fever is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by wind, construction, farming, or other activities.

The Valley Fever fungus tends to be found at the base of hillsides in virgin, undisturbed soil. It usually grows in the top few inches of soil, but can grow down to 12 inches. The fungus does not survive well in highly populated areas because there is not usually enough undisturbed soil for the fungus to grow. The fungus is not likely to be found in soil that has been or is being cultivated and fertilized because human-made fertilizers, such as ammonium sulfate, enhance the growth of the natural microbial competitors of the *Coccidioides* fungus.

After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Valley Fever symptoms generally occur within 2 to 3 weeks of exposure. Approximately 60% of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms are fatigue, cough, chest pain, fever, rash, headache, and joint aches.

Valley Fever infection is most frequent during summers that follow a rainy winter or spring, especially after wind and dust storms. Valley Fever infection is common only in arid and semiarid areas of the western hemisphere. In the United States, it is mostly found from southern California to southern Texas.

Most new residents to SJVAB have never been exposed to Valley Fever, and consequently are particularly susceptible to the infection. Many longtime residents of the area have at some time been exposed to the fungus, become infected, and have recovered, and are thus immune.

Existing Air Quality Conditions

The existing air quality conditions in the project vicinity can be characterized by monitoring data collected in the region. Table 3.1-2 summarizes data for criteria air pollutant levels from the Clovis-North Villa Avenue monitoring station, which is the closest station to the proposed project and approximately 1.1 miles northwest of the project site, for the last 3 years for which complete data are available (2014–2016). Air quality concentrations are expressed in terms of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). As shown in Table 3.1-2, the monitoring station has detected numerous violations of the PM and ozone NAAQS and CAAQS. No violations of CO or NO_2 NAAQS and CAAQS were reported during the monitoring period.

Attainment Status

Local monitoring data (Table 3.1-2) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are further defined as shown below.

- Nonattainment—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- Attainment—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified—assigned to areas were data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.1-2. Ambient Air Quality Monitoring Data from the Clovis-North Villa Avenue Station (2014–2016)

Pollutant	2014	2015	2016
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.118	0.116	0.113
Maximum 8-hour concentration (ppm)	0.103	0.098	0.095
Number of days standard exceeded[a]			
CAAQS 1-hour (>0.09 ppm)	26	18	26
CAAQS 8-hour (>0.070 ppm)	84	51	63
NAAQS 8-hour (>0.070 ppm)	82	50	62
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	1.4	1.0	1.3
Maximum 1-hour concentration (ppm)	2.2	1.5	1.6
Number of days standard exceeded[a]			
NAAQS 8-hour (≥9 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
State maximum 1-hour concentration (ppm)	0.059	0.059	0.049
State second-highest 1-hour concentration (ppm)	0.056	0.048	0.048
Annual average concentration (ppm)	*	10	*
Number of days standard exceeded			
CAAQS 1-hour (0.18 ppm)	0	0	0
Particulate Matter (PM10)[c]			
National[b] maximum 24-hour concentration (μg/m³)	82.3	105.3	76.2
National[b] second-highest 24-hour concentration (μg/m³)	68.8	78.6	72.8
State[c] maximum 24-hour concentration (μg/m³)	84.3	101.3	74.9
State[c] second-highest 24-hour concentration (μg/m³)	71.1	77.3	70.8
National annual average concentration (μg/m³)	30.4	33.9	32.8
State annual average concentration (μg/m³)[d]	*	33.7	32.7
Number of days standard exceeded[a]			
NAAQS 24-hour (>150 μg/m³)[e]	0	0	0
CAAQS 24-hour (>50 μg/m³)[e]	*	50	61
Particulate Matter (PM2.5)			
National[b] maximum 24-hour concentration (μg/m³)	72.8	80.7	50.4
National[b] second-highest 24-hour concentration (μg/m³)	70.5	66.4	46.2
State[c] maximum 24-hour concentration (μg/m³)	72.8	80.7	50.4
State[c] second-highest 24-hour concentration (μg/m³)	72.8	66.4	46.2
National annual average concentration (μg/m³)	16.6	14.9	12.5
State annual average concentration (μg/m³)[d]	*	13.0	11.6
Number of days standard exceeded[a]			
NAAQS 24-hour (>35 μg/m³)[e]	40	15	8

Pollutant	2014	2015	2016
Sulfur Dioxide (SO_2)			
No data available			

Source: California Air Resources Board 2017a; United States Environmental Protection Agency 2017a.
ppm = parts per million.
NAAQS = National Ambient Air Quality Standards.
CAAQS = California Ambient Air Quality Standards.
µg/m³ = micrograms per cubic meter.
mg/m³ = milligrams per cubic meter.
> = greater than.
* = insufficient data.
[a] An exceedance is not necessarily a violation.
[b] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.
[c] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California approved samplers.
[d] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
[e] Mathematical estimate of how many days in which concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.

Table 3.1-3 summarizes the attainment status of Fresno County with respect to the NAAQS and CAAQS.

Table 3.1-3. Federal and State Attainment Status of Fresno County

Pollutant	NAAQS	CAAQS
Ozone (8 hour)	Nonattainment - Extreme	Nonattainment
CO	Maintenance (P)	Attainment
PM10	Maintenance - Serious	Nonattainment
PM2.5	Nonattainment - Serious	Nonattainment

Sources: U.S. Environmental Protection Agency 2017b; California Air Resources Board 2017b.
(P) Designation applies to the project area portion of Fresno County.
CO = carbon monoxide.
PM10 = particulate matter.
PM2.5 = fine particulate matter.

Sensitive Receptors

The NAAQS and CAAQS apply at publicly accessible areas, regardless of whether those areas are populated. For the purposes of air quality analysis, sensitive land uses are defined as locations where human populations, especially children, seniors, and sick persons, are located and where there is reasonable expectation of continuous human exposure according to the averaging period for the air quality standards (i.e., 24-hour, 8-hour, and 1-hour). Typical sensitive receptors include residences, hospitals, and schools.

Clovis Avenue and 3rd Street border the Clovis Civic Center North to the west and south, respectively. The nearest sensitive receptors to the Project site are single-family and multi-family residences east of the Project site, approximately 20 feet away. In addition, single- and multi-family residences are located east, west, and north within 1,000 feet of the Project site. The Clovis Senior Center is located approximately 555 feet south of the Project site. The Children's Learning Center is located approximately 465 feet north and the San Joaquin College of Law is located approximately

700 feet southeast of the Project site. Clovis Foursquare Church is located approximately 335 feet northeast and Calvary Chapel of Clovis Church is located approximately 555 feet south of the Project site. Treasure Ingmire Park is located about 505 feet northwest of the Project site. There are no hospitals within the immediate vicinity.

3.1.2 Environmental Impacts

This section describes the environmental impacts of the proposed project in the context of air quality. It describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant. Measures to mitigate significant impacts are provided, where appropriate.

Methods for Analysis

Air quality impacts associated with construction and operation of the proposed project were assessed and quantified using standard and accepted software tools, techniques, and emission factors. A summary of the methodology is provided below.

Construction

Construction of the project would generate emissions of ROG, NO_X, CO, PM10, PM2.5, and sulfur oxides (SO_X) that would result in short-term impacts on ambient air quality in the project area. Emissions would originate from mobile and stationary construction equipment exhaust, employee vehicle exhaust, asphalt paving, dust from land clearing, and application of architectural coatings. It is expected that construction would require five sequential phases from September 2018 to February 2020: site preparation, grading, building construction, and paving and application of architectural coating.

Criteria pollutant emissions from heavy-duty equipment, on-road vehicles, asphalt paving, architectural coatings, and land disturbance were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Model defaults for equipment and vehicle trips were utilized based on construction of a 7,000 square foot transit center, a 30,000 square foot library, a 25,000 square foot senior center, and a parking lot with 259 parking spaces.

As noted in the *Clovis General Plan* EIR and confirmed with the City of Clovis, construction equipment associated with the project would be limited to EPA-rated Tier 3 and Tier 4 engines for all pieces of equipment (City of Clovis 2014b, Haussler pers. comm.). All construction equipment associated with the project was subsequently modeled in CalEEMod (version 2016.3.2) as Tier 4 Interim equipment.

Please refer to Appendix B for the construction modeling outputs. The analysis of health risks during project construction considers exposure to TACs, as described in the *Toxic Air Contaminants* section, below.

Operation

Operation of the proposed project would generate emissions of ROG, NO_X, CO, PM10, PM2.5, and SOx that could result in long-term impacts on ambient air quality. Criteria pollutant emissions from motor vehicles associated with development of the project were evaluated using CalEEMod version 2016.3.2. Trip generation rates from the proposed project's Traffic Impact Study (see Appendix D)

for each land use type associated with the proposed development were used. Average trip lengths from the proposed project's Traffic Impact Study Addendum No. 1 (see Appendix D) associated with the proposed development were used. Net emissions associated with the proposed project were estimated by subtracting emissions associated with existing land use types from emissions associated with proposed land use types for buildout year conditions. Area, energy, and stationary source emissions associated with the proposed project were estimated using CalEEMod, version 2016.3.2. Energy sources include the combustion of natural gas and area sources include reapplication of architectural coatings, use of consumer products, and use of gas- and diesel-powered landscaping equipment. Stationary sources include a 700 horsepower onsite emergency generator associated with the senior center. The emergency generator would only be operational in case of emergency and emissions associated with the generator were quantified assuming a testing duration of 13 hours per year.

Existing land use types and emissions sources are identical to those associated with the proposed project, except for stationary sources since the existing senior center does not include an onsite emergency generator.

Please refer to Appendix B for the operational modeling outputs.

The analysis of health risks during project operations considers exposure to toxic air contaminants and CO hot spots, as described below.

Toxic Air Contaminants

DPM, which is classified as a carcinogenic toxic air contaminant by the ARB, is the primary pollutant of concern with regards to health risks to sensitive receptors. Diesel-powered construction equipment and long-term bus activity would emit DPM that could potentially expose nearby sensitive receptors to pollutant concentrations. As described above, the closest sensitive receptor locations to the proposed project site are the homes within 20 feet to the east of the project boundary. Given the project would introduce DPM emissions to an area near existing sensitive receptors, a human health risk assessment (HRA) was performed using EPA's most recent dispersion model, AERMOD (version 16216), chronic risk assessment values presented by OEHHA, as well as assumptions for model inputs from SJVAPCD's *Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document* (May 2015). Note that the HRA takes into account OEHHA's most recent *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments* guidance and calculation methods (Office of Environmental Health Hazard Assessment 2015).

The HRA consists of both short-term construction and long-terms operations. The human health risk assessment consists of three parts: a TAC inventory, air dispersion modeling, and risk calculations. A description of each of these parts follows.

TAC Inventory

The TAC inventory includes emissions associated with short-term construction and long-term bus activity. The construction inventory used the same methodology as the mass emissions analysis for identifying mass daily criteria pollutant emissions as previously discussed, and is based on the total PM10 exhaust emissions generated on-site. With respect to construction activities, all PM10 exhaust from off-road equipment during construction was assumed to be DPM.

With respect to operations, DPM emissions were estimated based on daily bus trips provided in the traffic analysis, estimated travel distance and speeds within the project boundary, and estimated idle time on-site. Idle and movement emission factors were compiled from the ARB's EMFAC 2014 model assuming City buses are represented as Urban Buses. Emissions from bus movement on the project site assumes a travel speed of 5 mph. With regards to idling, it was assumed that there would be 5 minutes of idling per bus trip. Note that, similar to construction, PM10 exhaust emissions are used as a surrogate for DPM based on OEHHA guidance (Office of Environmental Health Hazard Assessment 2015).

Air Dispersion Modeling

The HRA used EPA's AERMOD model, version 16216, to model annual average concentrations at nearby receptors. Modeling inputs, including emission rate (in grams per second) and source characteristics (release height, stack diameter, plume width, etc.), were based on guidance provided by OEHHA and SJVAPCD. Meteorological data was obtained from ARB for the Fresno location, which is approximately 5.5 miles east-northeast of the project site.

Emissions associated with construction activities were treated as individual area sources equal to the size of the proposed buildings associated with the project. Emissions from construction activities were modeled based on normal construction hours and days (8 am to 4 pm on weekdays) while emissions from bus operations were modeled based on the operating hours of the transit center (6 am to 7 pm on weekdays and 7 am to 5 pm on weekends). Because idling locations would vary throughout the project site, emissions associated with bus movement and idling during operations were treated as a single area source, with emissions from bus movement and idling summed in order to estimate total emissions associated with bus activities on the project site. To account for plume rise associated with model mechanically-generated mobile sources for the operational AERMOD run, Initial Vertical Dimension of the area source was included based on a 2.85-meter (9.35 feet) release height, whereas an Initial Vertical Dimension of the construction-related area source was included based on a 3.00-meter (9.84 feet) release height. Construction and operational sources were modeled in separate AERMOD runs to account for the different durations and locations of emissions.

A receptor is defined as a point where a person (e.g. resident) may be located for a given period of time. With respect to cancer and chronic health effects, all locations where a person could be located for extended periods of time, such as a residence or school, need to be identified. Sensitive receptor locations were placed at the nearest residences along Third Street and at the homes along the alley bordering the project site to the east. Additional residential receptors were placed to the east and west of the project site. All receptors were assumed to have a height of 1.2 meters. According to SJVAPCD guidance, residential cancer risks assume a 70-year exposure (San Joaquin Valley Air Pollution Control District 2015b).

A complete list of dispersion modeling and risk calculation inputs is provided in Appendix B.

Risk Calculations

OEHHA has established health risk thresholds for both cancer and non-cancer health effects.

SJVAPCD currently recommends a maximum incremental cancer risk project-level CEQA significance threshold of twenty in one million (2.0 x 10-5) to reflect new OEHHA guidance (Office of Environmental Health Hazard Assessment 2015), and recommends that other lead agencies use this

significance threshold when approving permits for new or modified stationary sources (San Joaquin Valley Air Pollution Control District 2015b).

The approach to estimating cancer risk from long-term inhalation exposure to carcinogens requires calculating a range of potential doses and multiplying by cancer potency factors in units of inverse dose to obtain a range of cancer risks. For cancer risk, the risk for each age group is calculated using the appropriate breathing rates (DBR), age sensitivity factors (ASFs), exposure duration (ED), and cancer risks calculated for individual age groups are summed to estimate cancer risk for the 70-year exposure duration SJVAPCD recommends for residential and sensitive receptor locations.

Chronic cancer and hazard risks were calculated for DPM according to the following steps:

1. Calculate dose:

$$\text{Dose-air} = (C_{air}) \times \{BR/BW\} \times A \times EF \times 10^{-6}$$

Where,

Dose-air	Dose through inhalation (mg/kg/d).
Cair	Concentration in air (μg/m^3)
{BR/BW}	Daily breathing rate normalized to body weight (L/kg body weight-day)
A	Inhalation absorption factor, 1.
EF	Exposure frequency (unitless), days/365 days
10-6	micrograms to milligrams conversion; liters to cubic meters conversion

2. Calculate cancer risk.

$$Risk_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED / AT \times FAH$$

Where,

$Risk_{inh\text{-}res}$	inhalation cancer risk
$DOSE_{air}$	daily inhalation dose (mg/kg-day)
CPF	Inhalation Cancer Potency Factor
ASF	Age Sensitivity Factor for a specified age group (unitless)
ED	Exposure Duration (in years) for a specified age group.
AT	Averaging Time for lifetime cancer risk for all receptor types.
FAH	Fraction of time spent at home (unitless) (only applies to residential receptors)

3. Calculate chronic hazard quotient:

$$\text{Chronic Hazard} = C_{air} / \text{Chronic REL}$$

Where,

Cair	Concentration in air (μg/m^3)
REL	Chronic Reference Exposure Level (REL); REL for DPM is 5.0.

OEHHA's 2015 update addresses accounts for the increased sensitivity to early-in-life exposure to carcinogens. Table 3.1-4 summarizes key age-specific factors used in the HRA. OEHHA recommends risk to be analyzed for the following exposure durations (residency times): 30 years for the maximally exposed individual resident; 9 years for central tendency; and 70 years for maximum lifetime. The 9-, 30-, and 70-year exposures are chosen to coincide with U.S. EPA's estimates of the average (9 years), high-end estimates (30-years) of residence time, and a lifetime residency (70 years) (Office of Environmental Health Hazard Assessment 2015: 8-6). SJVAPCD recommends a 70-year exposure duration for residential receptors (San Joaquin Valley Air Pollution Control District 2015b: 24). Note that OEHHA has not published an acute REL for DPM.

Table 3.1-4. Key Age-Specific Factors Used in Health Risk Assessment

	Age Group					
Factor	**3rd Trimester**	**0<2 years**	**2<9 years**	**2<16 years**	**16<30 years**	**16–70 years**
Age Sensitivity Factors (ASF)[a]	10	10	3	3	1	1
Breathing Rates (DBR, BR/BW), Residential[b]	361	1090	861	745	335	290
Fraction of Time at Home (FAH)[c]	1.0	1.0	1.0	1.0	1.0	1.0
Exposure Duration (ED) - Individual Cancer Risk -70yr[d]	0.25	2	-	14	-	54

Sources: Office of Environmental Health Hazard Assessment 2015; San Joaquin Valley Air Pollution Control District 2015b; Appendix B.

[a] Based on Table 8.3 in Office of Environmental Health Hazard Assessment 2015

[b] Based on Point Estimates of Residential Daily Breathing Rates, Table 5.6, OEHHA 2015, 95th percentile for all age bins (San Joaquin Valley Air Pollution Control District 2015b).

[c] Since a residence is within the 1 in a million isopleth during construction, FAH is conservatively set to 1.0.

[d] Based on Equation 8.2.4 A in Office of Environmental Health Hazard Assessment 2015.

CO Hot Spots

The effects of localized CO hot spots were evaluated through CO dispersion modeling consistent with the Transportation Project-Level Carbon Monoxide Protocol, which was developed for the California Department of Transportation (Caltrans) by the Institute of Transportation Studies at the University of California, Davis. The CO protocol details a qualitative step-by-step procedure to determine whether project-related CO concentrations have a potential to generate new air quality violations, worsen existing violations, or delay the attainment of NAAQS or CAAQS for CO. CO concentrations at potential sensitive receptors adjacent to the most congested and heavily traveled intersections were estimated through dispersion modeling using the CALINE4 dispersion model and emission factors from the ARB's EMFAC2014 emissions model.

Roadway and Traffic Conditions

CO hot spots were evaluated at roadway segments near the project area for existing (2016), near term (2020), and design year (2039) conditions. Modeled traffic volumes and operating conditions were obtained from daily segment volume traffic data prepared by the project traffic engineers, Peters Engineering Group, with the peak hour volumes estimated as representing 10% of the daily volumes based on industry standard assumptions.

CO modeling was conducted at the following five roadway intersections, which were identified in the traffic study as having the highest intersection volumes:

- Clovis Avenue and Sierra Avenue
- Clovis Avenue and Second Street
- Clovis Avenue and Third Street
- Clovis Avenue and Fourth Street
- Clovis Avenue and Fifth Street

CALINE4 roadway geometry for each modeled segment was based on satellite confirmation of the number of lanes at each segment, and modeled segments were assumed at 1,000 meters. A 12-foot lane width was assumed) plus an additional mixing zone on either side (generally 10 feet on each side).

Vehicle Emission Rates

Vehicle emission rates were determined using the ARB's EMFAC2014 emission rate program. Free-flow traffic speeds were adjusted to 5.0 miles per hour to represent a worst-case scenario. EMFAC2014 estimates emission rates from approximately 40 vehicle classes. A composite emission factor for a typical Fresno County vehicle fleet was calculated by weighting vehicle emissions by the relative amount of vehicle miles traveled expected for each vehicle class based on EMFAC2014 default values for Fresno County.

Receptor Locations

CO concentrations were estimated at four receptor locations located at each of the five modeled segments, for a total of 20 receptors. CALINE4 guidance specifies that the model should not be used to estimate pollutant concentrations within 3 meters of the traveled way; this assumption could result in an artificially high CO concentration since it is unlikely a person will be located 3 meters from a roadway for 1 to 8 hours. However, to ensure the most conservative analysis, the receptors were placed at the midpoint of each segment 3 meters away from the traveled way of each modeled segment. A standard receptor elevation of 1.8 meters was used consistent with CO protocol guidance.

Meteorological Conditions

Meteorological inputs to the CALINE4 model were determined consistent with Caltrans' 1998 Air Quality Technical Analysis Notes (California Department of Transportation 1998). The meteorological conditions used in the modeling represent a calm winter period. Worst-case wind angles were modeled to estimate conservative CO concentrations at each receptor. The meteorological inputs include the following: wind speed of 0.5 meters per second, ground-level temperature inversion (atmospheric stability class G), wind direction standard deviation equal to 5 degrees, ambient temperature of 38°F, and a mixing height of 1,000 meters.

Background Concentrations and Eight-Hour Values

To account for sources of CO not included in the modeling, a background concentration of 1.8 ppm was added to the modeled cumulative 1-hour values, while a background concentration of 1.2 ppm was added to the modeled cumulative 8-hour values. Background concentration data for 1- and 8-

hour values were obtained from the EPA's Air Data webpage (U.S. Environmental Protection Agency 2017b). Maximum 1- and 8-hour values for the years 2014-2016 were averaged to obtain a background concentration. Eight-hour modeled values were calculated from the 1-hour values using a persistence factor of 0.7. Background concentrations for future year 2039 were assumed to be the same as those for the current year. Actual 1- and 8-hour background concentrations in future years would likely be lower than those used in the CO modeling analysis because the trend in CO emissions and concentrations is decreasing because of continuing improvements in engine technology and the retirement of older, higher-emitting vehicles. To ensure a conservative analysis, it was assumed that the hourly traffic during an 8-hour sampling period was equal to the 1-hour commuting peak flowrate.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people

Because air quality impacts are inherently cumulative and because the significance criteria (identified under *Thresholds of Significance*, below) includes cumulative net increases of criteria pollutants and TACs, cumulative impacts are considered in the discussion of project impacts.

According to the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be used to make significance determinations for potential impacts on environmental resources. As discussed in the *Regulatory Setting* section, SJVAPCD is responsible for ensuring that state and federal ambient air quality standards are not violated within the SJVAB. Analysis requirements for construction- and operation-related pollutant emissions are contained in SJVAPCD's (2015a) *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI). These thresholds are presented in Table 3.1-5.

Table 3.1-5. SJVAPCD Criteria Pollutant Thresholds

Pollutant	Construction	Operations
ROG	10 tons/year	10 tons/year
NO_X	10 tons/year	10 tons/year
CO	100 tons/year	100 tons/year
PM10	15 tons/year	15 tons/year
PM2.5	15 tons/year	15 tons/year
SO_X	27 tons/year	27 tons/year

Source: San Joaquin Valley Air Pollution Control District 2015a.

CO = carbon monoxide
NO_x = nitrogen oxides
PM10 = particulate matter
PM2.5 = fine particulate matter
ROG = reactive organic compounds
SOX = sulfur oxides

SJVAPCD's 2015 GAMAQI introduced screening-level thresholds for construction and operational emissions to help determine when an ambient air quality analysis (AAQA) must be performed. An ambient air quality analysis would entail the use of air dispersion modeling to determine whether emission increases from a proposed project will cause or contribute to a violation of the CAAQS or NAAQS. SJVAPCD's AAQA screening-level threshold is 100 pounds per day of any criteria pollutant; projects with emissions in excess of this threshold require dispersion modeling, while projects below this threshold are presumed to not result in a violation of the CAAQS or NAAQS. Although SJVAPCD's AAQA screening-level threshold is presented in pounds per day, it has been annualized and converted to tons per year for comparison with the proposed project's annual emissions presented in Table 3.1-6. This annualization is based on SJVAPCD's 100 pounds per day AAQA screening-level threshold and a 250-day construction period, resulting in a calculated annual AAQA-equivalency threshold of 12.5 tons per year.

The following criteria from SJVAPCD's GAMAQI were used to determine whether the project would result in a significant health risk from receptor exposure to DPM.

- The project would result in increased cancer risk of more than 20 in 1 million or increased non-cancer risks of greater than 1.0 hazard index[1].

The following criteria from SJVAPCD's GAMAQI were used to determine whether the project would result in a significant health risk from receptor exposure to CO.

- A traffic study for the project indicates that the LOS on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F.
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity.

Odors would be considered significant if the project would be located within 1 mile of sensitive receptors and would receive more than one confirmed odor complaint per year averaged over a 3-year period or three unconfirmed odor complaints per year averaged over a 3-year period.

[1] Non-cancer health hazards for chronic and acute diseases are expressed in terms of a hazard index, a ratio of TAC concentration to a reference exposure level, below which no adverse health effects are expected, even for sensitive individuals.

Impacts and Mitigation Measures

Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan (less than significant)

A project would be deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds estimates used to develop applicable air quality plans. Projects that propose development that is consistent with the growth anticipated by the relevant land use plans would be consistent with the current SJVAPCD air quality plans. Likewise, projects that propose development that is less dense than anticipated within a general plan (or other governing land use document) would be consistent with the air quality plans because emissions would be lower than estimated for the region. If an applicant proposes development that is greater than anticipated growth projections, the applicant's project would be in conflict with SJVAPCD air quality plans, and might have a potentially significant impact on air quality because emissions would exceed those estimated for the region. This situation would warrant further analysis to determine if a proposed project and surrounding projects would exceed the growth projections used in SJVAPCD air quality plans for a specific subregional area.

The General Plan land use designations for the project site are Mixed Use Village. The project site is also currently zoned as Central Trading District. The proposed project would be consistent with *Clovis General Plan* designations for the site and the site zoning, and so it would not require a General Plan amendment or zone change. Because the project would be consistent with the General Plan, it would not conflict with applicable land use plans or policies, and would be considered consistent with the long-term General Plan vision for the project area.

The proposed project would involve construction and operation of a commercial development consisting of 63,000 square feet of community and office uses. Because the proposed project does not include construction of residential units or businesses that would attract new residents, the proposed project would not induce substantial population growth in the area, either directly or indirectly. The project site is adequately served by existing infrastructure and the proposed project would not include any road or infrastructure improvements that would indirectly induce growth. Accordingly, the project would be consistent with recent growth and labor projections for the region. Although emissions would be generated during construction and operation (discussed below), they would not be expected to exceed SJVAPCD significance thresholds nor impede attainment or maintenance of the NAAQS or CAAQS.

Because the project would not conflict with any applicable land use plan or policy, would be consistent with recent growth projections for the region, and would not exceed SJVAPCD's significance thresholds, it would not conflict with or obstruct implementation of the current SJVAPCD air quality plans. Therefore, the impact would be less than significant.

Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation (less than significant)

Construction

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, and truck hauling trips. In addition, evaporative ROG emissions would result from paving and architectural coating activities and fugitive dust emissions would result from site preparation and grading activities. Criteria

pollutant emissions generated by these sources were quantified using CalEEMod (version 2016.3.2). Please refer to Appendix B for assumptions used in the air quality analysis.

As discussed under *Methods for Analysis*, construction activities associated with the senior center, library, and transit center would occur concurrently over the approximately 2-year construction period. Total emissions were summed for each year of the construction period.

As described in Section 3.1.1 under *Regional Regulations*, the project is subject to SJVAPCD Regulation VIII, which would reduce construction-related fugitive PM emissions. The project is also subject to SJVAPCD Rule 9510, which requires a 20% reduction of total NO_X emissions and a 45% reduction of total PM10 exhaust emissions from construction activities, if a development project exceeds square footage thresholds for various land use types. The proposed project includes building a 30,000 square foot library, and this exceeds the Rule 9510 educational land use threshold of 9,000 square feet. As noted in the *Clovis General Plan* EIR and confirmed with the City of Clovis, construction equipment associated with the project would be limited to EPA-rated Tier 3 and Tier 4 engines for all pieces of equipment (City of Clovis 2014b, Haussler pers. comm.). All construction equipment associated with the project was subsequently modeled in CalEEMod (version 2016.3.2) as Tier 4 Interim equipment, and the associated emissions reductions would satisfy SJVAPCD Rule 9510 emissions reduction requirements for NO_X and PM10.

Estimated annual construction emissions are summarized in Table 3.1-6 and compared with SJVAPCD's AAQA screening-level thresholds, as well as SJVAPCD's criteria pollutant thresholds, shown in Table 3.1-5.

Table 3.1-6. Maximum Annual Construction Criteria Pollutant Emissions (tons/year)

Year	ROG	NO_X	CO	SO_X	PM10	PM2.5
2018	<0.1	0.6	0.6	<0.1	0.1	0.1
2019	0.1	1.6	2.2	<0.1	0.1	<0.1
2020	0.5	0.1	0.1	<0.1	<0.1	<0.1
SJVAPCD Annual Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
SJVAPCD AAQA Screening-Level Thresholds[a]	*12.5*	*12.5*	*12.5*	*12.5*	*12.5*	*12.5*
SJVAPCD Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

[a] SJVAPCD's 100 pounds of pollutant-per-day AAQA screening-level thresholds have been annualized and converted to tons per year for comparison to the proposed project's annual emissions. The annualization is based on 100 pounds per day over the assumed 250-day construction period.

AAQA = ambient air quality analysis
SVAPCD = San Joaquin Valley Air Pollution Control District
ROG = reactive organic compounds
NO_x = nitrogen oxides
CO = carbon monoxide
SO_x = sulfur oxides
PM10 = particulate matter
PM2.5 = fine particulate matter

As indicated in Table 3.1-6, construction of the project would not generate emissions in excess of SJVAPCD's adopted numeric thresholds and would not result in a violation of the CAAQS or NAAQS. Consequently, construction would result in a less-than-significant impact.

Operation

Long-term emissions would be caused by operational mobile transportation emissions from visitors, employees, maintenance equipment. Area source emissions would be caused by incidental activities related to services for the transit center, senior center, and library, such as paint reapplications, cleaning, and landscaping. Energy source emissions are the result of electricity and water utility use. Stationary source emissions are generated from 13 hours of annual testing for the senior center's emergency generator. Each of these sources was taken into account in calculating the project's long-term operational emissions, which were quantified using CalEEMod. Refer to Appendix B for model outputs and detailed assumptions.

The net effect of the proposed project is determined by evaluating the estimated annual operational emissions from existing land uses to be replaced by the proposed project's land uses and subtracting those emissions from the proposed project's estimated annual operational emissions. Estimated annual operational emissions from existing and proposed land uses are summarized in Table 3.1-7. The proposed project's net estimated annual operational emissions are presented in Table 3.1-8 and compared to SJVAPCD's criteria pollutant threshold in addition to the calculated annual AAQA-equivalency threshold of 18.25 tons per year.

Table 3.1-7. Existing Condition (2018) and Proposed Project (2020) Annual Operational Emissions (tons/year)

Emission Source	ROG	NO_X	CO	SO_X	PM10	PM2.5
Existing Condition						
Area	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Energy	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mobile	0.4	4.5	3.7	< 0.1	0.7	0.2
Stationary	N/A	N/A	N/A	N/A	N/A	N/A
Total	0.6	4.6	3.8	< 0.1	0.7	0.2
Proposed Project						
Area	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Energy	< 0.1	0.1	0.1	< 0.1	< 0.1	< 0.1
Mobile	0.7	8.2	5.4	< 0.1	1.1	0.3
Stationary	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total	1.0	8.3	5.5	< 0.1	1.1	0.3

ROG = reactive organic compounds
NO_x = nitrogen oxides
CO = carbon monoxide
SO_x = sulfur oxides
PM10 = particulate matter
PM2.5 = fine particulate matter
N/A = No emissions

Table 3.1-8. Net (Project minus Existing) Annual Operational Emissions (tons/year)

Emission Source	ROG	NO_X	CO	SO_X	PM10	PM2.5
Area	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Energy	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mobile	0.3	3.7	1.7	< 0.1	0.4	0.1
Stationary	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total	0.4	3.7	1.8	< 0.1	0.4	0.1
SJVAPCD Annual Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
SJVAPCD AAQA screening-level thresholds[a]	*18.25*	*18.25*	*18.25*	*18.25*	*18.25*	*18.25*
SJVAPCD Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

[a] SJVAPCD's 100 pounds of pollutant-per-day AAQA screening-level thresholds have been annualized and converted to tons per year for comparison to the proposed project's annual emissions. The annualization is based on 100 pounds per day over the assumed 250-day construction period.

AAQA = ambient air quality analysis
SVAPCD = San Joaquin Valley Air Pollution Control District
ROG = reactive organic compounds
NO_x = nitrogen oxides
CO = carbon monoxide
SO_x = sulfur oxides
PM10 = particulate matter
PM2.5 = fine particulate matter

As indicated in Table 3.1-8, net emissions generated from operation of the project would not be in excess of SJVAPCD's adopted numeric thresholds or result in a violation of the CAAQS or NAAQS. Consequently, project operation would result in a less-than-significant impact.

Construction and Operation

Because construction activities and operational activities would both occur during 2020, construction emissions and operational emissions are added together for 2020 and presented in Table 3.1-9.

Table 3.1-9. Construction and Operational Emissions in 2020 (tons/year)

Emission Source	ROG	NO_X	CO	SO_X	PM10	PM2.5
Construction	0.5	0.1	0.1	<0.1	<0.1	<0.1
Operational	0.4	3.7	1.8	< 0.1	0.4	0.1
Total	0.9	3.8	1.9	< 0.1	0.4	0.1
SJVAPCD Annual Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
SJVAPCD AAQA screening-level thresholds[1]	*18.25*	*18.25*	*18.25*	*18.25*	*18.25*	*18.25*
SJVAPCD Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

[1] SJVAPCD's 100 pounds of pollutant-per-day AAQA screening-level thresholds have been annualized and converted to tons per year for comparison to the proposed project's annual emissions. The annualization is based on 100 pounds per day over the assumed 250-day construction period.

ROG = reactive organic compounds
NO_x = nitrogen oxides
CO = carbon monoxide
SO_x = sulfur oxides
PM10 = particulate matter
PM2.5 = fine particulate matter

As indicated in Table 3.1-9, total construction and operational emissions in 2020 generated from the project would not be in excess of SJVAPCD's adopted numeric thresholds or result in a violation of the CAAQS or NAAQS. Consequently, construction and operational emissions in 2020would result in a less-than-significant impact.

Impact AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors) (less than significant)

SJVAPCD's CEQA Guidelines indicate that a violation of SJVAPCD construction or operational thresholds of significance would result in a project-level and cumulative impact. As mentioned in Impact AQ-2, the project would comply with SJVAPCD Regulation VIII, which would reduce construction-related fugitive PM emissions, and SJVAPCD Rule 9510, which would reduce NO_X and PM10 emissions. As indicated in Tables 3.1-6 and 3.1-9, construction and operational emissions would not exceed SJVAPCD's significance thresholds or calculated AAQA-equivalency thresholds. Consequently, a cumulatively considerable net increase of any nonattainment criteria pollutant is not anticipated.

Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations (less than significant)

Construction

Diesel Particulate Matter

Project construction would generate DPM, resulting in the exposure of nearby existing sensitive receptors (e.g., residences) to increased DPM concentrations. Cancer health risks associated with exposure to diesel exhaust are typically associated with chronic exposure, in which a 30-year

exposure period is assumed. In addition, DPM concentrations, and, thus, cancer health risks, dissipate as a function of distance from the emissions source.

As described under *Sensitive Receptors* in Section 3.1.1, *Existing Conditions*, there are sensitive receptors located within 20 feet of the project site. DPM generated during construction may expose these receptors to increased health risks. The greatest potential for DPM emissions would occur in 2019 (see Table 3.1-6).

An HRA was conducted to analyze the potential health risks associated with short-term construction on nearby residential receptors, and takes into account the regulatory framework, proximity of contaminants to sensitive receptors, quantity, volume, and toxicity of the contaminants, and the likelihood and potential level of exposure. Cancer risk at nearby residences was calculated to be 3.78 cases per million at the maximum lifetime residential receptor location. The calculated chronic hazard index of 0.002 is expected to be far below thresholds at the maximum residential location. The level is of exposure and risk exposure presented herein is far below SJVAPCD's cancer risk and hazard thresholds. Therefore, this impact would be less than significant.

See Appendix B for AERMOD emissions modeling results and health risk calculations.

Additionally, the project would not handle any on-site acutely hazardous materials that could result in an accidental release of air toxic emissions or acutely hazardous materials, posing a threat to public health. Therefore, this impact would be less than significant. Valley Fever

Disturbance of soil containing Coccidioides fungus could expose the general public to spores known to cause Valley Fever. Over 75% of Valley Fever cases in California have been in people who live in the San Joaquin Valley. Fresno County has a relatively high Valley Fever rate, with greater than 10 cases reported per 100,000 people per year between 2008 and 2012 (California Department of Public Health 2016). Construction activities in areas known to contain Coccidioides fungus may expose workers and the general public to spores that could result in Valley Fever. Compliance with SJVAPCD Regulation VIII/Dust Control Plan would reduce the risk of contracting Valley Fever. This impact is considered less than significant.

Operation

Diesel Particulate Matter

The proposed project would generate DPM, resulting in the exposure of nearby existing sensitive receptors (e.g., residences) to increased DPM concentrations during long-term operational activities.

As described above, there are sensitive receptors located within 20 feet of the project site. DPM generated during project operations may expose these receptors to increased health risks.

An HRA was conducted to analyze the potential health risks associated with operational on-site bus traffic near nearby residential receptors. Cancer risk at nearby residences was calculated to be 0.42 cases per million at the maximum lifetime residential receptor location. The calculated chronic hazard index of 0.0001 is expected to be far below thresholds at the maximum residential location. The level is of exposure and risk exposure presented herein is far below SJVAPCD's cancer risk and hazard thresholds. Therefore, this impact would be less than significant.

For the operational analysis, all bus idling was conservatively assumed to occur for the maximum allowed duration of 5 minutes by City ordinance. In reality, buses on average would idle for less

than 5 minutes and operational health risks would be even lower than the risks indicated above. See Appendix B for AERMOD emissions modeling results and health risk calculations.

The analysis of project-related impacts to human health focuses only on those localized pollutants, particularly DPM. An analysis of human health impacts associated with regional pollutants, including ozone precursors (VOC and NOX), was not conducted as the incremental contribution of the project to specific health outcomes from criteria pollutant emissions would be limited and cannot be solely traced to the project. This is consistent with the current state-of-practice and published guidance (San Joaquin Valley Air Pollution Control District 2015b; Office of Environmental Health Hazard Assessment 2015).

Carbon Monoxide

Elevated levels of CO concentrations are typically found in areas with significant traffic congestion. CO is a public health concern because it can cause health problems such as fatigue, headache, confusion, dizziness, and even death. Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. CO emission rates from motor vehicles have been declining and are expected to continue to decline in the future because of ARB's Mobile Source Program, which supports replacement of older, higher emitting vehicles with newer vehicles, and increasingly stringent inspection and maintenance programs, as well as other regulatory requirements, such as Assembly Bill 1493 (Pavley).

CO concentrations within the project area were evaluated following the Caltrans CO protocol (Garza et al. 1997) to evaluate whether the project would cause or contribute to localized violations of the state or federal ambient standards in the project vicinity. CO concentrations at potential sensitive receptors near congested roadways were estimated using CALINE4 dispersion modeling. Table 3.1-10 summarizes CO modeling results for No Project and With Project conditions for existing (2016), near-term (2020) and long-term (2039) conditions.

Table 3.1-10. Carbon Monoxide Concentrations at Greatest Affected Roadway Segments (parts per million)

Segment	Receptor	Existing No Project (2016)[a]		Existing With Project (2016)[a]		Near-Term No Project 2020)[a]		Near-Term With Project (2020)[a]		Long-Term No Project (2039)[a]		Long-Term With Project (2039)[a]	
		1-hr CO[b]	8-hr CO[c]	1-hr CO[b]	8-hr CO[c]	1-hr CO[b]	8-hr CO[c]	1-hr CO[b]	8-hr CO[c]	1-hr CO[b]	8-hr CO[c]	1-hr CO[b]	8-hr CO[c]
Clovis Avenue/ Sierra Avenue	1	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4
	2	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.5	2.2	1.5
	3	2.2	1.5	2.2	1.5	2.2	1.5	2.2	1.5	2.2	1.5	2.3	1.6
	4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
Clovis Avenue/ Second Street	5	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
	6	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
	7	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
	8	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
Clovis Avenue/ Third Street	9	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
	10	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.5
	11	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
	12	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.5	2.3	1.6	2.3	1.6
Clovis Avenue/ Fourth Street	13	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5
	14	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4
	15	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4
	16	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4
Clovis Avenue/ Fifth Street	17	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.5
	18	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
	19	2.1	1.4	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5
	20	2.1	1.4	2.1	1.4	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.5

[a] Background concentrations of 1.8 parts per million (ppm) and 1.2 ppm were added to the modeling 1-hour and 8-hour results, respectively.
[b] The federal and state 1-hour standards are 35 and 20 ppm, respectively.
[c] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively.

As indicated in Table 3.1-10, long-term CO concentrations will be lower than existing concentrations and no violations of the state or federal 1- or 8-hour CO standards are anticipated in the project area under cumulative-year conditions. Therefore, the impact of project traffic conditions on ambient CO levels in the project area would be less than significant.

Impact AQ-5: Create objectionable odors affecting a substantial number of people (less than significant)

SJVAPCD has identified certain types of land uses as being commonly associated with odors. Based on these land uses, SJVAPCD has established screening criteria that identifies reasonable buffer distances by odor-generating facility in which the location of sensitive receptors located within these distances could result in significant odor impacts. Table 3.1-11 summarizes SJVAPCD's odor screening distances as a function of facility type.

Table 3.1-11. SJVAPCD Project Screening Trigger Levels for Potential Odor Sources

Type of Facility	SJVAPCD Recommended Buffer Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: San Joaquin Valley Air Pollution Control District 2015a

Potential odor emitters during construction activities include diesel exhaust, asphalt paving, and the use of architectural coatings and solvents. Construction-related operations near existing receptors would be temporary in nature and construction activities would not be likely to result in nuisance odors that would violate SJVPACD Rule 4102. Given mandatory compliance with SJVPACD rules, no construction activities or materials are proposed that would create a significant level of objectionable odors. This impact is considered less than significant.

As indicated in Chapter 2, *Project Description*, the project would not site new sensitive receptors nor odor generating facilities. Therefore, odor impacts would be less than significant.

3.1.3 References Cited

Printed References

California Air Resources Board. 2016. *Ambient Air Quality Standards*. Last Revised: May 4, 2016. Available: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>. Accessed: December 29, 2017.

California Air Resources Board. 2017a. *iADAM: Air Quality Data Statistics: Top 4 Summary*. Available: <http://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed: May 31, 2017.

California Air Resources Board. 2017b. *Area Designations Maps.* Last Revised: October 18, 2017. Available: <http://www.arb.ca.gov/desig/adm/adm.htm>. Accessed: December 29, 2017.

California Department of Public Health. 2016. Valley Fever Fact Sheet. January. Available: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/ValleyFeverFactSheet.pdf>. Accessed: December 29, 2017.

California Department of Transportation. 1998. *User's Guide for CL4: A User-Friendly Interface for the Caline 4 Model for Transportation Project Impact Assessments*. June. Available: <http://www.dot.ca.gov/hq/env/air/documents/CL4Guide.pdf>. Accessed: February 1, 2018.

City of Clovis. 2014a. *City of Clovis General Plan*. August. Available: <http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlan2014/ClovisGP_Adopted_Aug2014_wFig.pdf?ver=2015-04-03-100817-897>. Accessed: December 29, 2017.

City of Clovis. 2014b. *Final Environmental Impact Report: General Plan and Development Code Update*. Prepared by PlaceWorks, Santa Ana, CA. August. Available: <https://www.ci.clovis.ca.us/Portals/0/Documents/CityCouncil/Agendas/2014/20140825/PDS%20-%20Final%20PEIR%20Att%205.pdf?ver=2014-08-21-155952-403>. Accessed: December 29, 2017.

Garza, V. J., P. Graney, D. Sperling, D. Niemeier, D. Eisinger, T. Kear, D. Chang, and Y. Meng. 1997. *Transportation Project-Level Carbon Monoxide Protocol*. Report prepared for the Environmental Program of Caltrans by the Institute of Transportation Studies at the University of California, Davis (Report No. UCD-ITS-44-97-21).

Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program: Risk Assessment Guidelines and Guidance Manual for Preparation of Health Risk Assessments*. February. Available: <https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf>. Accessed: January 29, 2018.

San Joaquin Valley Air Pollution Control District. 2015a. *Guidance for Assessing and Mitigating Air Quality Impacts*. March. Available: <http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf>. Accessed: December 29, 2017.

San Joaquin Valley Air Pollution Control District. 2015b. *Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document*. May. Available: < http://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf>. Accessed: January 30, 2017.

U.S. Environmental Protection Agency. 2017a. *Monitor Values Report*. Last Revised: March 13, 2017. Available: <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>. Accessed: December 29, 2017.

U.S. Environmental Protection Agency. 2017b. *Greenbook of Nonattainment Areas for Criteria Pollutants*. Last Revised: December 31, 2017. Available: <https://www.epa.gov/green-book>. Accessed: December 31, 2017.

Personal Communications

Haussler, Andy. Community & Economic Development Director. City of Clovis. July 21, 2017 – Email to Cherry Zamora, ICF, Sacramento, CA, regarding the project's construction equipment EPA-rated engine tier levels.

3.2 Greenhouse Gas Emissions

This section describes the regulatory and environmental setting for greenhouse gases (GHGs) in the project area. It also analyzes environmental impacts associated with GHG and climate change that could result from implementation of the proposed project.

3.2.1 Existing Conditions

Regulatory Setting

Federal Regulations

There is currently no federal overarching law specifically related to climate change or the reduction of GHG emissions. Under the Obama Administration, the federal Environmental Protection Agency (EPA) had been developing regulations under the Clean Air Act pursuant to EPA's authority under the act.[1]. There have also been settlement agreements between EPA, several states, and nongovernmental organizations to address GHG emissions from electric generating units and refineries, as well as the EPA's issuance of an "Endangerment Finding" and a "Cause or Contribute Finding." EPA has also adopted a Mandatory Reporting Rule and Clean Power Plan. Under the Clean Power Plan, EPA issued regulations to control carbon dioxide (CO_2) emissions from new and existing coal-fired power plants. However, on February 9, 2016 the Supreme Court issued a stay of these regulations pending litigation. Current EPA Administrator Scott Pruitt has also signed a measure to repeal the Clean Power Plan. The fate of the proposed regulations is uncertain given the change in federal administrations and the pending deliberations in federal courts.

State Regulations

California has adopted statewide legislation addressing various aspects of climate change and GHG emissions mitigation. Much of this legislation establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The governor has also issued several executive orders (EOs) related to the state's evolving climate change policy. Of particular importance are Assembly Bill (AB) 32 and Senate Bill (SB) 32, which outline the state's GHG reduction goals of achieving 1990 emissions levels by 2020 and a 40% reduction below 1990 emissions levels by 2030.

In the absence of federal regulations, control of GHGs is generally regulated at the state level and is typically approached by setting emission reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans. Summaries of key policies, legal cases, regulations, and legislation at the state levels that are relevant to the project are identified below.

[1] In *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the United States Court of Appeals upheld EPA's authority to regulate GHG emissions under the Clean.

Assembly Bill 1493—Pavley Rules (2002, Amendments 2009, 2012 rulemaking)

Known as *Pavley I*, AB 1493 standards are the nation's first GHG standards for automobiles. AB 1493 requires the California Air Resources Board (ARB) to adopt vehicle standards that will lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as *Pavley II*, now referred to as the *Advanced Clean Cars* measure) has been proposed for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon by 2025.

Executive Order S-3-05 (2005)

EO S-3-05 asserted that California is vulnerable to the effects of climate change. To combat this concern, the order established the following GHG emissions reduction targets.

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

Executive orders are legally binding only on state agencies. Accordingly, EO S-3-05 guides state agencies' efforts to control and regulate GHG emissions but has no direct, binding effect on local government or private actions. The secretary of the California Environmental Protection Agency is required to report to the governor and state legislature biannually regarding the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in this EO.

Assembly Bill 32—California Global Warming Solutions Act (2006)

AB 32 codified the state's GHG emissions target by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. Since AB 32 was adopted, ARB, the California Energy Commission (CEC), the California Public Utilities commission (CPUC), and the Building Standards Commission have been developing regulations that will help meet the goals of AB 32. The AB 32 Scoping Plan identifies specific measures to reduce GHG emissions to 1990 levels by 2020, and requires ARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. Specifically, the AB 32 Scoping Plan articulates a key role for local governments, recommending they establish GHG reduction goals for both their municipal operations and the community consistent with those of the state.

Executive Order S-01-07—Low Carbon Fuel Standard (2007)

EO S-01-07 essentially mandates: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020; and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California. ARB approved the LCFS on April 23, 2009, and the regulation became effective on January 12, 2010 (California Air Resources Board 2016). The U.S. District Court for the Eastern District of California ruled in December 2011 that the LCFS violates the Commerce Clause of the U.S. Constitution. ARB appealed this ruling in 2012 and on September 18, 2013, the Ninth U.S. Circuit Court of Appeals upheld the LCFS, ruling that the program does not violate the Commerce Clause and remanding the case to the Eastern District.

Senate Bill SB 375 (2008)

SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations (MPOs), to incorporate a "sustainable communities strategy" (SCS) in their regional transportation plans that will achieve GHG emissions reduction targets set by ARB, which finalized the regional targets in February 2011. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development. However, those provisions will not become effective until an SCS is adopted. The final targets require the Fresno Council of Governments (Fresno COG) to identify strategies that will reduce per capita GHG emissions from passenger vehicles by approximately 5% by 2020 and 10% by 2035 over base year 2005. Fresno COG adopted the *2014 Regional Transportation Plan and Sustainable Communities Strategy* (RTP/SCS) on June 26, 2014.

Senate Bills 1078, 107, and 2—Renewables Portfolio Standard (2011)

SBs 1078 (2002), 107 (2006) and 2 (2011), California's Renewables Portfolio Standard (RPS), obligates investor-owned utilities, energy service providers, and Community Choice Aggregators to procure additional retail sales per year from eligible renewable sources with the long-range target of procuring 33% of retail sales from renewable resources by 2020. The CPUC and CEC are jointly responsible for implementing the program.

California Energy Efficiency Standards for Residential and Nonresidential Buildings—Green Building Code (2011), Title 24 Update (2014)

California has adopted aggressive energy efficiency standards for new buildings and has been continually updating them for many years. In 2008, the California Building Standards Commission adopted the nation's first green building standards, which include standards for many other built environment aspects apart from energy efficiency. The California Green Building Standards Code was adopted as Part 11 of the California Building Standards Code (Title 24 California Code of Regulations). Part 11 requires compliance with standards regarding planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The current energy efficiency standards were last adopted in 2016 and took effect on January 1, 2017. The standards are planned to be updated periodically in the future, with the next updated standards planned for 2019.

Senate Bill 350 (Clean Energy and Pollution Reduction Act of 2015) (2015)

SB 350 requires the following by 2030: (1) an RPS of 50% and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of CPUC and CEC.

Senate Bill 32 (2016)

SB 32 (2016) requires ARB to ensure that statewide GHG emissions are reduced to at least 40% below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. ARB adopted the 2017 Climate Change Scoping Plan Update in November 2017 to meet the GHG reduction requirement set forth in SB 32. It proposes continuing the major programs of the previous Scoping Plan, including Cap-and-Trade Regulation, LFCS, more efficient cars, trucks, and freight movement, RPS, and reducing methane emissions from agricultural and other wastes. The Scoping Plan Update also addresses for the first time the GHG emissions from natural and working lands in California.

Regional and Local Regulations

San Joaquin Valley Air Pollution Control District

In December 2009, the San Joaquin Valley Air Pollution Control District (SJVAPCD) formally adopted the region's first GHG thresholds for determining significant climate change impacts of projects in the district's boundaries. The guidance is intended to streamline CEQA review by quantifying emissions reductions that would be achieved through the implementation of Best Performance Standards (BPS). These thresholds are incorporated into SJVAPCD's updated 2015 *Guidance for Assessing and Mitigating Air Quality Impacts*.

City of Clovis

The following goals and policies from the *City of Clovis General Plan* (City of Clovis 2014) relevant to greenhouse gases are applicable to the proposed project.

Air Quality Element

Goal 1: A local environment that is protected from air pollution and emissions.

- Policy 1.1. Land use and transportation. Reduce greenhouse gas and other local pollutant emissions through mixed use and transit-oriented development and well-designed transit, pedestrian, and bicycle systems.
- Policy 1.4. City buildings. Require that municipal buildings be designed to exceed energy and water conservation and reduction standards set in the California Building Code.
- Policy 1.5 Fleet operations. Purchase low- or zero-emission vehicles for the City's fleet. Use clean fuel sources for city-owned mass transit vehicles, trucks and heavy equipment where feasible.
- Policy 1.6 Employment measures. Encourage employers to provide programs, scheduling options, incentives, and information to reduce vehicle miles traveled by employees.

Goal 2: A region with healthy air quality and lower greenhouse gas emissions.

- Policy 2.1. Regional coordination. Support regional efforts to reduce air pollution (criteria air pollutants and greenhouse gas emissions) and collaborate with other agencies to improve air quality at the emission source and reduce vehicle miles traveled.
- Policy 2.2. Cross-jurisdictional issues. Collaborate with regional agencies and surrounding jurisdictions to address cross-jurisdictional transportation and air quality issues.
- Policy 2.3. Valley wide programs. Establish parallel air quality programs and implementation measures across the San Joaquin Valley.
- Policy 2.4. Public participation. Encourage participation of local citizens, the business community, and interested groups and individuals in air quality planning and implementation.
- Policy 2.5. Public education. Promote programs that educate the public about regional air quality issues and solutions.
- Policy 2.6 Innovative mitigation. Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.

Circulation Element

Goal 1: A context-sensitive and "complete streets" transportation network that prioritizes effective connectivity and accommodates a comprehensive range of mobility needs

- Policy 1.1 Multimodal network. The City shall plan, design, operate, and maintain the transportation network to promote safe and convenient travel for all users: pedestrian, bicyclists, transit riders, freight, and motorists.
- Policy 1.2 Transportation decisions. Decisions should balance the comfort, convenience, and safety of pedestrians, bicyclists, and motorists.
- Policy 1.4 Jobs and housing. Encourage infill development that would provide jobs and services closer to housing, and vice versa, to reduce citywide vehicle miles traveled and effectively utilize the existing transportation infrastructure.
- Policy 1.5 Neighborhood connectivity. The transportation network shall provide multimodal access between neighborhoods and neighborhood-serving uses (educational, recreational, or neighborhood commercial uses.
- Policy 1.7 Narrow Streets. The City may permit curb-to-curb dimensions that are narrower than current standards on local streets to promote pedestrian and bicycle connectivity and enhance safety.

Goal 3: A multimodal transportation network that is safe and comfortable in the context of adjacent neighborhoods.

- Policy 3.3 Old Town and Mixed Use Village Centers. Transportation decisions on local streets in Old Town and mixed-use village centers shall prioritize pedestrians, then bicyclists, then mass transit, then motorists.
- Policy 3.11 Right-of-way design. Design landscaped parkways, medians, and right-of-ways as aesthetic buffers to improve the community's appearance and encourage non-motorized transportation.

Goal 4: A bicycle and transit system that services as a functional alternative to commuting by car.

- Policy 4.1 Bike and transit backbone. The bicycle and transit system should connect Shaw Avenue, Old Town, the Medical Center, R&T Park, and the three Urban Centers.
- Policy 4.2 Priority for new bicycle facilities. Prioritize investments in the backbone system over other bicycle improvements.
- Policy 4.3 Freeway crossings. Require separate bicycle and pedestrian crossings for new freeway extensions and encourage separate crossings where Class I facilities are planned to cross existing freeways.
- Policy 4.4 Bicycles and transit. Coordinate with transit agencies to integrate bicycle access and storage into transit vehicles, bus stops, and activity centers.
- Policy 4.5 Transit stops. Improve and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.
- Policy 4.6 Transit priority corridors. Prioritize investments for, and transit services and facilities along the transit priority corridors.
- Policy 4.7 Bus rapid transit. Plan for bus rapid transit and transit-only lanes on transit priority corridors as future ridership levels increase.

Goal 5: A complete system of trails and pathways accessible to all residents.

- Policy 5.1 Complete street amenities. Upgrade existing streets and design new streets to include complete street amenities, prioritizing improvements to bicycle and pedestrian connectivity or safety (consistent with the Bicycle Transportation Master Plan and other master plans).
- Policy 5.2 Development-funded facilities. Require development to fund and construct facilities as shown in the Bicycle Transportation Plan when facilities are in or adjacent to the development.

- Policy 5.3 Pathways. Encourage pathways and other pedestrian amenities in Urban Centers and new development 10 acres or larger.
- Policy 5.5 Pedestrian access. Require sidewalks, paths, and crosswalks to provide access to schools, parks, and other activity centers and to provide general pedestrian connectivity throughout the city.

Land Use Element

Goal 5: A city with housing, employment, and lifestyle opportunities for all ages and incomes of residents.

- Policy 5.4 Transit oriented development. Encourage the provision of retail and employment opportunities in areas served by transit-dependent population.

Open Space and Conservation Element

Goal 2: Natural, agricultural, and historic resources that are preserved and promoted as key features for civic pride and identity.

- Policy 2.2 New development. Encourage new development to incorporate on-site natural resources and low impact development techniques.

Goal 3: A built environment that conserves and protects the use and quality of water and energy resources.

- Policy 3.4 Drought-tolerant landscaping. Promote water conservation through use of drought-tolerant landscaping on existing and new residential properties. Require drought-tolerant landscaping for all new commercial and industrial development and city-maintained landscaping, unless used for recreation purposes.
- Policy 3.5 Energy and water conservation. Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the California Building Code.
- Policy 3.6 Renewable Energy. Promote the use of renewable and sustainable energy sources to serve public and private sector development.
- Policy 3.7 Construction and design. Encourage new construction to incorporate energy efficient building and site design strategies.

In addition, Development Code Article 3 (Development and Operational Standards), Division 9.22 (Performance Standards), Section 9.22.030 (Air Quality) also addresses GHG emissions.

Environmental Setting

The specific chemical properties of GHGs enable them to become well mixed within the atmosphere and transported over long distances. Consequently, unlike other resource areas that are primarily concerned with localized project impacts (e.g., within 1,000 feet of the project site), the global nature of climate change requires a broader analytic approach. The following subsections provide background information on global climate change and principal GHGs associated with implementation of the project.

Greenhouse Effect and Climate Change

The phenomenon known as the *greenhouse effect* keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is

absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which is re-emitted toward the surface by GHGs. Human activities that generate GHGs increase the amount of infrared radiation absorbed by the atmosphere, thus enhancing the greenhouse effect and amplifying the warming of Earth (Center for Climate and Energy Solutions n.d.).

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels result in increasing global surface temperatures—a phenomenon commonly referred to as *global warming*. Higher global surface temperatures, in turn, result in changes to Earth's climate system, including increased ocean temperature and acidity, reduced sea ice, variable precipitation, and increased frequency and intensity of extreme weather events (Intergovernmental Panel on Climate Change 2007). Large-scale changes to Earth's system are collectively referred to as *climate change.*

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that the average global temperature will rise by 0.3–4.8°C (0.5–8.6°F) during the twenty-first century (Intergovernmental Panel on Climate Change 2013). Large increases in global temperatures could have substantial adverse effects on the natural and human environments worldwide and in California.

Pollutants of Concern

The principle anthropogenic (human-made) GHGs contributing to global warming are CO_2, methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic sources.

The primary GHGs of concern associated with the project are CO_2, CH_4, and N_2O. Principal characteristics of these pollutants are discussed below.

Carbon dioxide enters the atmosphere through fossil fuels (oil, natural gas, and coal) combustion, solid waste decomposition, plant and animal respiration, and chemical reactions (e.g., manufacture of cement). CO_2 is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.

Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal solid waste landfills.

Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the global warming potential (GWP) methodology defined in IPCC reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of

carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2 (CO_2 has a global warming potential of 1 by definition).

Table 3.2-1 lists the global warming potential of CO_2, CH_4, and N_2O, their lifetimes, and abundances in the atmosphere.

Table 3.2-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gases	Global Warming Potential (100 years)	Lifetime (years)	Current Atmospheric Abundance
CO_2	1	50–200	400 ppm
CH_4	25	9–15	1,834 ppb
N_2O	298	121	328 ppb

Sources: Intergovernmental Panel on Climate Change 2007; Blasing 2016.

CH_4 = methane
CO_2 = carbon dioxide
N_2O = nitrous oxide
Ppb = parts per billion
Ppm = parts per million

3.2.2 Environmental Impacts

This section describes the environmental impacts of the proposed project in the context of GHGs and climate change. It describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant.

Methods for Analysis

GHG and climate change impacts associated with construction and operation of the proposed project were assessed and quantified using standard and accepted software tools, techniques, and emission factors. A summary of the methodology is provided below.

Construction

During project construction heavy-duty equipment and on-road vehicles would generate emissions of CO_2, CH_4, and N_2O in the project area. It is expected that construction would require five sequential phases from September 2018 to February 2020: site preparation, grading, building construction, paving, and application of architectural coating.

GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Model defaults for construction equipment types, number of equipment pieces, horsepower, and on-road vehicle trip lengths were utilized based on construction of a 7,000-square-foot transit center, a 30,000-square-foot library, a 25,000-square-foot senior center, and a parking lot with 259 parking spaces. Equipment usage per day and haul truck trip data was provided by the City (Haussler pers. comm.). Tier 4 Interim engines were assumed for all construction equipment, pursuant to the City of Clovis General Plan (Haussler pers. comm.).

Total emissions for each year of activity were estimated. Please refer to Appendix B for the construction modeling outputs.

Operation

GHG emissions from motor vehicles associated with development of the project were evaluated using CalEEMod version 2016.3.2. Trip generation rates from the proposed project's Traffic Impact Study (see Appendix D) for each land use type associated with the proposed development were used. Average trip lengths from the proposed project's Traffic Impact Study Addendum No. 1 (Appendix D) associated with the proposed development were used. Net emissions associated with the proposed project were estimated by subtracting emissions associated with existing land use types from emissions associated with proposed land use types for buildout year conditions.

Area, energy, water, and waste emissions were estimated using CalEEMod, version 2016.3.2. Area sources include use of gasoline- and diesel-fired landscaping equipment. Energy sources include the combustion of natural gas, as well as the use and generation of electricity. Water consumption results in indirect GHG emissions from the conveyance and treatment of water. Waste generation results in fugitive CH_4 and N_2O emissions from the decomposition of organic matter.

The CalEEMod modeling accounts for emissions from a 700-HP onsite emergency generator associated with the senior center. GHG reductions due to carbon sequestration of the 0.2 acres of landscaping and 35 trees associated with the project were also modeled.

Please refer to Appendix B for the operational modeling outputs.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Climate change is a global problem and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes (see Table 3.2-1), GHGs emitted by many sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Thus, GHG impacts are inherently cumulative.

SJVAPCD has not established a quantitative threshold for the evaluation of construction-related GHG emissions. The significance of construction GHG emissions is, therefore, evaluated by determining whether or not the project has incorporated all feasible emission reduction measures.

SJVAPCD has published *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* to assist lead agencies in determining the level of significance of operation-related GHG emissions pursuant to CEQA (San Joaquin Valley Air Pollution Control District 2009). This guidance has since been incorporated into SJVAPCD's 2015 *Guidance for Assessing and Mitigating Air Quality Impacts*.

SVJAPCD's GHG guidance is intended to streamline CEQA review by pre-quantifying emissions reductions that would be achieved through the implementation of BPS. Projects are considered to

have a less-than-significant cumulative impact on climate change if any of the following conditions are met.

- Comply with an approved GHG reduction plan.
- Achieve a score of at least 29 using any combination of approved operational BPS[2].
- Reduce operational GHG emissions by at least 29% over business-as-usual (BAU) conditions (demonstrated quantitatively).

SJVAPCD guidance recommends quantification of GHG emissions for all projects in which an EIR is required, regardless of whether BPS implementation would achieve a score of 29 (San Joaquin Valley Air Pollution Control District 2009). Although the thresholds adopted by SJVAPCD were developed for internal use for projects in which SJVAPCD is the lead agency, the thresholds provide guidance to other agencies establishing their own processes for determining significance related to climate change (San Joaquin Valley Air Pollution Control District 2009).

The California Supreme Court decision in the *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company* (62 Cal.4th 204 [2015], and known as the *Newhall Ranch decision*), confirmed that the use of BAU analysis (e.g., 29% below business as usual), a performance-based approach, would be satisfactory. However, for a project-level analysis that uses ARB's statewide BAU targets, substantial evidence must be presented to support the use of those targets for a particular project at a specific location. The court noted that this may require examination of the data behind the statewide model and adjustment to the levels of reduction from BAU used for project evaluation. To date, neither ARB nor any lead agencies have provided any guidance on how to adjust AB 32's statewide BAU target for use at the project level.

The Newhall Ranch decision suggested several approaches for determining significance of GHG emissions are appropriate as alternatives to the percentage below BAU approach, but did not foreclose other methodologies that may be used by lead agencies. In any case, the decision affirmed that "thresholds only define the level at which an environmental effect 'normally' is considered significant; they do not relieve the lead agency of its duty to determine the significance of an impact independently." Some of the court's suggested approaches are introduced next and the applicable methodology to determine significance for this project is discussed more thoroughly in the context of the proposed project below.

- **Consistency with a Qualified GHG Emissions Reduction Plan.** Use of a GHG emission reduction plan consistent with State CEQA Guidelines Sections 15183.5 or 15064.4 for a particular geographic area.
- **Quantitative Thresholds.** Use of a quantitative threshold (such as the Bay Area Air Quality Management District's bright-line threshold).[3]
- **Compliance with Regulatory Programs**. This approach would include an assessment of the project's compliance with regulatory programs designed to reduce GHG emissions from particular activities (e.g., building efficiency, transportation, water usage). To the extent that a project's design features comply with or exceed the regulations outlined in the Scoping Plan and

[2] A score of 29 represents a 29% reduction in GHG emissions relative to unmitigated conditions (1 point = 1%). This goal is consistent with the reduction targets established by AB 32.

[3] Note that, although the Newhall Ranch decision did not explicitly discuss efficiency-based thresholds, they are a form of quantitative threshold.

adopted by ARB or other state agencies, the lead agency could rely on their use as showing that the project is reducing emissions consistent with AB 32 and, thus, that emissions are less than significant.

- **CEQA Streamlining.** Certain land use projects, such as residential, mixed use, and transit priority projects, could be assessed using SB 375's expressed allowance for streamlining of transportation impacts based on metropolitan regional SCS to streamline analysis of emissions from cars and light trucks.

Under any methodology, the Newhall Ranch decision recognizes that if GHG emission impacts are still significant after adoption of all feasible mitigation measures and consideration of project alternatives, the lead agency may adopt a statement of overriding considerations with the appropriate findings.

In light of the recent Newhall Ranch decision, the following section discusses the numerical bright-line quantitative threshold methodology for determining project GHG emissions significance and analyzes the methodology's specific applicability to the project.

Numerical Bright-Line Quantitative Thresholds

In general, numerical bright-line thresholds identify the point at which additional analysis and mitigation of project-related GHG emission impacts is necessary. Some air resource districts, but not SJVAPCD, have adopted bright-line thresholds have been developed for commercial projects, residential projects, and stationary sources. Commercial and residential bright-line thresholds are typically based on a market capture rate or a gap analysis,[4] which is tied back to AB 32 reduction targets (1990 levels by 2020).[5] These bright-line thresholds reflect local or regional land use conditions, particularly residential and commercial density and access to transit. For example, the Bay Area Air Quality Management District's bright-line threshold of 1,100 metric tons of carbon dioxide equivalent ($MTCO_2e$) captures land use conditions present in the Bay Area at the time of analysis, and does not necessarily reflect conditions in other areas of the state that display varying land use patterns and density. The Sacramento Metropolitan Air Quality Management District has also adopted a threshold of 1,100 $MTCO_2e$ for construction and operation of land use development projects, such as new residential and commercial projects. A stationary source bright-line threshold of 10,000 $MTCO_2e$ has been adopted by multiple air districts and other agencies as part of the permitting process, and the South Coast Air Quality Management District uses the same threshold when it is the lead agency.

No bright-line threshold has been formally adopted by SJVAPCD for use in the San Joaquin Valley air basin. Consequently, GHG emissions associated with the project are compared with proposed and adopted thresholds from air districts throughout California to determine project GHG significance. A summary of thresholds is shown in Table 3.2-2.

[4] The gap analysis demonstrates the reductions needed at the residential and commercial land use levels to achieve state targets. Capture is the process of estimating the portion of projects that would result in emissions that exceed a significance threshold and would be subject to mitigation.

[5] The AB 32 scoping plan identifies specific measures to reduce GHG emissions to 1990 levels by 2020.

Table 3.2-2. Proposed or Adopted GHG CEQA Bright-Line Significance Thresholds in California (metric tons carbon dioxide equivalent per year)

Agency	Construction Threshold	Operational Threshold
Bay Area Air Quality Management District[a]	N/A	Project: 1,100 Stationary: 10,000
East Kern Air Pollution Control District	N/A	Stationary: 25,000
Monterey Bay Unified Air Pollution Control District[b]	N/A	Stationary: 10,000
Mojave Desert Air Quality Management District	100,000	100,000
Antelope Valley Air Quality Management District	100,000	100,000
Santa Barbara County Air Pollution Control District	N/A	Stationary: 10,000
San Diego County[c]	N/A	Project: 2,500 Stationary: 10,000
San Luis Obispo Air Pollution Control District	N/A	Project: 1,150 Stationary: 10,000
South Coast Air Quality Management District[d]	N/A	Commercial Project: 1,400 Mixed Use Project: 3,000 Residential Project: 3,500 Stationary: 10,000
Sacramento Metropolitan Air Quality Management District	1,100	Project: 1,100 Stationary: 10,000

Source: Association of Environmental Professionals 2016.

[a] Thresholds originally proposed as part of the district's 2010/2011 CEQA Guidelines but currently not recommended for use.

[b] Thresholds considered, but not adopted.

[c] Thresholds withdrawn after appellate court ruling in Sierra Club vs. San Diego County lawsuit.

[d] Draft framework for land use projects, but not adopted.

N/A = Threshold not applicable to air district.

Impacts and Mitigation Measures

Impact GHG-1: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (less than significant)

Construction and operation of the project would generate GHG emissions. Construction GHG emissions would result from operation of on-site construction equipment, as well as the operation of off-site vehicles used to transport workers and building materials/equipment to and from the project site during site preparation, site grading, building construction, application of architectural coatings, and paving activities.

Operational GHG emissions would result from off-road equipment (maintenance/operation activities) and on-road vehicles (including truck trips and worker commutes). GHG emissions were also estimated for energy use, water consumption, wastewater treatment, solid waste generation,

and emergency generator maintenance/testing. Energy and water use at the site would result in indirect electricity emissions originating at the power plant producing the electricity. Wastewater treatment emissions result from wastewater processing, and solid waste emissions result from decomposition of the waste in landfills.

Construction-related and operational-related GHG emissions were estimated using the methodology described in the *Methods for Analysis* section, above.

The project would also result in a sequestration of GHGs due to landscaping and the planting of trees associated with the project. Reduced emissions from this sequestration were calculated and combined with the construction and operation GHG emissions to determine the net impact of the project on GHG emissions.

Construction-related GHG emissions associated with the project are shown in Table 3.2-3. Existing operational GHG emissions associated with the project are shown in Table 3.2-4.

Table 3.2-3. Project Construction Yearly Greenhouse Gas Emissions (Metric Tons per Year)

Construction Year	Estimated Total Emissions (metric tons)			
	CO_2	CH_4	N_2O	CO_2e
2018	139.1	< 0.1	< 0.1	139.7
2019	403.2	0.1	< 0.1	405.1
2020	21.2	< 0.1	< 0.1	21.3
Total Construction Emissions	*563.5*	*0.1*	*< 0.1*	*566.1*

CH_4 = methane; CO_2e = carbon dioxide equivalent
CO_2 = carbon dioxide; N_2O = nitrous oxide

Table 3.2-4. Existing Operational Greenhouse Gas Emissions (Metric Tons per Year)

Emissions Category	Estimated Total Emissions (metric tons)			
	CO_2	CH_4	N_2O	CO_2e
Operational Activities (per year)				
Area Sources	< 0.1	< 0.1	< 0.1	< 0.1
Energy Use	157.1	< 0.1	< 0.1	157.8
Mobile Sources	1,296.8	0.2	< 0.1	1,301.2
Stationary Sources	0	0	0	0
Solid Waste Generation	38.6	2.3	< 0.1	95.6
Water Use	8.1	0.1	< 0.1	11.4
Total Existing Operational Emissions (per year)	**1,500.6**	**2.6**	**< 0.1**	**1,566.1**

CH_4 = methane; CO_2e = carbon dioxide equivalent
CO_2 = carbon dioxide; N_2O = nitrous oxide

Total GHG emissions associated with project construction and operation have been estimated and are presented in Table 3.2-5.

Table 3.2-5. Project Construction and Operational Greenhouse Gas Emissions (Metric Tons per Year)

Emissions Category	Estimated Total Emissions (metric tons)			
	CO_2	CH_4	N_2O	CO_2e
Construction Activities (all years)	563.5	0.1	<0.1	566.1
Amortized (per year for 30 years)	18.8	<0.1	<0.1	18.9
Operational Activities (per year)				
Area Sources	< 0.1	< 0.1	< 0.1	< 0.1
Energy Use	255.7	< 0.1	< 0.1	256.9
Mobile Sources	2,199.5	0.4	< 0.1	2,208.5
Stationary Sources	3.5	< 0.1	< 0.1	3.5
Solid Waste Generation	42.6	2.5	< 0.1	105.6
Water Use	10.5	0.1	< 0.1	14.5
Total Operational Emissions	*2,511.8*	*3.0*	*< 0.1*	*2,589.0*
Total Construction and Operation Emissions (per year)	2,525.2	3.0	<0.1	2,607.9
GHG Reductions from Vegetation Sequestration (per year)				-27.6
Total Project GHG Emissions (per year)				***2,580.3***

CH_4 = methane; CO_2e = carbon dioxide equivalent
CO_2 = carbon dioxide; N_2O = nitrous oxide

As shown in Table 3.2-5, total GHG construction emissions in the form of CO_2e would be approximately 566 metric tons, with maximum annual emissions of approximately 405 metric tons CO_2e occurring in 2019. Total construction emissions amortized over a 30-year period equal approximately 19 metric tons per year. The proposed project's net estimated annual operational emissions inclusive of amortized construction emissions are presented in Table 3.3-6

Table 3.2-6. Net (Project minus Existing) Greenhouse Gas Emissions (Metric Tons per Year)

Emissions Category	Estimated Total Emissions (metric tons)			
	CO_2	CH_4	N_2O	CO_2e
Total Existing Operational Emissions (per year)				1,566.1
Total Project GHG Emissions (per year)				2,580.3
Net GHG Emissions (per year)				***1,014.2***

CH_4 = methane; CO_2e = carbon dioxide equivalent
CO_2 = carbon dioxide; N_2O = nitrous oxide

As shown in Table 3.2-6, the proposed project's net GHG emissions would be below all bright-line GHG thresholds adopted by air districts throughout California (shown in Table 3.2-2) and would not have a significant impact on the environment. Accordingly, GHG emissions associated with the proposed project would be less than significant.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (less than significant)

Assembly Bill 32 and Senate Bill 32

AB 32 codifies the state's GHG emissions reduction targets for 2020. ARB adopted the 2008 Scoping Plan and 2014 First Update as a framework for achieving AB 32. The 2008 Scoping Plan and 2014 First Update outline a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. ARB adopted the 2017 Climate Change Scoping Plan in November 2017 as a framework to achieve the 2030 GHG reduction goal described in SB 32.

The 2008 and 2014 Scoping Plans indicate that some reductions would need to come in the form of changes pertaining to vehicle emissions and mileage standards. Some would come from changes pertaining to sources of electricity and increased energy efficiency at existing facilities. The remainder would need to come from state and local plans, policies, or regulations that will lower carbon emissions, relative to business as usual conditions. The 2017 Scoping Plan carries forward GHG reduction measures from the 2014 First Update, as well as new potential measures help achieve the state's 2030 target across all sectors of the California economy, including transportation, energy, and industry. Local governments will also continue to play a vital role in reducing GHG emissions at the local level. Currently, 60% of cities and more than 70% of counties have completed a GHG inventory, and 42% percent of local governments have completed a climate, energy, or sustainability plan that addresses GHG emissions (California Air Resources Board 2017).

Applicable transportation-related GHG reduction strategies and policies to this project outlined in the 2008, 2014, and 2017 Scoping Plans include the Mobile Source Strategy, which encourages the reduction of vehicle miles traveled (VMT) through implementation of SB 375 and regional Sustainable Communities Strategies, as well as other VMT reduction strategies. The Scoping Plans also discuss existing and proposed water conservation measures, including implementation of drought tolerant landscaping. GHG reduction strategies related to growing trees and vegetation are also described in the Scoping Plans.

The proposed project includes numerous objectives and measures consistent with the aforementioned Scoping Plan strategies and policies to reduce operational and construction-related GHG emissions. As described in Chapter 2, *Project Description*, one of the primary objectives of the proposed project is to optimize public transit, pedestrian, and bicycle access to the site by locating the proposed project adjacent to local transit lines and adjacent to routes that provide safe and convenient access for pedestrians and bicycles, reducing VMT.

This objective is consistent with the Mobile Source Strategy described above, as well statewide goals to reduce VMT. Also described in Chapter 2, the proposed project would include shade trees and drought tolerant landscaping consistent with City requirements. These project features would be consistent with the water conservation- and vegetation-related measures in the Scoping Plans.

Moreover, as shown in Table 3.2-6, the proposed project's net GHG emissions would be below all bright-line GHG thresholds adopted by air districts throughout California (shown in Table 3.2-2), and these thresholds were adopted to support overall AB 32 reduction targets.

Accordingly, the proposed project would not conflict with applicable policies described in the Scoping Plans for AB 32 and SB 32, and the proposed project's net GHG emissions would be below all bright-line GHG thresholds adopted to support overall AB 32 reduction targets.

Regional Transportation Plan and Sustainable Communities Strategy

Connecting transportation needs with land use and air quality impacts is one of three RTP overarching themes addressed in Fresno COG's RTP/SCS, which was adopted by Fresno COG on June 26, 2014. The RTP/SCS provides a long-range framework to minimize transportation impacts on the environment, improve regional air quality, protect natural resources, and reduce GHG emissions. The RTP/SCS supports and succeeds Fresno COG's 2011 RTP (which implements smart growth principles and promotes infill development), and links land use, air quality, and transportation needs in the region. The RTP/SCS is consistent with SB 375, which requires Fresno COG to adopt an SCS that outlines policies to reduce per capita GHG emissions from automobiles and light trucks. The SCS policies include a mix of strategies that encourage compact growth patterns, mixed-used design, alternative transportation, transit, mobility and access, network expansion, and transportation investment.

Implementation of the SCS is intended to improve the efficiency of the transportation system and achieve a variety of housing types throughout the Fresno COG region that meet market demands in a balanced and sustainable manner. The proposed project is built around the concept of sustainability and transportation efficiency. Library and community services would be increased in Central Clovis, bicycle and pedestrian mobility would be promoted, and transit-oriented development would be encouraged, as would water conservation.

These policies would support alternative transportation within the community, which could help reduce VMT and per capita GHG emissions from passenger vehicles consistent with Fresno COG's RTP/SCS.

Executive Order S-3-05

Achieving EO S-3-05 will require even more aggressive changes to all sectors of the economy and will require participation of all levels of government to further reduce GHG emissions. Although many GHG reduction measures outlined in the 2017 Scoping Plan will likely continue to be implemented and enhanced beyond the year 2030, no plan for meeting the 2050 GHG reduction goal described in EO S-3-05 has yet been adopted. In addition, EO S-3-05 does not apply to GHG emissions from local governments such as the City of Clovis.

As mentioned above, the proposed project includes numerous objectives and measures to reduce operational and construction-related GHG emissions. In addition, the proposed project's net GHG emissions are below all bright-line GHG thresholds adopted by air districts throughout California. However, these thresholds were adopted to support overall AB 32 reduction targets, not EO S-3-05 reduction targets. It is possible that future adopted state and federal actions would further reduce the proposed project's net emissions from those shown in Table 3.2-6 and below a level consistent with the state's 2050 reduction targets, but this cannot be known at this time; accordingly it is conservatively assumed that the project's emission levels would be inconsistent with the goals in EO S-3-05.

Conclusion

Based on the above analysis, the proposed project includes numerous objectives and measures that are consistent with applicable policies described in the Scoping Plans for AB 32, SB 32, and Fresno COG's RTP/SCS. Consequently, the project would not conflict with achievement of AB 32 reduction goals for 2020, SB 32 reduction goals for 2030, and the RTP/SCS reduction goals for 2020 and 2035.

In addition, as described in Impact GHG-1, the proposed project's net GHG emissions are below all bright-line GHG thresholds adopted to support overall AB 32 reduction targets. Therefore, this impact would be less than significant.

3.2.3 References Cited

Printed References

Association of Environmental Professionals. 2016. *Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. October. Available: https://www.califaep.org/images/climate-change/AEP-2016_Final_White_Paper.pdf. Accessed: January 23, 2018.

Blasing, T. J. 2016. *Recent Greenhouse Gas Concentrations*. DOI: 10.3334/CDIAC/atg.032. Updated April. Accessed: December 29, 2017.

California Air Resources Board. 2016. *LCFS Workgroups and Subprograms*. May. Available: https://www.arb.ca.gov/fuels/lcfs/workgroups/workgroups.htm. Accessed: February 6, 2018.

California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November. Available: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: January 22, 2018.

Center for Climate and Energy Solutions. n.d. *Climate Basics: Changes in the Climate*. Available: https://www.c2es.org/content/changes-in-climate/. Accessed: February 6, 2018.

City of Clovis. 2014. *City of Clovis General Plan*. August. Available: <http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlan2014/ClovisGP_Adopted_Aug2014_wFig.pdf?ver=2015-04-03-100817-897>. Accessed: December 29, 2017.

Fresno Council of Governments. 2014. *2014 Regional Transportation Plan and Sustainable Communities Strategy*. June. Available: https://www.fresnocog.org/wp-content/uploads/publications/RTP/Final_RTP/Fresno_COG_2014_RTP-SCS_Final.pdf. Accessed: January 22, 2018.

Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor and H. L. Miller (eds.). Available: <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>. Accessed: December 29, 2017.

San Joaquin Valley Air Pollution Control District. 2009. *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA.* December. Available: <https://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf>. Accessed: December 29, 2017.

3.3 Tribal Cultural Resources

This section describes the regulatory and environmental setting for tribal cultural resources (TCRs) in the project area. It also analyzes whether the project would result in environmental impacts on tribal cultural resources.

3.3.1 Existing Conditions

Regulatory Setting

State Regulations

Assembly Bill 52 (Chapter 532, Statutes of 2014) requires the City to make an offer to consult over tribal cultural resources to any California Native American tribe that has notified the City of the tribe's desire to consult on projects that would be subject to a negative declaration, mitigated negative declaration or EIR. This statute did not apply to the PEIR.

Environmental Setting

On September 28, 2016, a request for consultation was mailed to tribes identified on the list provided by the Native American Heritage Commission (per AB 52). There were no responses to the request.

3.3.2 Environmental Impacts

Impacts and Mitigation Measures

No tribes contacted the City requesting to consult or identifying tribal cultural resources that could be affected by the project. Therefore, because no tribal cultural resources have been identified, no impacts related to tribal cultural resources are anticipated.

No mitigation is required.

3.3.3 References Cited

Printed References

None applicable.

3.4 Noise

This section describes the affected environment and regulatory setting for noise. It also describes the noise impacts that would result from implementation of the Project alternatives, and identifies mitigation measures that would reduce these impacts, where applicable. Cumulative impacts are discussed at the end of this section.

No comments pertaining to noise issues were received in response to the Notice of Preparation (Appendix A).

3.4.1 Existing Conditions

Regulatory Setting

The project site is located in Clovis. The City of Clovis has established noise policies for residential and non-residential land uses in the Environmental Safety Element of the *Clovis General Plan*, and noise performance standards in the Noise Ordinance.

Clovis General Plan

The following policies of the General Plan are specifically applicable to the proposed demolition activities associated with implementation of the project.

- **Policy 3.1** Land use compatibility. Approve development and require mitigation measures to ensure existing and future land use compatibility as shown in the Noise Level Exposure and Land Use Compatibility Matrix (see below) and the city's noise ordinance.
- **Policy 3.2** Land use and traffic patterns. Discourage land use and traffic patterns that would expose sensitive land uses or noise-sensitive areas to unacceptable noise levels.
- **Policy 3.4** Acoustical study: Require an acoustical study for proposed projects that have the potential to exceed acceptable noise thresholds or are exposed to existing or future noise levels in excess of the thresholds in the city's noise ordinance.
- **Policy 3.6** Noise impacts. Minimize or eliminate persistent, periodic, or impulsive noise impacts of business operations.
- **Policy 3.14** Control sound at the source: Prioritize using noise mitigation measures to control sound at the source before buffers, soundwalls, and other perimeter measures.

The City's General Plan includes interior and exterior (for the outdoor environment and yards) noise standards, which match the standards in the City Noise Ordinance (shown in Table 3.4-1).

The General Plan also includes a Land Use and Noise Compatibility Matrix (Table ES-2 in the General Plan) that shows the acceptable community noise equivalent level (CNEL) for various uses. For single-family, multi-family, and faith/religious uses, 55 CNEL is considered clearly compatible and 65 CNEL is considered normally compatible, assuming a building includes needed noise insulation features and is of conventional construction, with closed windows and fresh air supply systems or air conditioning.

Noise Ordinance of the Clovis Municipal Code

The City of Clovis also provides noise performance standards in the Noise Ordinance of the Municipal Code. The following noise ordinances and standards are specifically applicable to the proposed demolition activities associated with implementation of the project.

- **5.27.604 Construction activities**: Unless otherwise expressly provided by permit, construction activities are only permitted between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday and Sunday. From June 1st through September 15th, permitted construction activity may commence after 6:00 a.m. Monday through Friday. Extended construction work hours must at all times be in strict compliance with the permit (§ 1, Ord. 14-02, eff. March 5, 2014).
- 9.22.080 Noise:

  The following acts are a violation of this section:

  - Construction activities shall be subject to the provisions of Section 5.27.604, which sets forth the permissible hours for construction activity. At all other times, no person shall operate, or cause to be operated, tools or equipment used in alteration, construction, demolition, drilling, or repair work so that the sound creates a noise disturbance across a residential property line, except for emergency work. Stationary equipment (e.g., generators) shall not be located adjacent to any existing residences unless enclosed in a noise attenuating structure, subject to the review and approval of the Director.
- **9.22.100 Vibrations:** Temporary construction exempt. Vibrations from temporary construction/demolition and vehicles that leave the subject parcel (e.g., trucks) are exempt from the provisions of this section (§ 2, Ord. 14-13, eff. October 8, 2014).

The noise standards (shown in Tables 3.3-1 and 3.3-2are presented in the City Municipal Code and, unless otherwise specifically indicated, apply to all property with a General Plan-designated noise zone or type of land use (e.g., single-family, commercial).

Table 3.4-1. Maximum Exterior Noise Standards

Noise Zone	Type of Land Use	Allowable Exterior Noise Level (15-Minute Leq)	
		7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
I	Single-, two- or multiple-family residential	55 dBA	50 dBA
II	Commercial	65 dBA	60 dBA
III	Residential portions of mixed use properties	60 dBA	50 dBA
IV	Industrial or manufacturing	70 dBA	70 dBA

Source: City of Clovis Municipal Code.

Table 3.4-2. Maximum Interior Noise Standards

Noise Zone	Type of Land Use	Allowable Interior Noise Level (15-Minute L_{eq})	
		7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
I	Residential	45 dBA	40 dBA
II	Administrative/professional office	50 dBA	—
III	Residential portions of mixed use properties	45 dBA	40 dBA

Source: City of Clovis Municipal Code Section 9.22.080
Notes:
1. If the ambient noise level exceeds the resulting standard, the ambient shall be the standard.
2. It is unlawful for any person to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any property measured at the property line, to exceed either of the following within the incorporated area of the City:
   a. The noise standard for the applicable zone for any fifteen (15) minute period;
   b. A maximum impulsive noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response). Impulsive noise which repeats four (4) or more times in any hour between 10:00 p.m. and 7:00 a.m. shall be measured as continuous sound and meet the noise standard for the applicable zone.
3. When properties of two (2) different noise zones abut one another, the maximum exterior noise level shall be the lower of the two (2) noise zones where one zone is residential, and in other contexts shall be the average of the two (2) zones.
4. Commercial, industrial, and recreational uses which create impulsive noise as part of their regular processes, such as through the use of pile drivers, forge hammers, punch presses, and gunshots, shall not be located in any zone district adjacent to a residential zone district unless a noise study is completed demonstrating the impulsive noise does not exceed the standards at the property line for the residential zone district.
   Impulse noise from these uses shall be measured as continuous sound. The noise study shall be subject to review and approval by the Director or his or her designee, and shall be completed as part of any discretionary permit process for the use or prior to obtaining a building permit. This provision shall not apply to uses existing on the effective date of the ordinance codified in this title.

Environmental Setting

Fundamentals of Environmental Noise and Vibration

Terminology

A brief description of the noise and vibration concepts and terminology used in this assessment is provided below.

- **Sound**. A vibratory disturbance transmitted by pressure waves through a medium such as air or water and capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- **Decibel (dB).** A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. The dBA scale is the most widely used for environmental noise assessments.
- **Maximum Sound Levels (L_{max}).** The maximum sound level measured during the measurement period.
- **Equivalent Sound Level (L_{eq})**. The equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy. The 1-hour A-weighted equivalent sound level (L_{eq} 1h) is the energy average of A-weighted sound levels occurring during a 1-hour period.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10 dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. L_{dn} and CNEL are typically within 1 dBA of each other and, for all intents and purposes, are interchangeable.
- **Vibration Velocity Level (or Vibration Decibel Level, VdB).** The root-mean-square velocity amplitude for measured ground motion expressed in dB.
- **Peak Particle Velocity (PPV).** A measurement of ground vibration, defined as the maximum speed at which a particle in the ground is moving and expressed in inches per second (in/sec).

Overview of Noise and Sound

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the dB scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process referred to as A-weighting. Table 3.4-3 summarizes typical A-weighted, or dBA, sound levels for different noise sources.

Table 3.4-3. Typical A-Weighted Sound Levels

Common Outdoor Activities	Sound Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area, daytime	50	Dishwasher in next room
Quiet urban area, nighttime	40	Theater, large conference room (background)
Quiet suburban area, nighttime		
	30	Library
Quiet rural area, nighttime		Bedroom at night, concert hall (background)
Rustling of leaves	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: California Department of Transportation. 2013a.
dBA = A-weighted decibel.
mph = miles per hour.

Human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, for example, this means that the volume of traffic on a roadway would typically need to double to result in a noticeable increase in noise.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a point source such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (Federal Transit Administration 2006). Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a

greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Community noise environments are generally perceived as *quiet* when the 24-hour average noise level is below 45 dBA, *moderate* in the 45 to 60 dBA range, and *loud* above 60 dBA. Very noisy urban residential areas are usually around 70 CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 CNEL. Increments of 3 to 5 dB to the existing 1-hour L_{eq}, or to CNEL are commonly used as thresholds for an adverse community reaction to a noise increase. However, there is evidence that incremental thresholds in this range may not be sufficiently protective in areas where noise-sensitive uses are located and CNEL is already high (i.e., above 60 dBA). In these areas, limiting noise increases to 3 dB or less is recommended (Federal Transit Administration 2006). Noise intrusions that cause short-term interior levels to rise above 45 dBA at night can disrupt sleep. Exposures to noise levels greater than 85 dBA for 8 hours or longer can cause permanent hearing damage.

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include single- and multi-family residential areas, health care facilities, lodging facilities, and schools. Recreational areas where quiet is an important part of the environment may also be considered sensitive to noise. Some commercial areas, such as the outdoor restaurant seating areas, may be considered noise-sensitive, as well.

Overview of Groundborne Vibration

Operation of heavy construction equipment, particularly pile-driving equipment and other impact devices (e.g., pavement breakers), creates seismic waves that radiate along the surface of and downward into the ground. These surface waves can be felt as ground vibration. Vibration from the operation of this type of equipment can result in effects that range from annoyance for people to damage for structures. Variations in geology and distance result in different vibration levels, including different frequencies and displacements. In all cases, vibration amplitudes decrease with increased distance.

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they cause rock and soil particles to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of vibration amplitude, referred to as PPV.

Vibration amplitude attenuates over distance. This is a complex function of how energy is imparted into the ground and the soil or rock conditions through which the vibration is traveling.

The following equation is used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration 2006). PPV_{ref} is the reference PPV at 25 feet:

$$PPV = PPV_{ref} \times (25/\text{distance})^{1.5}$$

Table 3.4-4 summarizes typical vibration levels generated by construction equipment at the reference distance of 25 feet and other distances, as determined with use of the attenuation equation above.

Table 3.4-4. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet	PPV at 175 Feet
Pile driver (sonic/vibratory)	0.734	0.2595	0.1413	0.0918	0.0396
Hoe ram	0.089	0.0315	0.0171	0.0111	0.0048
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Loaded trucks	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Source: Federal Transit Administration 2006.
PPV = peak particle velocity.

Tables 3.3-5 and 3.3-6 summarize the guidelines developed by the California Department of Transportation (Caltrans) for damage and annoyance potential from the transient and continuous vibration that is usually associated with construction activity. The activities that are typical of continuous vibration include the use of excavation equipment, static compaction equipment, tracked vehicles, vehicles on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. The activities that are typical of single-impact (transient) or low-rate, repeated impact vibration include drop balls, blasting, the use of impact pile drivers, “pogo stick” compactors, and crack-and-seat equipment (California Department of Transportation 2013b).

Table 3.4-5. Vibration Damage Potential Threshold Criteria Guidelines

	Maximum PPV (in/sec)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation. 2013b.
Note: Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
PPV (in/sec) = peak particle velocity in inches per second.

Table 3.4-6. Vibration Annoyance Potential Criteria Guidelines

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation. 2013b.
Note: Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
PPV (in/sec) = peak particle velocity in inches per second.

Groundborne vibration can also be quantified by the root-mean-square (RMS) velocity amplitude, which is useful for assessing human annoyance. The RMS amplitude is expressed in VdB. The background vibration velocity level in residential areas is usually around 50 VdB or less. The vibration velocity level threshold of perception for humans is approximately 65 VdB. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are heavy construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

Table 3.4-7 summarizes the typical groundborne vibration velocity levels and average human response to vibration that may be anticipated when a person is at rest in quiet surroundings. If the person is engaged in any type of physical activity, vibration tolerance increases considerably. The duration of the event has an effect on human response, as does its frequency of occurrence. Generally, as the duration and frequency of occurrence increase, the potential for adverse human response increases.

Table 3.4-7. Typical Levels of Groundborne Vibration

Human or Structural Response	Vibration Velocity Level	Typical Sources (50 feet from source)
Threshold for minor cosmetic damage to fragile buildings	100	Blasting from construction project
		Bulldozer or heavy-tracked construction equipment
Difficulty in reading computer screen	90	
		Upper range of commuter rail
Threshold for residential annoyance for occasional events (e.g., commuter rail)	80	Upper range of rapid transit
Threshold for residential annoyance for frequent events (e.g., rapid transit)		Typical commuter rail Bus or truck over bump
	70	Typical rapid transit
Approximate threshold for human perception of vibration; limit for vibration-sensitive equipment		Typical bus or truck on public road
	60	
		Typical background vibration
	50	

Source: Federal Transit Administration 2006.

Groundborne noise is a secondary component of groundborne vibration. When a building structure vibrates, noise is radiated into the interior of the building. Typically, this is a low-frequency sound that can be perceived as a low rumble. The magnitude of the sound depends on the frequency characteristic of the vibration and the manner in which the room surfaces in the building radiate sound. Groundborne noise is quantified by the A-weighted sound level inside the building. The sound level accompanying vibration is generally 25 to 40 dBA lower than the vibration velocity level in VdB. Groundborne vibration levels of 65 VdB can result in groundborne noise levels of up to 40 dBA, which can disturb sleep. Groundborne vibration levels of 85 VdB can result in groundborne noise levels of up to 60 dBA, which can be an annoyance to daytime noise-sensitive land uses such as schools (Federal Transit Administration 2006).

Existing Noise Levels

Figure 2.1-2 in Chapter 2, *Project Description*, depicts the project site location. Noise-sensitive land uses in the project vicinity consist of neighborhoods of single- and multi-family residences, commercial uses (including a variety of bars and restaurants) , hotel uses (Comfort Suites and Best Western Clovis Cole), a church (Clovis Foursquare Church), a neighborhood playground (Treasure Ingmire Park), and a day care center (Children's Learning Center). The closest sensitive land use is the residence located immediately adjacent to the southeast corner of the project site. More residential land uses are located across the alley, approximately 20 feet from the project site.

The existing ambient noise environment in the project area is characteristic of an urban environment (e.g., highway and local traffic, aircraft overflights, commercial noise sources). Noise from vehicle traffic on Clovis Avenue and 3rd Street is the dominant noise source at the project site.

To quantify existing ambient noise levels in the project area, long-term (24-hour) and short-term (15-minute) ambient noise measurements were conducted. Long-term measurements were conducted on Wednesday, March 1 and Thursday, March 2, 2017, and short-term measurements were conducted on March 1. Measurements were conducted at locations adjacent to the project site. Short- and long-term measurement locations were selected to capture noise levels in areas that are sensitive to noise or that are representative of ambient levels in the vicinity throughout the day.

The locations of the noise measurement sites are shown in Figure 3.3-1. Tables 3.3-8 and 3.3-9 summarize the results of the noise measurement survey.

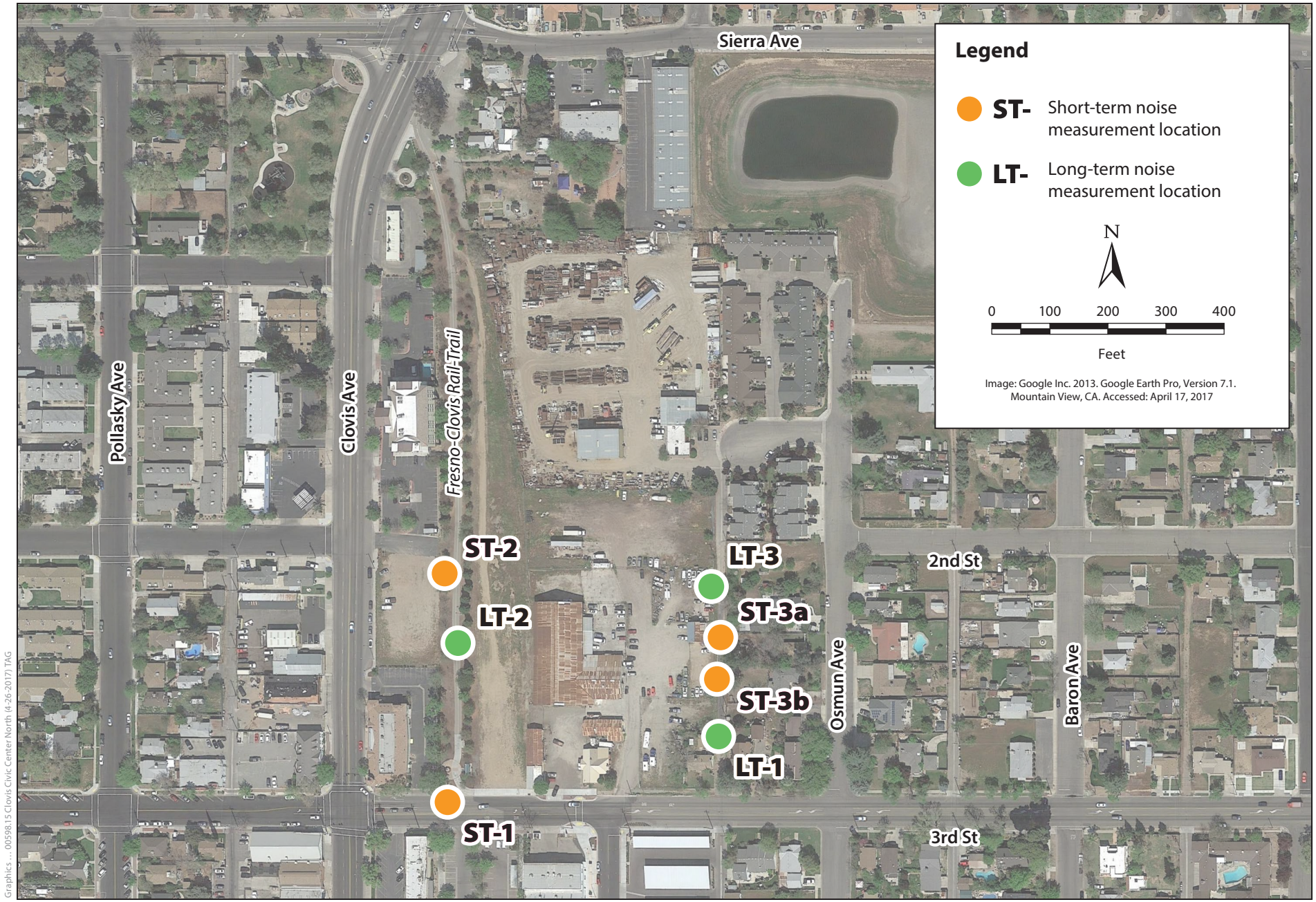
Table 3.4-8. Long-Term Noise Levels Measurements in and around the Project Site

Site	Site Description	Date and Time	Primary Noise Sources	Measured L_{dn} Weds.–Thurs. 03/1/17–03/2/17
LT-1	South side of alley abutting the east side of the project site, adjacent to residences	Start: 03/01/2017 10:55 a.m. End: 03/02/2017 10:55 a.m.	Traffic noise from 3rd Street, dog barking, birds chirping, and landscaping equipment operating intermittently in vicinity.	60.6
LT-2	On the Clovis Old Town Trail, abutting the west side of the project site. Approximately 300 feet north of 3rd Street.	Start: 03/01/2017 10:43 a.m. End: 03/02/2017 10:43 a.m.	Vehicles on Clovis Avenue, foot and bike traffic on Clovis Old Town Trail, and landscaping equipment operating intermittently in vicinity.	62.9
LT-3	North side of alley abutting the east side of the project site, adjacent to residences. Approximately 175 feet south of cul-de-sac at Osmun Circle.	Start: 03/01/2017 10:52 a.m. End: 03/02/2017 2:52 a.m.	Vehicles on Osmun Circle, or vehicles entering multi-family driveways in alley, birds chirping, dogs barking, and landscaping equipment operating intermittently in vicinity.	58.5

L_{dn} = day-night sound level.

Table 3.4-9. Short-Term Noise Levels Measurements near the Project Site

Site	Site Description	Date and Time	Primary Noise Sources	Measured Noise Level (dBA)		
				L_{eq}	L_{max}	L_{min}
ST-1	Near southwest corner of proposed project site along Clovis Old Town Trail, approximately 50 feet north of 3rd Street.	03/01/2017 at 2:01 p.m.	Traffic along 3rd Street, distant helicopter overflight, and pedestrian and bike activity on trail.	59.8	77.5	45.1



Graphics ... 00598.15 Clovis Civic Center North (4-26-2017) TAG

Figure 3.4-1
Noise Measurement Locations

Site	Site Description	Date and Time	Primary Noise Sources	Measured Noise Level (dBA)		
				L_{eq}	L_{max}	L_{min}
ST-2	Adjacent to the west side of proposed project site along Clovis Old Town Trail, approximately 450 feet north of 3rd Street and 140 feet east of Clovis Avenue.	03/01/2017 at 2:22 p.m.	Traffic along 3rd Street and Clovis Avenue, intermittent drilling at auto repair shop across the street, distant plane overflight, and pedestrian and bike activity on trail.	60.8	72.5	42.1
ST-3a	Venter side of alley abutting the east side of the project site. Approximately 270 feet north of 3rd Street.	03/01/2017 at 1:35 p.m.	Birds chirping quietly throughout measurement, distant and intermittent leaf blower noise.	48.7	58.5	42.2
ST-3b	Venter side of alley abutting the east side of the project site. Approximately 340 feet north of 3rd Street.	03/01/2017 at 1:15 p.m.	Birds chirping quietly throughout measurement.	48.9	57.8	39.9

Notes:
Short-term ambient noise measurements were taken for about 15 minutes.
dBA = A-weighted decibel.
L_{eq} = equivalent sound level.
L_{max} = maximum sound level.
L_{min} = minimum sound level.

As shown in Table 3.4-9, existing noise levels along the eastern side of the project site (measured in the alley east of the site at ST-3a and ST-3b) were measured to be just under 50 dBA L_{eq}. One of the long-term noise measurements east of the site, which was taken north of these short-term measurement locations and closer to active driveways (LT-3), had a 24-hour noise level of 58.5 L_{dn}. LT-1, located at the south side of the same alley (east of the site) had a measured 24-hour noise level of 60.6 L_{dn}. This measurement was likely primarily influenced by traffic noise along 3rd Street, but other noise sources (e.g., barking dogs in adjacent yards, vehicle or pedestrian traffic in alley, landscaping equipment operating on the proposed project site) may have contributed to the measured noise level. Note that L_{dn} noise levels include a 10 dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m., which means L_{dn} Noise levels are often higher than a short-term L_{eq} noise level in a given location.

Noise levels on the west side of the project site, along the Clovis Old Town Trail (ST-1 and ST-2) were approximately 60 to 61 dBA L_{eq}. The long-term measurement location in this area (LT-2) had a 24-hour noise level of 62.9 L_{dn}. Noise sources observed at this location included vehicle traffic along Clovis Avenue and 3rd Street, aircraft overflights, and landscaping equipment at or around the project site.

Although some aircraft overflights were periodically audible at sites ST-1 and ST-2, these few occurrences did not noticeably alter the L_{eq} noise level, as the noise environment at these sites was influenced primarily by vehicle traffic on Clovis Avenue and 3rd Street.

3.4.2 Environmental Impacts

This section describes the impact analysis related to noise for the project. It describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, as needed.

Methods for Analysis

This noise impact analysis evaluates the temporary noise increase associated with project construction activities, operational noise generated by sound-generating equipment and onsite activities, traffic noise associated with project-related changes in traffic patterns, and the exposure of the project site to traffic and other noise sources.

Noise impacts associated with onsite demolition and construction activities were evaluated using the noise calculation method and construction equipment noise data in the Federal Highway Administration (FHWA) roadway construction noise model. The noise data include the A-weighted L_{max}, measured at a distance of 50 feet from the construction equipment, and the utilization factors for the equipment. The utilization factor, which is the percentage of time each piece of construction equipment is typically operated at full power over the specified time period, is used to estimate L_{eq} values from L_{max} values. For example, the L_{eq} value for a piece of equipment that operates at full power over 50 percent of the time is 3 dB less than the L_{max} value (Federal Highway Administration 2006).

Direct and cumulative noise impacts associated with increased traffic volumes generated by the project were evaluated for the following scenarios.

- Existing conditions.
- Existing conditions plus project condition (existing plus year 2020 project trips).
- Forecast general plan year 2040 without project condition (cumulative no project).
- Forecast general plan year 2040 with project condition (cumulative with project).

Modeling was conducted with use of a spreadsheet that was based on the FHWA Traffic Noise Model, Version 2.5. This spreadsheet calculates the traffic noise level at a fixed distance from the centerline of a roadway according to the traffic volume, roadway speed, and vehicle mix that is predicted under each condition. Average daily traffic volumes shown in Section 3.4, *Transportation/Traffic* were utilized to determine the traffic noise impact along the major roadway segments in the project vicinity. A reasonable default vehicle mix (i.e., the proportion of automobiles, trucks, buses, and other vehicles) was used for existing, future and project-related traffic. Traffic noise was evaluated in terms of how project-related traffic noise increases could affect existing noise-sensitive land uses as well as proposed onsite sensitive land uses along the major project traffic access roadways.

The evaluation of operational noise impacts associated with proposed onsite activities and stationary sources was based on the proposed site plan layout and the types of noise-generating equipment and noise-generating activities provided by the City.

Noise from point sources (e.g., construction equipment and stationary operational equipment) was estimated using point-source attenuation of 6 dB per doubling of distance. Noise generated by line

sources (e.g., vehicles traveling on streets) was estimated using line-source attenuation of 3 dB per doubling of distance from the noise source.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels.
- Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

Impacts and Mitigation Measures

Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards (Less than Significant with Mitigation)

Construction Noise

Site Plan 1

Construction of the project would generate noise and would temporarily increase noise levels at adjacent residential and commercial uses. The significance of noise impacts during construction depends on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. The construction of the proposed buildings and parking lot would temporarily increase noise at adjacent uses.

Table 3.4-10 lists equipment that is expected to be used for project construction, L_{max} sound levels at 50 and 100 feet, and the typical acoustical use factors.

Table 3.4-10. Typical Construction Equipment Noise Levels

Equipment	L_{max} at 50 feet (dBA)[a]	L_{max} at 100 feet (dBA)[b]	Acoustical Usage/Utilization Factor (percent usage)
Air compressor	78	72	40
Backhoe	78	72	40
Crane	81	75	16
Compactor	83	77	20
Concrete mixer truck	79	73	40
Concrete pump truck	81	75	20
Forklift[c]	84	78	40
Dozer	82	76	40
Excavator	81	75	40
Front-end loader	79	73	40
Generator set	81	75	50
Grader	85	79	40
Man lift	75	69	20
Paver	77	71	50
Roller	80	74	20
Scraper	84	78	40
Tractor	84	78	40
Water truck	76	70	40
Welders	74	68	40
Dump truck/haul truck[d]	76	70	40

[a] These values represent the loudest noise levels generated by each equipment type at a distance of 50 feet.
[b] These values were calculated by subtracting 6 dBA from each L_{max} value at 50 feet, based on geometric attenuation for a point source.
[c] Represented by Tractor from FHWA *User's Guide*.
[d] Represented by Dump Truck from FHWA *User's Guide*.
dBA = A-weighted decibel.
L_{max} = maximum sound level

To provide a conservative construction analysis, modeling for construction noise assumes that the two loudest pieces of construction equipment (a scraper and a grader, both likely to be used during the grading phase of project construction) would be operating simultaneously and close to one another on the project site. The combined noise level (both L_{max} and L_{eq}) from the operation of this construction equipment was calculated. L_{eq} values were calculated from L_{max} values using estimated utilization factors. Tables 3.3-11 presents anticipated average (L_{eq}) construction noise at various distances from the project site.

Table 3.4-11. Project Demolition and Construction Noise Levels (L_{EQ}) at Various Distances

Source Data			Utilization Factor	L_{eq} Sound Level (dBA)
Source 1: Grader - Sound level (dBA) at 50 feet = 85			0.4	81.0
Source 2: Scraper - Sound level (dBA) at 50 feet = 84			0.4	80.0
Calculated Data:				
All Sources Combined - L_{max} sound level (dBA) at 50 feet =			88.0	
All Sources Combined - L_{eq} sound level (dBA) at 50 feet =			84.0	
Distance Between Source and Receiver (feet)	**Geometric Attenuation (dB)[a]**	**Ground Effect or Shielding Attenuation (dB)[b]**	**Calculated L_{max} Sound Level (dBA)**	**Calculated L_{eq} Sound Level (dBA)**
50	0	0	88	84
100	-6	0	82	78
200	-12	0	75	72
250	-14	0	74	70
300	-16	0	72	68
400	-18	0	69	65
500	-20	0	68	64
600	-22	0	66	62
650	-22	0	65	61
700	-23	0	65	61
800	-24	0	63	59
900	-25	0	62	58
1000	-26	0	62	58
1200	-28	0	60	56
1400	-29	0	59	55
1600	-30	0	57	53
1800	-31	0	56	52
2000	-32	0	55	52

Note: Based on noise levels from: Federal Highway Administration (2006) *Roadway Construction Noise Model User's Guide*.

[a] Geometric attenuation based on 6 dB per doubling of distance.

[b] This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further, or from ground attenuation.

dB = decibel.
dBA = A-weighted decibel.
L_{eq} = equivalent sound level.
L_{max} = maximum sound level.

The closest land uses to the project site are the residences located to the east of the project site, including a single residence that is located immediately adjacent to the southeast corner of the project site (821 3rd Street). Other residences are located east of the alley the runs parallel to the eastern project boundary, approximately 20 feet from the property line.

Worst-case construction noise (based on the assumptions for two pieces of equipment operating close to one another) at a distance of 20 feet could be up to 92 dBA L_{eq} (based on the noise

attenuation equation that assumes 6 dBA reduction in noise per doubling of distance). However, construction equipment would operate much farther away from these sensitive receptors for a great deal of the construction period, and would operate near these residences only briefly.

According to the City Noise Ordinance (Municipal Code Section 5.27.604, Construction activities), construction activities are permitted only between 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturday and Sunday. During these period, there are no numerical noise standards with which construction activities must comply. For the proposed project, construction would occur 12 hours per day (7:00 a.m. to 7:00 p.m.), Monday through Friday. There would be no construction on weekends or holidays. Because project construction would occur within the allowable hours, the project would comply with the construction regulations outlined in the City Noise Ordinance, and potential construction noise impacts would be **less than significant.**

Site Plan 2

Construction noise impacts under Site Plan 2 would be the same as those described under Site Plan 1. Construction activities for Site Plan 2 would not be any closer to offsite sensitive land uses than activities for Site Plan 1, and no additional or louder construction equipment would be required. Project construction activities for Site Plan 2 would comply with the construction regulations outlined in the City Noise Ordinance, and construction noise impacts would be **less than significant.**

HVAC Equipment and Emergency Generators

Site Plan 1

The proposed project would require the use of heating, ventilation, and air-conditioning (HVAC) units to heat and cool the buildings associated with the project. Although the exact size and locations of the project HVAC units are not known at this time, it is reasonable to assume that standard package units would be installed either on the ground adjacent to or on the roof of proposed project buildings. Under a reasonable worst-case assumption, a unit could be located on the ground adjacent to the transit building, near the southeast corner of the proposed project site. This location is near the residence located immediately southeast of the project site. An HVAC system at this location could be as close as approximately 25 feet from the adjacent residential parcel and its associated backyard.

The City's Noise Ordinance prohibits the generation of exterior noise levels at residential land uses of 55 dBA L_{EQ} (15-minute L_{eq}) during the daytime and 50 dBA L_{eq} (15-minute L_{eq}) during the nighttime.

Depending on the type of equipment used, HVAC equipment for the proposed project could generate a noise level of approximately 66 dBA L_{eq} at a distance of 50 feet (U.S. Environmental Protection Agency 1971). Based on attenuation from distance alone, HVAC equipment installed 25 feet away from an existing offsite residence could generate noise levels of up to approximately 72 dBA L_{eq} at a the nearest residence (or 6 dB higher than the noise level generated at 50 feet). This noise level is in excess of both the daytime and evening noise limits. Therefore, depending on the location of future project HVAC equipment, the noise generated by the proposed HVAC system could exceed the allowable noise levels at nearby land uses. Impacts from project HVAC noise would be potentially significant. Implementation of Mitigation Measure NOI-1a would reduce impacts from HVAC to a less-than-significant level. This impact would be **less than significant with mitigation.**

In addition to HVAC equipment, is it possible that emergency generators would be installed as part of the project. Although it is not certain at this time if generators would be installed (and, if so,

where on the project site they would be installed), this analysis conservatively assumes that they would be included in the project. Emergency generators do not need to comply with local noise standards when being used in an emergency. However, emergency generators also create temporary and periodic noise during testing. According to the City, if generators are included in the project, they would either be tested monthly or quarterly. Sound levels from generators vary, depending on the type of generator and the noise attenuation that has been incorporated into the design and placement.

Given the temporary and periodic nature of emergency generator testing, generators would not permanently increase ambient noise levels. However, the generators would need to comply with the exterior noise standard from the City General Plan and City Noise Ordinance of 55 dBA L_{eq} (15-minute L_{eq}) during the daytime and 50 dBA L_{eq} (15-minute L_{eq}) during the nighttime.

Without accounting for noise attenuation, a single emergency generator (assuming the generators are not tested concurrently) may generate a sound level of up to 81 dBA at a distance of 50 feet (see Table 3.4-10). If generators were located near the existing offsite residential uses, they could be as close as 25 feet away from offsite sensitive receptors. At this distance, noise levels from generator testing could be up to 6 dB higher, or approximately 87 dBA L_{eq}. Because the testing of emergency generators may result in noise levels at residential outdoor areas near the project site in excess of allowable levels, this impact would be potentially significant. Implementation of Mitigation Measure NOI-1a would reduce impacts from emergency generators to a less-than-significant level. This impact would be **less than significant with mitigation.**

Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment. The project sponsor shall provide acoustical treatments for stationary equipment (including HVAC equipment and emergency generators) that reduces noise levels to below the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime City Noise Ordinance exterior thresholds at adjacent land uses, as determined by a qualified acoustical consultant. The acoustical treatments must be selected by a qualified acoustical consultant to ensure that noise levels are below the 55 dBA daytime and 50 dBA nighttime thresholds, in accordance with the noise limitations for residential properties specified in the City Noise Ordinance. Treatments may include the following provisions.

- Installation of stationary equipment as far as possible from offsite noise-sensitive land uses to reduce noise levels at adjacent parcels.
- Construction of enclosures around noise-generating mechanical equipment.
- Placement of barriers around the equipment.
- Installation of relatively quiet models of mechanical equipment.
- Use of muffler or silencers on equipment exhaust fans.
- Orientation or shielding of equipment to protect sensitive uses to the greatest extent feasible.
- Limiting the testing of emergency generators to daytime hours (7:00 a.m. to 10:00 p.m.).
- Limiting the testing of emergency generators such that only one generator is tested at a given time to limit the effects of additive noise from the equipment.

Site Plan 2

Potential noise impacts from HVAC equipment and emergency generators under Site Plan 2 would be the same as those described under Site Plan 1. Depending on the location of future mechanical equipment (including HVAC and emergency generators), the equipment could generate noise in excess of allowable levels at residential outdoor areas near the project site. Consequently, and as with Site Plan 1, this impact would be potentially significant for Site Plan 2. Implementation of Mitigation Measure NOI-1a would reduce impacts from emergency generators to a less-than-significant level for Site Plan 2. This impact would be **less than significant with mitigation.**

Bus Pass-by Noise from Transit Center

Site Plan 1

The proposed project includes the construction of a transit center near the southeast corner of the project site. It is estimated that six to eight fixed-route buses per hour would stop at the center, in addition to Roundup dial-a-ride type buses that will stop to provide passengers with access to the restroom or meet with staff on and off throughout the day. It is currently anticipated that the transit center would be operational from 6:00 a.m. to 7:30 p.m. on weekdays and from 7:00 a.m. to 5:00 p.m. on weekends.

The transit center's primary loading zone would be on the western side of the transit building, with an additional loading zone located on the eastern side of the building to be used rarely. This secondary loading zone would be used for training sessions to help individuals who have limited experience taking buses; this loading zone would be used one to two times per month, for a limited time (likely less than 1 to 2 hours at a time).

The offsite noise-sensitive land use nearest the primary bus loading zone is the residence located adjacent to the southwest corner of the project site. This residential property is located as close as 60 feet away from the bus route for buses accessing this loading zone from the 3rd Street entrance to the site.

Note that, although it is possible that the bus fleet will include some electric buses pursuant to the state's 2015 Clean Energy and Pollution Reduction Act, it cannot be assumed at this time that the buses accessing the transit center would be electric. Therefore, it is assumed for the purposes of this analysis that all buses would have standard diesel engines.

Using the Federal Transit Administration Noise Impact Assessment Spreadsheet for transportation noise sources to model bus pass-by noise, an average of 8 diesel buses per hour traveling 10 miles per hour while accessing the loading zone located on the western site of the transit building could generate noise of approximately 44 dBA L_{eq} at a distance of 60 feet (or the approximate distance to the nearest sensitive receptor). This noise level is below both the daytime (55 dBA L_{eq}) and nighttime (50 dBA L_{eq}) exterior noise standards in the City Noise Ordinance. Therefore, noise from buses accessing the loading zone on the western site of the transit building would result in a less-than-significant impact.

The loading zone located on the eastern side of the transit building would be used to conduct training to teach individuals who are less familiar with buses how various bus features work. Training sessions are anticipated for teaching the use of ramps and bus features for disabled patrons. Although buses used for training in this alley may be located closer to the offsite residences than the buses utilizing the western loading zone, there would only be 1 to 2 days per month that

this alley would be used for training. Further, on a given training day, only one to two buses would travel down the alley, resulting in limited bus pass-by noise in this area. Therefore, although bus pass-by noise from these intermittent trainings may result in audible noise at adjacent residential properties, the once- or twice-per-month nature of these activities would result in less-than-significant impacts related to bus pass-by noise in this area. Therefore, noise from bus pass-by activity on both sides of the transit center would result in a **less-than-significant** impact.

Site Plan 2

Under Site Plan 2, the bus route would bring buses closer to existing residential land uses. Buses would enter the project site from 3rd street and turn north, then turn right to access the loading zone located north of the transit center. When buses leave this loading zone, they would travel eastward toward the alley, then turn northward in the alley, and then loop westward back onto the project site.

The bus route associated with Site Plan 2 would bring buses within 5 to 10 feet of residential backyards. For Site Plan 2, modeling was conducted using the FHWA Traffic Noise Model Version 2.5 to determine the specific noise levels at residential receptors located along the alley, and at the house located adjacent to the southeast corner of the project site. Table 3.4-12 summarizes modeling noise levels at residential receivers located adjacent to the project site.

Table 3.4-12. Bus Noise Modeling Results

Receiver	Address	Bus Noise without Wall (dBA)	Bus Noise with Wall (dBA)
1	210 Osmun Avenue	45.3	39.7
2	224 Osmun Avenue	**51.7**	44.4
3	232 Osmun Avenue	**55.2**	47.1
4	264 Osmun Avenue	**50.8**	43.6
5	831 Third Street	44.6	39
6	821 Third Street	46.1	46.1

dBA = A-weighted decibels.

The residential backyard located at 232 Osmun Avenue is closest to the bus route in which the buses would exit the project site and turn left to loop back into the project site. The modeled noise level from bus pass-bys is 55.2 dBA L_{eq}, based on the assumption of 8 buses per hour traveling 10 miles per hour on the proposed bus route. The noise level at the residential backyard to the north of this yard (224 Osmun Avenue) would be approximately 51.7 dBA L_{eq}, and the noise level at the residential backyard to the south (264 Osmun Avenue) would be approximately 50.8 dBA L_{eq}.

The predicted noise level at Receiver 3 is in excess of both the daytime (55 dBA L_{EQ}) and nighttime (50 dBA L_{EQ}) exterior noise standards in the City Noise Ordinance. The noise level at the two adjacent yards (Receivers 2 and 4) would be in excess of the nighttime exterior noise standard, which would apply during the first hour of the transit center operation, 6:00 a.m. to 7:00 a.m., each day. The residential yards farther from the bus route (Receivers 1, 5 and 6) were modeled to have noise levels below 50 dBA LEQ, or below the applicable threshold. Because three residential backyards were modeled to have noise levels in excess of applicable thresholds, bus pass-by noise impacts under Site Plan 2 would be potentially significant.

Implementation of Mitigation Measure NOI-1b, which would require construction of a sound wall, would reduce noise from bus pass-by activity such that both the daytime and nighttime exterior noise standards would not be exceeded. Noise at the Receiver 3 residential yard that was modeled to have a noise level of approximately 55 dBA L_{eq} before mitigation would have a noise level of approximately 47 dBA L_{eq} with the presence of an intervening 6-foot sound wall. The other two residential yards (Receivers 2 and 4, with unmitigated sound levels of approximately 52 and 51 dBA L_{eq}) would have mitigated noise levels of approximately 44 dBA L_{eq} with the presence of a 6-foot sound wall. Note that the wall would need to extend beyond the locations of Receivers 2 and 4 to be effective at those locations. Accordingly, the wall identified would extend north and south to the property boundaries of Receivers 1 and 5. Because noise levels would be reduced to below the applicable thresholds with construction of an approximately 6-foot sound wall, this impact would be **less than significant with mitigation.**

> **Mitigation Measure NOI-1b: Construct a Sound Wall along Eastern Side of the Alley**. Prior to beginning operations of the transit center and any activity that would result in bus pass-by activity, the project sponsor shall construct a solid sound wall of at least 6 feet in height along the eastern side of the alley, beginning at the intersection of the alley with 3rd Street and extending northward to the northern terminus of the backyard for 212 Osmun Street (just south of the multi-family residential complex south of Osmun Circle). The sound wall shall be constructed with a solid sound-attenuating material that has a surface density of at least 4 lbs per square foot, such as concrete blocks, and shall have no gaps or holes.

Bus Idling Noise

Site Plan 1

Buses idling at the primary loading zone, located along the western perimeter of the transit center, would generate noise. Although there is expected to be an average of six to eight buses per hour accessing this transit center, it can be conservatively assumed that no more than two buses would idle at the bus loading zone at a given time. Two buses idling concurrently at the loading zone could result in noise levels of approximately 53 dBA L_{eq} at a distance of 60 feet (the approximate distance to the nearest residential receptor), without accounting for any attenuation that may be achieved through shielding from buildings. This noise level is below the daytime (7 a.m. to 10 p.m.) allowable noise level of 55 dBA L_{eq}, but is above the 50 dBA L_{eq} threshold for nighttime (10 p.m. to 7 a.m.) noise.

The proposed hours of operation for the transit center (from 6:00 a.m. to 7:30 p.m. on weekdays and from 7:00 a.m. to 5:00 p.m. on weekends) include 1 hour of operation for the transit center during "nighttime" hours. Without accounting for potential shielding, modeled noise levels during this hour would potentially be in excess of the applicable nighttime threshold.

However, it is important to note that the loading zone where buses would idle would be largely shielded from the closest residential use by the transit building structure. This type of shielding would essentially block the line of sight between the idling buses and the backyard associated with the closest residence. This type of shielding is expected to reduce noise levels by at least 3 dB. Therefore, noise at the nearby residential receptor would be reduced to 50 dBA L_{eq} or less, and would not exceed either the daytime or nighttime noise standards. Noise from bus idling at the western loading zone would be a less-than-significant impact.

At the loading zone located on the eastern side of the transit building, used to conduct intermittent bus training, buses may idle for limited periods (no more than approximately 5 minutes at a time) in the alley area near offsite residential property lines. However, training would occur on only 1 to 2 days per month, and only during daytime hours. Further, each training would occur over a period of 1 to 2 hours on a given training day. Thus, although idling noise from these intermittent training sessions may result in audible noise at adjacent residential properties, the noise would be very short-term and infrequent. The intermittent nature (1 to 2 times per month) and short duration (approximately 1 hour on a given training day) of these activities would result in less-than-significant noise impacts from bus idling associated with infrequent training. Overall, noise from bus idling would result in a **less-than-significant** impact.

Site Plan 2

Site Plan 2 includes east-west running loading zones north of the transit building. Because there would be no intervening buildings, which there would be under Site Plan 1, loading zones under Site Plan 2 would have a direct line of sight to the residential receptors. As with Site Plan 1, these loading zones are located approximately 60 feet from the nearest receptor. Consequently, without accounting for the decibel reduction from shielding provided by buildings under Site Plan 1, the hourly average noise level from idling buses at the nearest offsite receptor would be approximately 53 dBA L_{eq}. This noise level is below the daytime (7 a.m. to 10 p.m.) allowable noise level of 55 dBA LEQ, but is above the 50 dBA L_{eq} threshold for nighttime (10 p.m. to 7 a.m.) noise.

The proposed hours of operation for the transit center (from 6:00 a.m. to 7:30 p.m. on weekdays and from 7:00 a.m. to 5:00 p.m. on weekends) include 1 hour of operation for the transit center during nighttime hours. Noise levels during this hour would be in excess of the applicable nighttime threshold. Therefore, this impact would be potentially significant.

Construction of a sound wall under Mitigation Measure NOI-1b, described previously and required to reduce bus pass-by noise, would reduce noise from bus idling activity by at least 5 to 7 dB; with the presence of this intervening wall, nighttime exterior noise standards would not be exceeded during the single nighttime (6:00 a.m. to 7:00 a.m.) hour of operation. Because noise would be reduced to a level below the applicable thresholds with construction of an approximately 6-foot sound wall, this impact would be **less than significant with mitigation.**

Parking Lot Noise

Site Plan 1

The proposed project includes a large parking lot that would be able to accommodate 270 vehicles. Only on rare occasions, during larger events at the facility, would all parking spaces be full. During other times, it is expected that there would be approximately 50 vehicles per hour accessing the library and up to 75 vehicles per hour (during the lunch hour) accessing the senior center, resulting in a total volume of 125 vehicles per hour for a normal day.

Using the Federal Transit Administrations Noise Impact Assessment Spreadsheet for transit noise sources, parking lot noise from 125 vehicles accessing the site during a given hour could result in average hourly noise levels of about 47 dBA L_{eq} at nearby residential land uses to the east of the project site (conservatively assumed to be 120 feet on average from the nearest residence). During the rare occasion when the parking lot is full and has closer to 270 vehicles using the parking lot, noise levels could be up to about 50 dBA L_{eq} at nearby residential land uses. Both of these noise

levels are below the daytime (7:00 a.m. to 10:00 p.m.) allowable noise level of 55 dBA L_{eq}. Although the maximum noise level modeled (50 dBA L_{eq}) would be approximately equal to the nighttime noise limit, the noise limit is not exceeded in this reasonably conservative analysis, and nighttime events (ending after 10:00 p.m.) would be rare. Because project parking lot noise levels at nearby residential land uses would not exceed the allowable levels defined in the City Noise Ordinance, impacts related to parking lot noise would be **less than significant.**

Site Plan 2

Noise generated from parking lot activity under Site Plan 2 would be similar to the noise described under Site Plan 1. The amount of parking spaces and the location of parking areas would be similar with implementation of either site plan. Because modeled noise levels from parking lot activity would not exceed the allowable levels defined in the City Noise Ordinance at nearby residential land uses, impacts related to parking lot noise would be **less than significant** for Site Plan 2*.*

Noise from Onsite Outdoor Use Areas to Offsite Land Uses

Site Plan 1

Noise would be generated by individuals gathering for periodic events in the outdoor public plaza between the library and senior center. Events could occur once or twice per week, on average. The hall associated with the proposed project may be rented for special events, and these special events could have some outdoor components in the plaza. During hall rentals and special events, there may be either live or recorded music played inside or outside the building. These events could occur as early as 7:00 am and as late as midnight for weekend special events, and as late as 10:00 pm for weekday special events. Special events could include but are not limited to a car show, rummage sale, and a 5K running event.

The offsite noise-sensitive land uses closest to the plaza area are the residences located to the east of the alley, bordering the eastern edge of the project site. These residential property lines are located as close as 275 feet from the plaza area.

A live rock band can generate a noise level of about 100 dBA L_{eq} at a distance of 50 feet (Charles M. Salter Associates 2008). Based on this source data, the hourly noise level would 85 dBA L_{eq} at a distance of 275 feet (nearest residential land uses). This noise level would be in excess of both the daytime (55 dBA L_{EQ}) and nighttime (50 dBA L_{EQ}) exterior noise standards in the City Noise Ordinance. Therefore, it is possible that noise generated at events in the plaza could exceed thresholds at nearby noise-sensitive land uses. This impact would be potentially significant. By restricting sound levels, implementation of Mitigation Measure NOI-1c would reduce impacts resulting from special events at the plaza to a less-than-significant level. This impact would be **less than significant with mitigation.**

> **Mitigation Measure NOI-1c: Noise Reduction Measures for Special Events**. The project sponsor shall require noise from onsite events and gatherings to be limited to the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime exterior thresholds at adjacent land uses.
>
> To ensure these noise standards are not exceeded at adjacent residences located approximately 275 feet away, event noise shall be limited to 65 dBA L_{eq} at a distance of 50 feet during nighttime hours (10:00 p.m. to 7:00 a.m.) and 70 dBA L_{eq} at a distance of 50 feet during daytime hours. The project proponent shall monitor event noise to ensure that the level is not exceeded and shall

require reductions in noise to achieve that standard. When an onsite event or gathering is similar in nature to a previously monitored event, additional monitoring will not be required as long as the event or gathering employs all reductions required of the previously monitored event. This mitigation measure will likely require limiting or prohibiting events with loud amplified sound, such as events including a rock band.

Site Plan 2

Site Plan 2 includes the development of the outdoor plaza near the southwestern corner of the project site. As described under the analysis for Site Plan 1, there is a potential for amplified music during events. A live rock band can generate a noise level of about 85 dBA LEQ at a distance of 275 feet (the distances to the nearest residential land uses with Site Plan 1). Under Site Plan 2, the distance between the plaza and those same residences would increase. However, the plaza location under Site Plan 2 is closer to residential land uses along 3rd Street east of the intersection of 3rd Street and Pollasky Avenue. Residences in this area would be as close as 330 feet from the proposed plaza location under Site Plan 2. At this distance, noise would be approximately 1.5 dB quieter than the noise level at 275 feet (83.5 dBA L_{eq} instead of 85 dBA L_{eq}). This noise level would be in excess of both the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime exterior noise standards in the City Noise Ordinance. Therefore, with implementation of Site Plan 2, noise from public gatherings or events at the plaza would result in potentially significant noise impacts. Implementation of Mitigation Measure M-NOI-1b would reduce impacts from special events at the plaza to a less-than-significant level for Site Plan 2. This impact would be **less than significant with mitigation** for Site Plan 2.

Traffic Noise

Site Plan 1

The project would lead to an increase in traffic in the vicinity of the project site, as detailed in Section 3.4, *Transportation and Traffic*. The City bases traffic noise analyses on the General Plan land use compatibility guidelines to assess potential impacts. According to the General Plan Environmental Safety (which includes text pertaining to noise) Element, a noise level of up to 55 CNEL is considered “Clearly Compatible” for residential land uses.

A project that would result in traffic noise that exceeds an applicable noise standard and result in an increase of at least 3 dB would have a significant impact (note that a change in sound levels of 3 dB considered to be the threshold of human perception for changes in noise levels). Table 3.4-13 provides the traffic modeling results for the existing and existing plus project conditions.

Table 3.4-13. Project Traffic Noise Impacts along Nearby Roadway Segments (50 feet) under Existing and Existing plus Project Conditions

Roadway	Segment	Distance (feet)	Existing CNEL	Existing + Project CNEL	Delta (dB)	Project causes noise levels to exceed 55?	Significant (>3 dB) increase in noise?
Clovis Avenue	North of Sierra	50	68	68	0	No	No
Clovis Avenue	Sierra to Second	50	66	66	0	No	No
Clovis Avenue	Second to Third	50	66	66	0	No	No
Clovis Avenue	Third to Fourth	50	65	65	0	No	No
Clovis Avenue	Fourth to Fifth	50	65	65	0	No	No
Clovis Avenue	South of Fifth	50	65	65	0	No	No
Sierra Avenue	West of Clovis	50	64	64	0	No	No
Sierra Avenue	East of Clovis	50	56	56	0	No	No
Second Street	West of Clovis	50	50	51	0	No	No
Third Street	West of Clovis	50	56	56	0	No	No
Third Street	Clovis to Veterans	50	63	64	1	No	No
Third Street	East of Veterans	50	62	63	0	No	No
Fourth Street	West of Clovis	50	53	53	0	No	No
Fourth Street	East of Clovis	50	50	50	0	No	No
Fifth Street	West of Clovis	50	60	60	0	No	No
Fifth Street	Clovis to Veterans	50	60	60	0	No	No
Fifth Street	East of Veterans	50	60	60	0	No	No
Veterans Way	Third to Fourth	50	53	54	2	No	No
Veterans Way	Fourth to Fifth	50	53	54	1	No	No

CNEL = community noise equivalent level.
dB = decibel.

As shown in Table 3.4-13, traffic noise levels under existing plus project conditions are not predicted to result in the exceedance of the 55 CNEL Clearly Compatible noise level or result in a 3 dB increase along any modeled roadways segment in the project vicinity. Therefore, project traffic noise impacts would be **less than significant**.

Site Plan 2

Impacts under Site Plan 2 would be the same as those described under Site Plan 1 because the expected project-related vehicle trips would be the same with implementation of either site plan. Traffic noise impacts with implementation of Site Plan 2 would be **less than significant.**

Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (Less than Significant)

Site Plan 1

Project construction would involve the use of equipment that may generate perceptible vibration levels at nearby residences. No impact equipment (e.g., pile drivers, hoe rams) would be necessary for project construction. The piece of equipment proposed for use that has the potential to generate the greatest vibration levels is a bulldozer. A bulldozer typically creates a vibration level of approximately 0.089 in/sec PPV at 25 feet (Federal Transit Administration 2006), which is the approximate closest distance between the necessary operation of vibration-generating equipment for project construction and existing sensitive receptors. This vibration level would be considered greater than "distinctly perceptible" Caltrans vibration criterion of 0.04 in/sec PPV, shown in Table 3.4-6, but less than "strongly perceptible" vibration criterion of 0.10 in/sec PPV. The damage criterion level for older residences is 0.3 PPV for continuous/frequent intermittent sources, as shown in Table 3.4-5; therefore, this vibration level (0.089 in/sec PPV) is below the applicable damage criteria.

Although vibration may be perceptible at nearby land uses, according to the Municipal Code for the City of Clovis, (Section 9.22.100, Vibrations), vibration from temporary construction or demolition and vehicles associated with construction (that leave the subject parcel, such as trucks) is exempt. Further, the proposed project does not include any uses that would result in the generation of perceptible operational vibration. Because the project does not include operational sources of vibration, and because temporary construction vibration is considered exempt under the City Municipal Code, the project would not expose persons to excessive groundborne vibration. This impact would be **less than significant.**

Site Plan 2

Impacts under Site Plan 2 would be the same as those described under Site Plan 1. Implementation of Site Plan 2 would not expose persons to excessive groundborne vibration. This impact would be **less than significant.**

Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity (Less than Significant with Mitigation)

Site Plan 1

As discussed under Impact NOI-1, some components of project implementation could result in the generation of noise (e.g. bus pass-by noise, bus idling noise, special event noise, and mechanical equipment noise). However, with implementation of Mitigation Measures NOI-1a, NOI-1b, and NOI-1c, described previously, noise impacts related to a substantial permanent increase in existing ambient noise levels would be reduced to **less than significant levels with mitigation**.

Site Plan 2

Impacts under Site Plan 2 would be the same as those described under Site Plan 1. Impacts related to a substantial permanent increase in existing ambient noise levels under Site Plan 2 would be **less than significant with mitigation**.

Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity (Less than Significant)

Site Plan 1

As discussed for Impact NOI-1, construction noise is exempt from the City of Clovis noise standards from 7:00 a.m. to 7:00 p.m. on weekdays, and between 9:00 a.m. and 5:00 p.m. on Saturday and Sunday. Because project construction would comply with the applicable noise regulations, any temporary increase in noise would not be considered substantial. Impacts from project construction related to a substantial temporary increase in noise would, therefore, be **less than significant**.

Site Plan 2

Impacts under Site Plan 2 would be the same as those described under Site Plan 1. Noise impacts from project construction under Site Plan 2 related to a substantial temporary increase in noise would be **less than significant**.

Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels (No Impact)

Site Plan 1

The public airport nearest the project area is the Fresno Yosemite International Airport, located more than 3 miles south-southwest of the project site. Because the nearest airport is located more than 2 miles from the project site, there would be **no impact** related to noise from public use airports.

Site Plan 2

Impacts under Site Plan 2 would be the same as those described under Site Plan 1. There would be **no impact** related to noise from public use airports with implementation of Site Plan 2.

Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting of exposure to people residing or working in the project area to excessive noise levels (No Impact)

Site Plan 1

The private airstrip closest to the project area is the Kindsvater Ranch Airport, a small airfield with only 4 aircraft based at it and located more than 10.5 miles east of the project site. At this distance, no effects related to airport noise would result; there would be **no impact** related to noise from private airstrips.

Site Plan 2

Impacts under Site Plan 2 would be the same as those described under Site Plan 1. There would be **no impact** related to noise from private airstrips with implementation of Site Plan 2.

Cumulative Impacts

Impact C-NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards (Less than Significant with Mitigation)

Site Plan 1 and Site Plan 2

As discussed for impact NOI-1 above, the project under either Site Plan 1 or Site Plan 2 may result in noise in excess of applicable local standards without the incorporation of mitigation. Although specific future projects located close to the proposed project are not known at this time, future cumulative projects are expected to be developed in Clovis and may be located relatively close to the project site. Consequently, the potential for project-related noise to combine with noise from future cumulative projects must be assessed.

Project operations, including parking lot operations, HVAC equipment, emergency generators, buses at the transit center, and events at the plaza but not including project-related traffic, would be expected to result in the generation of noise in the project vicinity. Potential direct project impacts related to HVAC equipment, emergency generators, and event noise at the plaza were identified in Impact NOI-1. Significant noise levels from these sources could potentially combine with noise from other cumulative projects to result in cumulative noise impacts.

However, implementation of project Mitigation Measures NOI-1a, NOI-1b, and NOI-1c would reduce direct noise impacts from these project noise sources to less-than-significant levels, and would ensure that the project would not result in a cumulatively considerable contribution to potential cumulative operational (non-traffic related) noise impacts. Cumulative noise impacts related to these operational noise sources would be less than significant with mitigation.

Cumulative growth in the city could lead to increased noise levels from vehicular traffic. A cumulative substantial permanent increase in traffic noise would occur if a greater than 3 dB increase from existing condition to future cumulative condition (2039 plus-project) noise levels were to occur. The proposed project would result in a cumulatively considerable contribution to a cumulative traffic noise impact if project-added traffic would result in an increase of more than 3 dB from cumulative no project conditions to cumulative with project conditions. Table 3.4-14 present the modeling results of the cumulative traffic scenarios.

As shown in Table 3.4-14, no roadway segment is predicted to have a 3 dB increase in noise levels between existing conditions and cumulative with project conditions. Therefore no significant cumulative traffic noise impacts are identified. Further, project traffic would not increase traffic noise levels from cumulative no project conditions to cumulative with project conditions by 3 dB along any modeled roadway segments. Therefore, the project would not result in a cumulatively considerable contribution to traffic noise along any roadway segment. Cumulative traffic noise impacts would be less than significant.

Because cumulative noise impacts related to project operations (excluding traffic) would be less than significant with mitigation, and because cumulative traffic noise impacts would be less than significant, overall cumulative project impacts related to the exposure of persons to or generation of noise levels in excess of applicable standards would be **less than significant with mitigation.**

Impact C-NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (Less than Significant)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-2, construction vibration from the proposed project under either Site Plan 1 or Site Plan 2 may be perceptible at nearby land uses. However, according to the Municipal Code for the City of Clovis, (Section 9.22.100, Vibrations), vibration from temporary construction or demolition and vehicles associated with construction is exempt from the provisions of Municipal Code pertaining to vibration. In addition, project operation is not expected to result in any perceptible vibration.

Because direct project impacts related to the generation of vibration were determined to be minimal, the project would not result in a cumulatively considerable contribution to any potential cumulative vibration impacts. Cumulative impacts related to the exposure of persons to or generation of excessive groundborne vibration would be **less than significant.**

Impact C-NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity (Less than Significant with Mitigation)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-3, operation of the proposed project under either Site Plan 1 or Site Plan 2 would result in noise from buses, mechanical equipment, parking lot activity, and plaza events. Project operation could result in permanent increases in noise levels in the project vicinity. However, implementation of Mitigation Measures NOI-1a, NOI-1b and NOI-1c would reduce noise impacts related to a substantial permanent increase in noise to less-than-significant levels.

Because direct project impacts related to a substantial permanent increase in noise were determined to be less than significant with mitigation, the project would not result in a cumulatively considerable contribution to potential cumulative noise impacts related to a permanent increases in noise. Cumulative impacts related to a substantial permanent increase in ambient noise levels would be **less than significant with mitigation.**

Table 3.4-14. Project Traffic Noise Impacts along Nearby Roadway Segments (50 feet) under Cumulative and Cumulative plus Project Conditions

Roadway	Segment	Existing CNEL	Cumulative No Project Conditions (2039) CNEL	Cumulative With Project Conditions (2039) CNEL	Delta between Existing Conditions and Cumulative with Project Conditions (dB)	Significant Cumulative Impact? [a]	Delta between Cumulative no Project Conditions and Cumulative with Project Conditions (dB)	Cumulatively Considerable Project Contribution to Cumulative Impact?[b]
Clovis Avenue	North of Sierra Ave.	68	69	69	1	No	0	No
Clovis Avenue	Sierra Ave. to Second St.	66	67	67	1	No	0	No
Clovis Avenue	Second St. to Third St.	66	67	67	1	No	0	No
Clovis Avenue	Third St. to Fourth St.	65	66	66	1	No	0	No
Clovis Avenue	Fourth St. to Fifth St.	65	66	66	1	No	0	No
Clovis Avenue	South of Fifth St.	65	66	66	1	No	0	No
Sierra Avenue	West of Clovis Ave.	64	65	65	1	No	0	No
Sierra Avenue	East of Clovis Ave.	56	57	57	1	No	0	No
Second Street	West of Clovis Ave.	50	51	51	1	No	0	No
Third Street	West of Clovis Ave.	56	57	57	1	No	0	No
Third Street	Clovis to Veterans Pkwy	63	64	65	2	No	1	No
Third Street	East of Veterans Pkwy	62	63	64	2	No	1	No
Fourth Street	West of Clovis Ave.	53	54	54	1	No	0	No
Fourth Street	East of Clovis Ave.	50	51	51	1	No	0	No
Fifth Street	West of Clovis Ave.	60	61	61	1	No	0	No
Fifth Street	Clovis Ave. to Veterans Pkwy	60	61	61	1	No	0	No
Fifth Street	East of Veterans Pkwy	60	61	61	1	No	0	No
Veterans Way	Third St. to Fourth St.	53	54	55	2	No	1	No
Veterans Way	Fourth St. to Fifth St.	53	54	55	2	No	1	No

[a] A cumulative impact results when there is a 3 dB increase in noise levels from existing conditions to cumulative (Year 2039 with project) conditions.
[b] Cumulatively considerable contribution to a cumulative impact results if the project contributes a 3 dB increase to a cumulative impact.
CNEL = community noise equivalent level.
dB = decibel.

Impact C-NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity (Less than Significant)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-4, project construction activities under either Site Plan 1 or Site Plan 2 are proposed to take place only during exempt hours. Because construction would comply with the restrictions set out in the Noise Ordinance, any temporary increase in noise would not be considered substantial. Direct project impacts related to a substantial temporary increase in noise from project construction were determined to be less than significant. Because direct project impacts related to a substantial temporary increase in noise were determined to be less than significant, the project would not result in a cumulatively considerable contribution to potential cumulative impacts related to a temporary or periodic increase in noise. Cumulative impacts related to a substantial temporary increase in ambient noise levels would be **less than significant.**

Impact C-NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels (No Impact)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-5, the public airport nearest the project area (Site Plans 1 and 2) is the Fresno Yosemite International Airport, located more than 3 miles south-southwest of the project site. There would be no direct project impact related to aircraft noise from public airports. Further, the project would not result in a cumulatively considerable contribution to a potential cumulative impact related to aircraft noise from public airports. **No impact.**

Impact C-NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting of exposure to people residing or working in the project area to excessive noise levels (No Impact)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-6, the Kindsvater Ranch Airport is the closest private airstrip to the project area (Site plans 1 and 2) and is located more than 10.5 miles east of the project site. There would be no direct project impact related to aircraft noise from private airstrips. Further, the project would not result in a cumulatively considerable contribution to a potential cumulative impact related to aircraft noise from private airstrips. **No impact.**

3.4.3 References Cited

Printed References

California Department of Transportation. 2013a. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September. Available: <http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf>. Accessed: May 7, 2017.

———. 2013b. Transportation and Construction Vibration Guidance Manual. September. Available: <http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf>. Accessed: May 7, 2017.

Charles M. Salter Associates, Inc. 2008. *Raley Field Entertainment Facility, Environmental Noise Study*. May 2.

City of Clovis. 2014. *City of Clovis General Plan*. Adopted August 25. Prepared by Placeworks.

———. 2016. *Traffic Impact Study for the Proposed Clovis Landmark Commons Project.* November 23.

Federal Highway Administration. 2006. Roadway Construction Noise Model User's Guide. January. Available: <http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf> Washington, DC.

———.2004. FHWA Traffic Noise Model, Version 2.5. February. Washington D.C.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Available: <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf >. Accessed: May 7, 2017.

U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*. December 31.

3.5 Transportation/Traffic

This section discusses transportation facilities and systems in the project vicinity, applicable plans and regulations, and potential impacts of the proposed project on transportation and traffic. The section largely is based on City of Clovis planning documents and on the Traffic Impact Study prepared by Peters Engineering Group (see Appendix C).

3.5.1 Existing Conditions

Regulatory Setting

Federal and State

No federal transportation regulations pertain to the proposed project. The California Department of Transportation (Caltrans) is responsible for operating and maintaining the state highway system. State Route (SR) 168 is the state highway closest to the project area. SR 168 is located west and north of the project area, and the nearest access points are approximately 0.9 mile away on Herndon Avenue and 1.1 miles away on West Bullard Avenue. Because of the project area's distance from SR 168 and because of the minimal amount, if any, of additional traffic the project is likely to generate on SR 168, no state highway regulations are applicable to the proposed project.

Local

Regional Transportation Plan and Sustainable Communities Strategy

The Fresno Council of Governments (Fresno COG) has adopted the *2014 Regional Transportation Plan and Sustainable Communities Strategy* (2014 RTP) for the Fresno region, which includes Clovis. Three overarching themes provide the basis for the 2014 RTP's Policy Element: Preservation of existing facilities and services; sound financial leveraging of existing funding; and connecting transportation needs with land use and air quality impacts. The 2014 RTP identifies goals, objectives and policies that are based on these themes. Several goals are relevant to the proposed project.

- An efficient, safe, integrated, multimodal transportation system.
- Improved mobility and accessibility for all regardless of race, income, national origin, age, or disability.
- Acceptable level of service (LOS) for the highways, streets and roads network.
- An integrated multimodal transportation system which facilities the movement of people.
- Maximize bicycling and walking through their recognition and integration as valid and healthy transportation modes in transportation planning activities.

The Fresno COG adopted the *Fresno County Congestion Management Process* (CMP) in 2009 to satisfy federal requirements that apply to urban areas and regions in nonattainment of air quality standards. Fresno COG has integrated the CMP into the 2014 RTP. The CMP designates Clovis Avenue, Third Street, Herndon Avenue, Bullard Avenue and Tollhouse Road as among the regionally significant roads to which CMP strategies apply. Those strategies fall into six categories (Fresno Council of Governments 2009).

- Transportation system management
- Travel demand management
- Intelligent transportation system
- Land use
- Public transit
- Bicycle and pedestrian

Pursuant to state legislation, the Fresno COG has exempted itself from state requirements for adopting a congestion management program.

Clovis General Plan

The Circulation Element of the *Clovis General Plan* contains goals and policies aimed at "a comprehensive and well-maintained multimodal circulation system that provides for the safe and efficient movement of people and goods." The following Circulation Element goals and policies are relevant to the proposed project.

Goal 1: A context-sensitive and "complete streets" transportation network that prioritizes effective connectivity and accommodates a comprehensive range of mobility needs.

Goal 2: A roadway network that is well planned, funded, and maintained.

Policy 2.1: **Level of service.** The following is the City's level of service (LOS) standards:

A. Achieve LOS D vehicle traffic operations during the a.m. and p.m. peak hours.

B. Allow exceptions on a case-by-case basis where lower levels of service would result in other public benefits, such as:

   i. Preserving agricultural or open space land

   ii. Preserving the rural/historic character of a neighborhood

   iii. Preserving or creating a pedestrian-friendly environment in Old Town or mixed-use districts

   iv. Avoiding adverse impacts to pedestrians, cyclists, and mass transit riders

   v. Where right-of-way constraints would make capacity expansion infeasible

Goal 3: A multimodal transportation network that is safe and comfortable in the context of adjacent neighborhoods.

Policy 3.3: **Old Town and mixed use village centers.** Transportation decisions on local streets in Old Town and mixed-use village centers shall prioritize pedestrians, then bicyclists, then mass transit, then motorists.

Policy 3.8: **Access management.** Minimize access points and curb cuts along arterials and prohibit them within 200 feet of an intersection where possible. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.

Policy 3.9: **Park-once.** Encourage "park-once" designs where convenient, centralized public parking areas are accompanied by safe, visible, and well-marked access to sidewalks and businesses.

Goal 4: A bicycle and transit system that serves as a functional alternative to commuting by car.

Policy 4.1: **Bike and transit backbone.** The bicycle and transit system should connect Shaw Avenue, Old Town, the Medical Center/R&T Park, and the three Urban Centers.

Policy 4.4: **Bicycles and transit.** Coordinate with transit agencies to integrate bicycle access and storage into transit vehicles, bus stops, and activity centers.

Policy 4.5: **Transit stops.** Improve and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.

Policy 4.6: **Transit priority corridors.** Prioritize investments for, and transit services and facilities along the transit priority corridors.

The *Clovis General Plan* designates Clovis Avenue as an arterial street, Sierra Avenue as a collector street west of Clovis Avenue and a local street east of Clovis Avenue, Third Street as a collector street between Clovis Avenue and Sunnyside Avenue and as a local street west of Clovis Avenue, Fifth Street as an arterial street between Clovis Avenue and Sunnyside Avenue. In addition, the General plan calls for Class II bicycle lanes on Third Street east of Clovis Avenue, except where the Old Town Trail provides for bicycle travel. The General Plan designates Fifth Street east of Clovis Avenue as a bicycle route.

Central Clovis Specific Plan

The City updated the *Central Clovis Specific Plan* in 2016 to implement the General Plan and "to provide specific guidance in land use and the design of public and private improvements within the plan area to substantiate its importance as the 'hub' of the Clovis community." The following transportation-related goals and action items in the specific plan are relevant to the proposed project.

Goal: A thriving local economy enriched with successful businesses.

Action Item: Promote Old Town as a bicycle and pedestrian environment that is easily accessible from metropolitan area trails.

Goal: A pedestrian and bicycle friendly downtown that connects to regional assets and all transportation modes.

Action Item: Study opportunities for "road diets" allowing for greater pedestrian and bicycle usage.

Action Item: Encourage and identify areas for bicycle parking and bicyclist facilities throughout the Old Town area.

The *Central Clovis Specific Plan* identifies Clovis Avenue and Fifth Street as "major streets" that serve the downtown area and that have the potential to carry traffic through downtown efficiently and to guide visitors to specific locations.

The *Central Clovis Specific Plan* encourages the use of public and active transportation services and facilities. The specific plan notes that the Landmark project "should reduce the need for parking by providing public transit access to a point within easy walking district to uses in the PBIA area" (City of Clovis 2016a: 1.10).

In the Community Design Development Standards of the Central Clovis Specific Plan, Third Street east of Clovis Avenue is designated as a "Community Bicycle Route" and Clovis Avenue in the vicinity of the project is designated as "Storefront Commercial." Under the specific plan, community bicycle routes "provide for moderate levels of both automobile and bicycle traffic." The plan calls for a 1-foot buffer strip to separate bicycles and automobiles on these routes (City of Clovis 2016a: Chapter 2).

The project area borders the Parking and Business Improvement Area (PBIA) of Old Town. The Central Clovis Specific Plan identifies 1,882 parking spaces in public and private lots and on the street within the PBIA. The specific plan also identifies the need for an additional 118 parking stalls based on a "standard commercial parking ratio" of 4.7 stalls per 1,000 square feet of gross leasable area and a total of 425,000 square feet of gross leasable area within the PBIA. Parking lots at the Clovis Rodeo Grounds, Clark Intermediate School, Clovis Veterans Memorial District, and the Clovis Civic Center are outside of the PBIA but are close enough to provide overflow parking on weekends and after hours (City of Clovis 2016a: 1.9)

Clovis Active Transportation Plan

The *Clovis Active Transportation Plan* "is a comprehensive document outlining the future of walking and bicycling in Clovis." Adopted in 2016, the Active Transportation Plan updates many elements of the 2011 *Clovis Bicycle Transportation Master Plan*. The Active Transportation Plan seeks to increase the share of residents who walk and bicycle to work, school, shopping, and other activities, to reduce the number of automobile collisions with pedestrians and bicyclists, and to close gaps in the bicycle and pedestrian networks (City of Clovis 2016b: 1–2) .

The Active Transportation Plan uses the Caltrans *Highway Design Manual* to characterize bikeways.

- Class I – Bike Path: Bike paths are paved shared-use paths intended to accommodate all pedestrians and bicyclists, including children, families, and less-confident riders.
- Class II – Bike Lane: Bike lanes, also known as Class II bikeways, are defined portions of the roadway that are designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists.
- Class III – Bike Route: Bike routes, also known as Class III bikeways, are on-street routes intended to provide continuity to the bikeway system. Bike routes are designated by signs or pavement markings and are shared by motorists.
- Class IV – Separated Bikeways: Whereas bike lanes are a defined portion of the roadway, separated bikeways, also known as Class IV bikeways or cycle tracks, are an exclusive facility for bicyclists physically separated from motor vehicle traffic and distinct from the sidewalk.

The Clovis Old Town Trail, a Class I bike path, runs generally parallel to, and east of, Clovis Avenue in the project vicinity. The Clovis Old Town Trail runs adjacent to the western boundary of the project site. The *Clovis Active Transportation Plan*, like the *Bicycle Transportation Master Plan*, proposes Class III bike routes on Third Street between Veterans Way and Sunnyside Avenue, on Fifth Street between the western and eastern connections to Bullard Avenue, on Sierra Avenue between Clovis Avenue and Sunnyside Avenue, and on Sunnyside Avenue from Herndon Avenue to Gettysburg Avenue (City of Clovis 2016b: Figure 9).

Clovis Traffic Impact Study Guidelines

The City adopted in the *City of Clovis Traffic Impact Study Guidelines* (City Guidelines) in 2014. The City Guidelines require certain analyses of proposed projects and define impact significance (see the *Thresholds of Significance* section).

Environmental Setting

The project area has contained commercial buildings in the past. All buildings were demolished and the site was graded in 2015. The project area is located in Old Town Clovis. The Clovis Old Town Trail and commercial uses are west of the project area, residential, industrial, and office uses lie to the north, residential uses to the east, and public, commercial, and office uses to the south.

Roadway Network

Roadways in the project vicinity consist of two- to four-lane streets that are set primarily on a grid. In addition to serving Old Town and adjacent neighborhoods, the roadways carry through traffic. Figure 1-3 depicts the project location and the seven study intersections. Figure 5-1 depicts the existing lane configurations and intersection controls at the study intersections.

There are seven primary roadways in the project vicinity.

Clovis Avenue is a north-south roadway extending through the entire length of Clovis and south into Fresno. The *Clovis General Plan* designates Clovis Avenue as an arterial street. Clovis Avenue consists of two lanes in each direction at the study location. The posted speed limit on Clovis Avenue is 35 mile per hour (mph) south of Sierra Avenue and 40 mph north of Sierra Avenue.

Veterans Parkway (formerly Hughes Avenue) is a north-south local street with one lane in each direction between Third Street and Fifth Street. The speed limit on Veterans Way is not posted. According to California Vehicle Code (CVC) Section 22352, the prima facie speed on Veterans Way is 25 mph.

Sierra Avenue is an east-west roadway with one lane in each direction extending east to Sunnyside Avenue and west into Fresno. The *Clovis General Plan* designates Sierra Avenue as a collector street west of Clovis Avenue and a local street east of Clovis Avenue. The posted speed limit on Sierra Avenue is 40 mph west of Clovis Avenue and 25 mph east of Clovis Avenue.

Second Street is an east-west local road with one lane in each direction extending between Clovis Avenue at the east end and DeWitt Avenue at the west end. The speed limit on Second Street is not posted, but the prima facie speed on Second Street is 25 mph under the CVC.

Third Street is an east-west roadway with one lane in each direction extending to Sunnyside Avenue to the east (and continuing as Tollhouse Road to the northeast) and to Minnewawa Avenue to the west. The *Clovis General Plan* designates Third Street as a collector street between Clovis Avenue and Sunnyside Avenue. It is designated as a local street west of Clovis Avenue. The posted speed limit on Third Street west of Clovis Avenue is 25 mph. In the eastbound direction a speed limit of 40 mph is posted east of Clovis Avenue. However, the speed limit in the westbound direction is not posted on Third Street east of Clovis Avenue. The nearest speed limit sign in the westbound direction east of Clovis Avenue exists on Tollhouse Road (which is essentially the extension of Third Street east of Sunnyside Avenue) approximately 800 feet east of Sunnyside Avenue with a posted limit of 35 mph.

Fourth Street is an east-west local road with one lane in each direction extending between Clovis Avenue at the east end and Minnewawa Avenue at the west end. The speed limit on Fourth Street is not posted, but the prima facie speed on Fourth Street is 25 mph under the CVC.

Fifth Street is an east-west roadway with one lane in each direction connecting to Bullard Avenue near Minnewawa Avenue to the west and connecting to Bullard Avenue near Sunnyside Avenue. The *Clovis General Plan* designates Fifth Street as an arterial street between Clovis Avenue and Sunnyside Avenue. The posted speed limit on Fifth Street is 25 mph.

Transit Service

Clovis Transit Stageline provides bus service to the Clovis area. Buses run on a schedule for 12 to 14 hours per day. Clovis Transit Stageline Route 10 stops on Sierra Avenue west of DeWitt Avenue and on Fifth Street east of Clovis Avenue.

Clovis Transit Round Up offers service throughout the metropolitan area, providing rides for disabled residents of Clovis who need to travel in Clovis, Fresno, and nearby areas. Riders must complete and submit an Americans with Disabilities Act form and be approved for eligibility before using Round Up for the first time.

The current Clovis Transit fleet consists of the following vehicles, with the type of fuel used also listed.

- 16 Glaval 27-foot-long cutaway style (one uses gasoline, the remainder use diesel).
- Two Glaval 32-foot-long cutaway style (gasoline).
- One El Dorado 22-foot-long cutaway style (diesel).
- Six ARBOC low-floor 26-foot-long cutaway style (diesel).
- Three Goshen 32-foot-long cutaway style (diesel).
- Two Champion Defenders 34-foot-long (diesel).

Clovis Transit expects to expand to full-size buses (40 feet in length) in the future; therefore, the Project would be designed to accommodate large buses. The timeline for expansion to larger buses will be based on demand; however, Clovis Transit does not expect to use buses larger than 35 feet in length within the next 10 years.

Clovis Transit is planning to include funds in its 2017-2018 budget for a consultant to perform a study to evaluate the routes, schedules, and coordination with Fresno. The study will assist Clovis Transit with designing new routes that utilize the proposed Transit Center for transfers.

Bicycle Facilities

The Clovis Old Town Trail, a Class I multiple-use bike path, runs generally parallel to, and east of, Clovis Avenue in the project vicinity, and is adjacent to the western boundary of the project site. The path runs along the west side of Veterans Way and continues parallel with Clovis Avenue south of Fifth Street.

Class II bike lanes exist on Sierra Avenue west of Clovis Avenue; otherwise, the roadways and intersections in the project vicinity are typically not wide enough to accommodate Class II bike lanes. The *Clovis Active Transportation Plan* proposes Class III on-street bike routes on Third Street between Veterans Way and Sunnyside Avenue, on Fifth Street between the western and eastern connections to Bullard Avenue, on Sierra Avenue between Clovis Avenue and Sunnyside Avenue, and on Sunnyside Avenue from Herndon Avenue to Gettysburg Avenue (City of Clovis 2016b: Figure 9).

Pedestrian Facilities

Sidewalks and pedestrian facilities, such as crosswalks and pedestrian signals, are well established throughout the project vicinity. Pedestrians also use the Clovis Old Town Trail.

Traffic, Pedestrian, and Bicycle Volumes

Peters Engineering Group determined existing peak-hour traffic volumes by performing manual turning movement counts at each of the seven study intersections. The traffic counts were performed on weekdays from 7:00 to 9:00 a.m. (the a.m. peak hour) and from 4:00 to 6:00 p.m. (the p.m. peak hour). The counts were performed while school was in session and not on holidays.

In general, traffic counts were greatest along Clovis Avenue, with a.m. peak-hour counts ranging from 763 at Clovis Avenue and Fourth Street to 1,394 at Clovis Avenue and Fifth Street, and p.m. peak-hour counts ranging from 1,188 at Clovis Avenue and Fourth Street to 1,804 at Clovis and Sierra Avenues. The smallest peak hour counts were at the location of the proposed project entrance at Veterans Way and Third Street, 629 in the a.m. peak hour and 496 in the p.m. peak hour. Existing peak-hour turning movement volumes at the study intersections are presented in Figure 5-2 of Appendix C. Appendix C also contains the traffic count data sheets and other traffic count details.

The traffic counts identified the number of heavy vehicles (vehicles with three or more axles) on each turning movement. The intersection turning movement counts revealed that heavy vehicles (three or more axles) composed less than 1 percent of the total volume of traffic at every study intersection during both the a.m. and p.m. peak hours.

Counts of pedestrians and bicycles on the Clovis Old Town Trail near Second Street revealed an average of approximately 164 pedestrians and 79 bicycles per day in August 2016. During the typical vehicular peak hours (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.), the peak number of pedestrians averaged 17 per hour and the peak number of bicycles averaged approximately 8 per hour.

Intersection Level of Service

LOS is a quantitative description of operations conditions that are ranked from LOS A, or free-flow conditions with little or no delay, to LOS F, which indicates jammed conditions with excessive delay. Appendix C provides a detailed discussion of LOS definitions and methods for determining LOS. The City's target LOS is D.

All study intersections except for Veterans Way and Fifth Street operate at an acceptable LOS. The intersection of Veterans Way and Fifth Street has an LOS F on the southbound approach and LOS E on the northbound approach during the a.m. peak hour, likely a function of school traffic.

Table 3.5-1. Existing Level of Service at Study Intersections

Study Number	Intersection	Traffic Control	Peak Hour	Average Delay (seconds)	LOS
1	Clovis Avenue and Sierra Avenue	Signal	a.m.	17.4	B
			p.m.	16.8	B
2	Clovis Avenue and Second Street	One-way stop[a]	a.m.	15.1	C[b]
			p.m.	18.4	C[b]
3	Clovis Avenue and Third Street	Signal	a.m.	19.3	B
			p.m.	25.8	C
4	Veterans Way and Third Street	One-way stop[a]	a.m.	15.4	C
			p.m.	12.4	B
5	Clovis Avenue and Fourth Street	Signal	a.m.	12.0	B
			p.m.	14.8	B
6	Clovis Avenue and Fifth Street	Signal	a.m.	28.2	C
			p.m.	31.3	C
7	Veterans Way and Fifth Street	One-way stop[a]	a.m.	50.7	F
			p.m.	19.8	C

Source: Appendix C.

[a] A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition.

[b] The reported LOS is for the eastbound approach. The westbound approach is a private driveway and experiences a negligible number of peak hour trips.

LOS = level of service.

3.5.2 Environmental Impacts

This section discusses the project's potential impacts on transportation and traffic. The sections describes the methods used to determine impacts and thresholds for determining impact significance. Mitigation measures are attached to potentially significant impacts.

Methods for Analysis

This transportation and traffic analysis is based on City of Clovis planning documents and on the Traffic Impact Study prepared by Peters Engineering Group (Appendix C). This analysis does not consider potential changes in vehicle miles traveled (VMT) because the state has not yet adopted CEQA guidelines for analyzing changes in VMT.

Project and Trip Generation

The Traffic Impact Study uses the Institute of Transportation Engineers (ITE) *Trip Generation Manual* to calculate the amount of traffic that the proposed project would generate during operation. The Traffic Impact Study also identifies the roadway network, bicycle and pedestrian facilities, transit service, existing intersection lane configurations and traffic volumes, and existing intersection LOS discussed in the *Environmental Setting* section. The Traffic Impact Study further identifies the size, type, and location of approved and pending development projects.

The Traffic Impact Study analyzes conditions at seven intersections.

1. Clovis Avenue and Sierra Avenue
2. Clovis Avenue and Second Street
3. Clovis Avenue and Third Street
4. Veterans Way and Third Street
5. Clovis Avenue and Fourth Street
6. Clovis Avenue and Fifth Street
7. Veterans Way and Fifth Street

Traffic conditions at the study intersections were analyzed for the weekday a.m. and p.m. peak hours. The a.m. peak hour is from 7:00 to 9:00 a.m., and the p.m. peak hour is from 4:00 to 6:00 p.m. It is during these periods that traffic is most congested on an average day.

Scenarios Analyzed

The Traffic Impact Study evaluated five scenarios.

- Baseline Conditions:
  - Existing Conditions
  - Long-Term (Year 2039) No-Project Conditions
- Project Conditions:
  - Existing-Plus-Project Conditions
  - Near-Term With-Project Conditions (includes approved and pending projects)
  - Long-Term (Year 2039) With-Project Conditions

Level of Service Standards

The Traffic Impact Study is based on the Transportation Research Board's *2010 Highway Capacity Manual* methodology. The *Highway Capacity Manual* evaluates intersection operations on the basis of average delay time for all vehicles at the intersection. The correlation between average delay and LOS is shown in Table 3.5-2.

Table 3.5-2. Level of Service Characteristics for Unsignalized Intersections

Level of Service	Average Vehicle Delay in Seconds
A	0–10
B	10–15
C	15–25
D	25–35
E	35–50
F	<50

Source: Transportation Research Board 2010a.

Table 3.5-3. Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay in Second
A	Volume-to-capacity ratio is low. Progression is exceptionally favorable or the cycle length is very short.	<10
B	Volume-to-capacity ratio is low. Progression is highly favorable or the cycle length is very short.	10–20
C	Volume-to-capacity ratio is no greater than 1.0. Progression is favorable or cycle length is moderate.	20–35
D	Volume-to-capacity ratio is high but no greater than 1.0. Progression is ineffective or cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	35–55
E	Volume-to-capacity ratio is high but no greater than 1.0. Progression is unfavorable and cycle length is long. Individual cycle failures are frequent.	55–80
F	Volume-to-capacity ratio is greater than 1.0. Progression is very poor and cycle length is long. Most cycles fail to clear the queue.	>80

Source: Transportation Research Board 2010a.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

In addition, the City Guidelines indicate that an impact is considered significant if the addition of the traffic generated by a proposed project results in any one of the following:

- Triggers an intersection operating at acceptable LOS to operate at unacceptable levels of service.

- Increases the average delay for a study intersection that is already operating at unacceptable LOS.

Impacts and Mitigation Measures

Impact TRA-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system (less than significant impact)

As discussed in the *Regulatory Setting* section, the City has established an LOS D standard for vehicle operations during the a.m. and p.m. peak hours. The effects of Site Plan 1 and Site Plan 2 are very similar to one another because although the two plans offer alternative layouts of the facilities, they generate the same amount of traffic and affect the same streets.

An estimate of the number of vehicle trips that the project would generate in the near-term is based on trips resulting from current senior center activities and transit operations, observations at the existing Clovis library and a local trip generation count at the Woodward Park Regional Library in Fresno. The traffic counts from the Woodward Park Regional Library provided verification that ITE *Trip Generation Manual* estimates for the library land use are applicable to the proposed project. Tables 3.4-4 provides estimates of project vehicle trip generation in the near term. Estimates of all trips except those generated by the library are expected to double in 20 years because of increases in population, transit services, and senior center services; however library trip generation would remain constant based on the size of the library building (see Appendix C).

Table 3.5-4. Near-Term Project Vehicle Trip Generation

		A.M. Peak Hour (7:00 to 9:00 a.m.)			P.M. Peak Hour (4:00 to 6:00 p.m.)			Daily
Location	**Type of Trip**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	
Transit Center	Stageline Fixed Route	8	8	16	8	8		208
	Roundup Driver Breaks	0	0	0	2	2	4	24
Senior Center	Employee	6	0	6	0	6	6	24
	Clovis Roundup	3	3	6	3	3	6	48
	Visitor Vehicles	15	5	18	18	18	36	240
	Instructors	2	0	2	2	2	4	16
Library	Employees and Visitors	23	9	32	104	114	219	1,688
TOTALS		57	25	80	137	153	275	2,248

Source: Appendix C, Traffic Impact Study.

Because the existing senior center and library currently operate near the project site, and Roundup drivers typically take breaks near the senior center, many trips identified in Table 3.5-4 would not be new trips at study area intersections. Once the project is complete, the City intends to relocate staff from modular buildings into the existing library building. In addition, the existing law school would use the senior center building for a law library. These changes in the use of existing buildings,

which are not part of the proposed project, are expected to generate a negligible number of new trips.

Under the existing-plus-project-conditions scenario, lane configurations in the project vicinity would remain unchanged, and project-generated traffic would be added to existing traffic volumes. Table 3.5-5 identifies the resulting effects on LOS at study area intersections in the near term condition.

Table 3.5-5. Level of Service at Study Area Intersections under Existing and Existing Plus Project Conditions – Near Term

				Existing		Existing Plus Project Without Roundabout		
Study Number	**Intersection**	**Traffic Control**	**Peak Hour**	**Average Delay[a]**	**LOS**	**Average Delay[a]**	**LOS**	**Average Delay Increase[a]**
1	Clovis Avenue and Sierra Avenue	Signal	a.m.	17.4	B	17.6	B	0.2
			p.m.	16.8	B	17.3	B	0.5
2	Clovis Avenue and Second Street	One-way stop[b]	a.m.	15.1	C[c]	15.3	C	0.2
			p.m.	18.4	C[c]	19.4	C	1.0
3	Clovis Avenue and Third Street	Signal	a.m.	19.3	B	19.9	B	0.6
			p.m.	25.8	C	28.1	C	2.3
4	Veterans Way and Third Street	One-way stop[b]	a.m.	15.4	C	21.2	C	5.8
			p.m.	12.4	B	21.3	C	7.9
5	Clovis Avenue and Fourth Street	Signal	a.m.	12.0	B	12.2	B	0.2
			p.m.	14.8	B	15.4	B	0.6
6	Clovis Avenue at Fifth Street	Signal	a.m.	28.2	C	29.0	C	0.8
			p.m.	31.3	C	34.2	C	2.9
7	Veterans Way and Fifth Street	One-way stop[b]	a.m.	50.7	F	56.3	F	5.6
			p.m.	19.8	C	22.7	C	2.9

[a] Average delay and average delay increase measured in seconds.
[b] A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition.
[c] The reported LOS is for the eastbound approach. The westbound approach is a private driveway and experiences a negligible number of peak hour trips.
LOS = level of service.
Source: Appendix C, Traffic Impact Study.

Table 3.5-6. Level of Service at Study Area Intersections Under No-Project, Project without Roundabout, and Project With Roundabout Conditions – Year 2039

				2039 No-Project		2039 Project Without Roundabout			Project With Roundabout in 2039		
Study Number	**Intersection**	**Traffic Control**	**Peak Hour**	**Average Delay[a]**	**LOS**	**Average Delay[a]**	**LOS**	**Average Delay Increase[a]**	**Average Delay[a]**	**LOS**	**Average Delay Increase[a]**
1	Clovis Avenue and Sierra Avenue	Signal	a.m.	27.5	C	28.5	C	1.0	28.5	C	1.0
			p.m.	20.5	C	22.1	C	1.6	22.1	C	1.6
2	Clovis Avenue and Second Street	One-way stop[b]	a.m.	26.3	D[c]	27.0	D	0.7	27.0	D	0.7
			p.m.	32.2	D[c]	35.9	E	3.7	35.9	E	3.7
3	Clovis Avenue and Third Street	Signal	a.m.	29.9	C	32.9	C	3.0	32.9	C	3.0
			p.m.	40.7	D	52.2	D	11.5	52.2	D	11.5
4	Veterans Way and Third Street	One-way stop[b]	a.m.	22.6	C	63.2	F	40.6	63.2	F	40.6
			p.m.	13.6	B	38.6	E	25.0	38.6	E	25
5	Clovis Avenue and Fourth Street	Signal	a.m.	14.5	B	14.8	B	0.3	14.8	B	0.3
			p.m.	18.3	B	19.9	B	1.6	19.9	B	1.6
6	Clovis Avenue at Fifth Street	Signal	a.m.	48.9	D	52.4	D	3.5	52.4	D	3.5
			p.m.	48.7	D	57.0	E	8.3	57.0	E	8.3
7	Veterans Way and Fifth Street	One-way stop[b]	a.m.	241.5	F	307.7	F	66.2	9.0	A	-232.5
			p.m.	28.6	D	36.7	E	8.1	7.7	A	-20.9

[a] Average delay and average delay increase measured in seconds.
[b] A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition.
[c] The reported LOS is for the eastbound approach. The westbound approach is a private driveway and experiences a negligible number of peak hour trips.
LOS = level of service.
Source: Appendix C, Traffic Impact Study.

Based on intersection LOS standards identified under *Thresholds of Significance*, the project would result in a significant impact because it would exacerbate the existing LOS of F at Veterans Way and Fifth Street by increasing average delays from 50.7 seconds per vehicle to 56.3 seconds per vehicle during the a.m. peak hour.

Methods for minimizing the impact at Veterans Way and Fifth Street are limited. A signal at the intersection is not feasible because peak-hour traffic signal warrants are not met (see Appendix E of the Traffic Impact Study). An all-way stop control is not warranted for the required 8 hours per day as prescribed in the Caltrans *California Manual on Uniform Traffic Control Devices for Streets and Highways*, as evidenced by the fact that the minimum volumes for multi-way stop control are not met during the p.m. peak hour. A single-lane roundabout is potentially feasible from a geometric standpoint but could potentially result in queues extending into the intersection of Clovis Avenue and Fifth Street, particularly during times when vehicles drop off or pick up Clark Intermediate School students adjacent to the intersection. Already, it is common for the parking lot south of the intersection to become congested; that congestion would likely back up into a roundabout and block all four approaches. Coupled with a high volume of pedestrian traffic before and after school, roundabout functions could completely fail during peak periods.

Under the long-term with-project conditions scenario, the LOS would drop below the D standard at Clovis Avenue and Second Street, Veterans Way and Third Street, Clovis Avenue and Fifth Street, and Veterans Way and Fifth Street during the p.m. peak hour, and below the D standard at Veterans Way and Third Street during the a.m. peak hour. Conditions would worsen during the a.m. peak hour at Veterans Way and Fifth Street, with average delays exceeding 5 minutes (see Table 3.5-6 above and Appendix C, Traffic Impact Study, Table 10-1). Despite the increased traffic, these intersections still would not have peak hour traffic levels that warrant the installation of signals, and constraints on potential improvements to the Veterans Way and Fifth Street intersection would remain. An all-way stop control or a roundabout would be constructed at Veterans Way and Third Street. All-way stop control would not be warranted for the minimum 8 hours per day. A single-lane roundabout is potentially feasible from a geometric standpoint and is expected to operate at an acceptable LOS during the peak hours.

Although the project would exacerbate the existing LOS of F at Veterans Way and Fifth Street during the a.m. peak hour and contribute to cumulative effects at all study intersections, the City permits a lower LOS where there is inadequate right-of-way to provide improvements. This is the case at Clovis Avenue and Fifth Street and at Clovis Avenue and Third Street, where the location of buildings and required building setbacks impose constraints.

In addition, the City permits a lower LOS in instances that would result in other public benefits. As discussed in Chapter 2, Section 2.3, *Project Overview*, the Landmark Commons Civic Center North project would provide numerous public benefits, specifically a senior activity center and clinic that would offer services to as many as 500 people per day, a county regional branch library that would replace a smaller facility, a transit center that would serve as a hub for bus riders, and a public plaza. Furthermore, Circulation Element Policy 3.3 prioritizes pedestrians, bicyclists, and mass transit ahead of motorists for transportation decisions in Old Town Clovis. One of the project's objectives is to optimize public transit, pedestrian, and bicycle access to the site, and the services that would be provided there.

Considering the City's policies and with implementation of the roundabout, the impact on the circulation system would be less than significant.

Impact TRA-2: Conflict with an applicable congestion management program (less than significant impact)

Fresno County and its cities, including Clovis, have exempted themselves from state requirements for adopting a congestion management program. However, as explained the *Regulatory Setting* section, the 2014 RTP includes a CMP that Fresno COG prepared pursuant to federal law. The effects of Site Plan 1 and Site Plan 2 are the same because the two plans generate the same amount of traffic and affect the same streets.

The project would help implement several CMP strategies. Specifically, the project would improve transit passenger amenities at a transit station, which is a CMP strategy. Furthermore, the project meets the CMP definitions of mixed-use development, infill and redevelopment, and transit-oriented development, all of which are part of CMP strategies. The project also would help meet 2014 RTP goals for a multimodal transportation system.

One goal of the 2014 RTP regards an acceptable LOS for the street and road network, and Third Street and Clovis Avenue in the project vicinity are defined as regionally significant roads under the CMP. As discussed under Impact TRA-1, the project would contribute to a decrease in the LOS at intersections on Third Street and Clovis Avenue. However, considering Policies 2.1 and 3.3 in the City's Circulation Element, which permit a lesser LOS in circumstances that apply to this project, and the implementation of the roundabout at the affected intersection of Veterans Way and Third Street by 2039, the project would not conflict with a congestion management program. Therefore, the impact on a congestion management program would be less than significant.

Impact TRA-3: Potential to cause a change in air traffic patterns that results in substantial safety risks (no impact)

The project would consist of one-story buildings, surfacing parking lots, and landscaping. The nearest airport, Fresno-Yosemite International Airport, is located approximately 3 miles south of the project area. The project would not result in new obstructions to air traffic, the project would have no effect on air traffic patterns.

Impact TRA-4: Result in a substantial increase in hazards because of a design feature (e.g., sharp curves, dangerous intersections) or incompatible uses (e.g., farm equipment) (less than significant impact with mitigation)

The project would likely increase bicyclist and pedestrian use of Clovis Old Town Trail, an increase that would help meet a project objective of optimizing pedestrian and bicyclist access to transit and goals of the *Central Clovis Specific Plan* that are enumerated under *Regulatory Setting* in Section 3.4.1, *Existing Conditions*. However, the project also would contribute to an increase in motor vehicle traffic on Third and Fifth Streets, both of which the multiple-use Clovis Old Town Trail crosses without controls on the streets. The effects of Site Plan 1 and Site Plan 2 would be the same.

Construction of a roundabout at the intersection of Veterans Way and Third Street by 2039 as required under Mitigation Measure TRA-1, would minimize the crosswalk length across Third Street. The roundabout would have narrow lanes and a pedestrian refuge in the splitter island that allows pedestrians and bicyclists to cross against only one direction of vehicular travel at a time, which would be a safety improvement. In addition, Mitigation Measure TRA-2 would require installation of signage and pavement markings on Clovis Old Town Trail and Third Street to warn pedestrians, bicyclists, and motor vehicle operators to be alert for each other and to share space.

The project also could result in additional conflicts between pedestrians and cyclists on the Clovis Old Town Trail and motor vehicle drivers on Fifth Street. Those conflicts could be reduced with installation of signage and pavement markings, as required under Mitigation Measure TRA-2.

With implementation of Mitigation Measure TRA-1, the impact related to street hazards would be less than significant.

Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings

In accordance with the *California Manual on Uniform Traffic Control Devices for Streets and Highways*, the City will install appropriate signage and pavement markings at the intersections of Clovis Old Town Trail and Third Street, and Clovis Old Town Trail and Fifth Street. The signage and pavement markings shall be installed prior to operation of any portion of the project.

Impact TRA-5: Cause inadequate emergency access (less than significant)

Although the proposed project would contribute additional vehicles to streets in the project vicinity, the design of streets would not change in a way that would impair emergency response. Emergency response from the Clovis Fire Department and Clovis Police Department would remain the same as under existing conditions. In the event of a countywide emergency, the state highways would serve as primary evacuation routes. The closest highway is SR 168, which is nearly 1 mile from the project site and which would be unaffected by the project.

The project itself has been designed to accommodate access by and movement of buses, which means fire tricks and other emergency vehicles would have similar access. This is true of both Site Plan 1 and Site Plan 2. An existing alley along the eastern edge of the project site connects to Third Street on the south and Osmun Circle on the north. This alley would remain in place and provide secondary access to the project site.

The roundabout at the intersection of Veterans Way and Third Street will be designed to accommodate bus movements, which would help ensure emergency vehicle access through the intersection. In addition, roundabouts reduce vehicle speed, which makes roundabouts safer than signalized intersections for emergency vehicle operators to negotiate (Transportation Research Board 2010b: 2-20). Therefore, the impact would be less than significant.

Impact TRA-6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (less than significant with mitigation)

The project is intended to improve public transit facilities, and the City choose a project site adjacent to the multiple-use Clovis Old Town Trail to optimize pedestrian and bicyclist access to transit. These project intents are consistent with the 2014 RTP goals, CMP strategies, and *Clovis General Plan* goals and policies outlined under *Regulatory Setting* in Section 3.4.1, *Existing Conditions*. The effects of Site Plan 1 and Site Plan 2 are the same because the two plans generate the same amount of traffic and affect the same streets.

As discussed under Impact TRA-4, the project has the potential to increase both the number of pedestrians and bicyclists in the project vicinity, and the number of motor vehicles. The increases could result in conflicts between pedestrians and bicyclists on the Clovis Old Town Trail, and motor vehicles on Third Street and Fifth Street, which Clovis Old Town Trail crosses without traffic

controls on the streets. The implementation of Mitigation Measure TRA-1 would reduce the impact related to those conflicts to a less-than-significant level.

Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings

See Mitigation Measure TRA-1 under Impact TRA-4.

3.5.3 References Cited

Printed References

City of Clovis. 2016a. *Central Clovis Specific Plan*. Draft. November 7.

City of Clovis. 2016b. *Clovis Active Transportation Plan*. Prepared by Fehr and Peers. October.

Fresno Council of Governments. 2009. *Congestion Management Process*. October. Fresno, CA.

Fresno Council of Governments. 2014. *2014 Regional Transportation Plan and Sustainable Communities Strategy*. Adopted June 26. Fresno, CA.

Transportation Research Board. 2010a. *Highway Capacity Manual*.

Transportation Research Board 2010b. *Roundabouts: An Informational Guide*. National Cooperative Highway Research Program Report 672. Second Edition. Washington, D.C.

Chapter 4
Other CEQA Considerations

This chapter presents discussions of additional topics required by CEQA: cumulative impacts, growth-inducing impacts, significant and unavoidable impacts, and significant irreversible environmental changes.

4.1 Cumulative Impacts

Cumulative significant impacts result from individually minor but collectively significant impacts occurring over a period of time. In other words, a cumulative impact results from the collective effects on a resource by numerous activities over time. State CEQA Guidelines Section 15130 requires that an EIR include a discussion of the potential cumulative impacts of a proposed project. Cumulative impacts are defined as two or more individual effects that, when considered together, are significant. The cumulative impact is the change in the environment that results from the incremental impact of the development when added to the incremental impacts of other closely related past, present, and reasonably foreseeable probable future activities.

As defined in State CEQA Guidelines Section 15355

> …a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

For purposes of this section, the term *significant cumulative impact* is synonymous with a cumulatively considerable contribution.

An adequate discussion of significant cumulative impacts is based on either of the following approaches.

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the lead agency.
- 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, that described or evaluated regional or area-wide conditions contributing to the cumulative impact. Any such planning document must be referenced and made available to the public at a location specified by the lead agency.

The cumulative impact analysis in this EIR relies on the projections approach because the project has a long-term perspective. Unless so stated, the potential for cumulative contributions is projected to the General Plan horizon year of 2035.

The determination of a project's cumulative effects involves identifying the following criteria.

- Significant impacts that are the result of the cumulative contributions of past, present, and reasonably probable future activities. Cumulative effects that are less than significant are not required to be analyzed.
- Whether the project would contribute to any of those cumulative impacts. The EIR is not required to analyze a cumulative impact to which the project would not contribute.
- Whether, in the context of the cumulative impact, the project's contribution would be considerable. An impact that is less than significant when viewed as a project impact alone may nonetheless be a considerable contribution to a cumulative impact.

4.1.1 Aesthetic Resources

No scenic vistas or scenic resources are visible from the project site and the project site is not visible from State Route 180, the only designated scenic highway in Fresno County (California Department of Transportation 2016). The project would not be a source of daytime light or glare and nighttime lighting would be shielded to limit light spill with implementation of Mitigation Measure AES-1. With no impacts to scenic vistas or scenic resources and with less than significant impact on light or glare with the implementation of mitigation, cumulative effects would not be considerable and would be less than significant.

4.1.2 Agricultural and Forestry Resources

The project would not affect any agricultural land. Therefore it would not make any contribution to the cumulative loss of agricultural land in the San Joaquin Valley.

4.1.3 Air Quality

As discussed in Section 3.1, *Air Quality,* SJVAPCD's CEQA Guidelines indicate that a violation of SJVAPCD construction or operational thresholds of significance would result in a project-level and cumulative impact. As mentioned in Impact AQ-2, the project would comply with SJVAPCD Regulation VIII, which would reduce construction-related fugitive PM emissions, and SJVAPCD Rule 9510, which would reduce NO_X and PM10 emissions. As indicated in Tables 3.1-6 and 3.1-9, construction and operational emissions would not exceed SJVAPCD's significance thresholds or calculated AAQA-equivalency thresholds. Consequently, a cumulatively considerable net increase of any nonattainment criteria pollutant is not anticipated. Cumulative impacts on air quality would be less than significant.

4.1.4 Biological Resources

As discussed in the Initial Study for the project, there would be no impact on biological resources as a result of the project. Therefore, there would be no cumulative impact.

4.1.5 Cultural Resources

As detailed in the Initial Study for the project, the City concluded that it is unlikely that there are any cultural resources on the project site. The project would implement mitigation measure CUL-1, CUL-2, and CUL-3 to stop work at the discovery of cultural resources, paleontological resources, or

human remains, respectively. The project would not make a contribution to cumulative effects on cultural resources.

4.1.6 Geology, Soils, and Paleontological Resources

As discussed in the Initial Study for the project, design and engineering standards would address potential geology and soils issues, and the potential impact on paleontological resource would be less than significant with mitigation. The project would have measures in place to protect paleontological resources and would not be expected to contribute to cumulative losses of these resources.

4.1.7 Greenhouse Gas Emissions

Climate change is the result of cumulative contributions by actions occurring worldwide. Cumulative impacts relating to greenhouse gas emissions are analyzed in Section 3.2, *Greenhouse Gas Emissions*.

4.1.8 Hazardous Materials

As discussed in the Initial Study for the project, the project is not anticipated to exacerbate risk based on hazards or hazardous materials. The small potential for increased risk during construction would not be individually or cumulatively significant because the handling requirements ensure hazardous materials are stored, transported, and used correctly. There would be no cumulative impact.

4.1.9 Land Use and Planning

As discussed in the Initial Study for the project, the proposed project would have no land use or planning impacts. Therefore, there would be no cumulative impact.

4.1.10 Mineral Resources

There are no commercial deposits of minerals identified within the project area. Accordingly, the project make no contribution to a cumulative effect on minerals. As discussed in the Initial Study for the project, the project would not adversely impact mineral resources. Therefore, there would be no cumulative impact.

4.1.11 Noise and Vibration

Impact C-NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards (Less than Significant with Mitigation)

Site Plan 1 and Site Plan 2

As discussed for impact NOI-1 above, the project under either Site Plan 1 or Site Plan 2 may result in noise in excess of applicable local standards without the incorporation of mitigation. Although specific future projects located close to the proposed project are not known at this time, future cumulative projects are expected to be developed in Clovis and may be located relatively close to the project site. Consequently, the potential for project-related noise to combine with noise from future cumulative projects must be assessed.

Project operations, including parking lot operations, HVAC equipment, emergency generators, buses at the transit center, and events at the plaza but not including project-related traffic, would be expected to result in the generation of noise in the project vicinity. Potential direct project impacts related to HVAC equipment, emergency generators, and event noise at the plaza were identified in Impact NOI-1. Significant noise levels from these sources could potentially combine with noise from other cumulative projects to result in cumulative noise impacts.

However, implementation of project Mitigation Measures NOI-1a, NOI-1b, and NOI-1c would reduce direct noise impacts from these project noise sources to less-than-significant levels, and would ensure that the project would not result in a cumulatively considerable contribution to potential cumulative operational (non-traffic related) noise impacts. Cumulative noise impacts related to these operational noise sources would be less than significant with mitigation.

Cumulative growth in the city could lead to increased noise levels from vehicular traffic. A cumulative substantial permanent increase in traffic noise would occur if a greater than 3 dB increase from existing condition to future cumulative condition (2039 plus-project) noise levels were to occur. The proposed project would result in a cumulatively considerable contribution to a cumulative traffic noise impact if project-added traffic would result in an increase of more than 3 dB from cumulative no project conditions to cumulative with project conditions. Table 3.3-14 present the modeling results of the cumulative traffic scenarios.

As shown in table 3.3-14, no roadway segment is predicted to have a 3 dB increase in noise levels between existing conditions and cumulative with project conditions. Therefore no significant cumulative traffic noise impacts are identified. Further, project traffic would not increase traffic noise levels from cumulative no project conditions to cumulative with project conditions by 3 dB along any modeled roadway segments. Therefore, the project would not result in a cumulatively considerable contribution to traffic noise along any roadway segment. Cumulative traffic noise impacts would be less than significant.

Because cumulative noise impacts related to project operations (excluding traffic) would be less than significant with mitigation, and because cumulative traffic noise impacts would be less than significant, overall cumulative project impacts related to the exposure of persons to or generation of noise levels in excess of applicable standards would be **less than significant with mitigation.**

Impact C-NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (Less than Significant)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-2, construction vibration from the proposed project under either Site Plan 1 or Site Plan 2 may be perceptible at nearby land uses. However, according to the Municipal Code for the City of Clovis, (Section 9.22.100, Vibrations), vibration from temporary construction or demolition and vehicles associated with construction is exempt from the provisions of Municipal Code pertaining to vibration. In addition, project operation is not expected to result in any perceptible vibration.

Because direct project impacts related to the generation of vibration were determined to be less than significant, the project would not result in a cumulatively considerable contribution to any potential cumulative vibration impacts. Cumulative impacts related to the exposure of persons to or generation of excessive groundborne vibration would be **less than significant.**

Impact C-NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity (Less than Significant with Mitigation)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-3, operation of the proposed project under either Site Plan 1 or Site Plan 2 would result in noise from buses, mechanical equipment, parking lot activity, and plaza events. Project operation could result in permanent increases in noise levels in the project vicinity. However, implementation of Mitigation Measures NOI-1a, NOI-1b and NOI-1c would reduce noise impacts related to a substantial permanent increase in noise to less-than-significant levels.

Because direct project impacts related to a substantial permanent increase in noise were determined to be less than significant with mitigation, the project would not result in a cumulatively considerable contribution to potential cumulative noise impacts related to a permanent increases in noise. Cumulative impacts related to a substantial permanent increase in ambient noise levels would be **less than significant with mitigation***.*

Table 4-1. Project Traffic Noise Impacts along Nearby Roadway Segments (50 feet) under Cumulative and Cumulative plus Project Conditions

Roadway	Segment	Existing CNEL	Cumulative No Project Conditions (2039) CNEL	Cumulative With Project Conditions (2039) CNEL	Delta between Existing Conditions and Cumulative with Project Conditions (dB)	Significant Cumulative Impact? [a]	Delta between Cumulative no Project Conditions and Cumulative with Project Conditions (dB)	Cumulatively Considerable Project Contribution to Cumulative Impact?[b]
Clovis Avenue	North of Sierra Ave.	68	69	69	1	No	0	No
Clovis Avenue	Sierra Ave. to Second St.	66	67	67	1	No	0	No
Clovis Avenue	Second St. to Third St.	66	67	67	1	No	0	No
Clovis Avenue	Third St. to Fourth St.	65	66	66	1	No	0	No
Clovis Avenue	Fourth St. to Fifth St.	65	66	66	1	No	0	No
Clovis Avenue	South of Fifth St.	65	66	66	1	No	0	No
Sierra Avenue	West of Clovis Ave.	64	65	65	1	No	0	No
Sierra Avenue	East of Clovis Ave.	56	57	57	1	No	0	No
Second Street	West of Clovis Ave.	50	51	51	1	No	0	No
Third Street	West of Clovis Ave.	56	57	57	1	No	0	No
Third Street	Clovis to Veterans Pkwy	63	64	65	2	No	1	No
Third Street	East of Veterans Pkwy	62	63	64	2	No	1	No
Fourth Street	West of Clovis Ave.	53	54	54	1	No	0	No
Fourth Street	East of Clovis Ave.	50	51	51	1	No	0	No
Fifth Street	West of Clovis Ave.	60	61	61	1	No	0	No
Fifth Street	Clovis Ave. to Veterans Pkwy	60	61	61	1	No	0	No
Fifth Street	East of Veterans Pkwy	60	61	61	1	No	0	No
Veterans Way	Third St. to Fourth St.	53	54	55	2	No	1	No
Veterans Way	Fourth St. to Fifth St.	53	54	55	2	No	1	No

[a] A cumulative impact results when there is a 3 dB increase in noise levels from existing conditions to cumulative (Year 2039 with project) conditions.
[b] Cumulatively considerable contribution to a cumulative impact results if the project contributes a 3 dB increase to a cumulative impact.
CNEL = community noise equivalent level.
dB = decibel.

Impact C-NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity (Less than Significant)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-4, project construction activities under either Site Plan 1 or Site Plan 2 are proposed to take place only during exempt hours. Because construction would comply with the restrictions set out in the Noise Ordinance, any temporary increase in noise would not be considered substantial. Direct project impacts related to a substantial temporary increase in noise from project construction were determined to be less than significant. Because direct project impacts related to a substantial temporary increase in noise were determined to be less than significant, the project would not result in a cumulatively considerable contribution to potential cumulative impacts related to a temporary or periodic increase in noise. Cumulative impacts related to a substantial temporary increase in ambient noise levels would be **less than significant.**

Impact C-NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels (No Impact)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-5, the public airport nearest the project area (Site Plans 1 and 2) is the Fresno Yosemite International Airport, located more than 3 miles south-southwest of the project site. There would be no direct project impact related to aircraft noise from public airports. Further, the project would not result in a cumulatively considerable contribution to a potential cumulative impact related to aircraft noise from public airports. **No impact.**

Impact C-NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting of exposure to people residing or working in the project area to excessive noise levels (No Impact)

Site Plan 1 and Site Plan 2

As discussed under Impact NOI-6, the Kindsvater Ranch Airport is the closest private airstrip to the project area (Site plans 1 and 2) and is located more than 10.5 miles east of the project site. There would be no direct project impact related to aircraft noise from private airstrips. Further, the project would not result in a cumulatively considerable contribution to a potential cumulative impact related to aircraft noise from private airstrips. **No impact.**

4.1.12 Population and Housing

As discussed in the Initial Study for the project, the proposed project would not adversely impact population or housing. Therefore, there would be no cumulative impact.

4.1.13 Public Services

The construction of facilities to provide public services is not a cumulative impact. Facilities are built within the urban fabric of Clovis as needed to support new development on an irregular basis, with no cumulative impact. The project's contribution would not create a new cumulative impact.

4.1.14 Recreation

The project would not contribute to impacts on recreation. It will have a beneficial impact on recreational opportunities for seniors.

4.1.15 Traffic

As discussed in Section 3.7, although the project would exacerbate the existing LOS of F at Veterans Way and Fifth Street during the a.m. peak hour and contribute to cumulative effects at all study intersections, the City permits a lower LOS where there is inadequate right-of-way to provide improvements. This is the case at Clovis Avenue and Fifth Street and at Clovis Avenue and Third Street, where the location of buildings and required building setbacks impose constraints.

In addition, the City permits a lower LOS in instances that would result in other public benefits. As discussed in Chapter 2, Section 2.3, *Project Overview*, the Landmark Commons Civic Center North project would provide numerous public benefits, specifically a senior activity center and clinic that would offer services to as many as 500 people per day, a county regional branch library that would replace a smaller facility, a transit center that would serve as a hub for bus riders, and a public plaza. Furthermore, Circulation Element Policy 3.3 prioritizes pedestrians, bicyclists, and mass transit ahead of motorists for transportation decisions in Old Town Clovis. One of the project's objectives is to optimize public transit, pedestrian, and bicycle access to the site, and the services that would be provided there. Despite the City's policies and implementation of the roundabout, the project would make a considerable contribution to the cumulative impact Veterans Way and Fifth Street during the a.m. peak hour. It would not make a considerable contribution to other intersections.

4.1.16 Utilities and Service Systems

The planning area has sufficient capacity in wastewater treatment, stormwater drainage facilities, and water supply including future facilities to be built in conjunction with future development to accommodate the project. Consequently, there would be no cumulative impact for these resources. The project can be accommodated by existing and projected services and would not contribute considerably to an existing cumulative impact, nor would it create a new cumulative impact.

Similarly, as discussed in Section 3.17, *Utilities and Service Systems*, the planning area has sufficient future solid waste disposal capacity. Although future development under the General Plan would generate solid waste, there is no cumulative impact to which such development would contribute.

4.2 Growth-Inducing Impacts

CEQA requires a discussion of the ways in which the project would be growth-inducing. State CEQA Guidelines Section 15126.2(d) identifies a project as growth-inducing if it fosters economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The General Plan update would not directly authorize new development and therefore would not directly induce growth. However, it could indirectly induce growth by removing barriers to growth, by creating a condition that attracts additional population or new economic activity, or by providing a catalyst for future growth in the area. While these proposals may have a potential to induce growth, they do not automatically result in growth. Growth can

happen only through capital investment in new economic opportunities by the public or private sectors.

Typically, the growth-inducing potential of a project is considered significant if it fosters growth or a concentration of population in excess of the existing setting or baseline. Growth may be induced through the provision of infrastructure or service capacity that would accommodate new development.

The Landmark Commons Civic Center North project would not be growth-inducing. The proposed project does not include construction of residential units or businesses that would attract new residents. The project site is adequately served by existing infrastructure and the proposed project not include any road or infrastructure improvements that would indirectly induce growth.

4.3 Significant and Unavoidable Impacts

Section 15126.2(a) (b) of the State CEQA Guidelines requires an EIR to identify and focus on the significant environmental effects of the proposed project, including effects that cannot be avoided if the proposed project were implemented. Each of the preceding impact sections has identified those significant impacts that cannot be reduced below a level of significance.

The reader is directed to the various impact sections in Chapter 3 of this EIR for a more detailed discussion of each of these significant and unavoidable impacts.

Chapter 5
References

5.1 Chapter 1, Introduction

None.

5.2 Chapter 2, Project Description

None.

5.3 Chapter 3, Impact Analysis

None.

5.4 Chapter 3.1, Air Quality

Printed References

California Air Resources Board. 2016. *Ambient Air Quality Standards*. Last Revised: May 4, 2016. Available: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>. Accessed: December 29, 2017.

California Air Resources Board. 2017a. *iADAM: Air Quality Data Statistics: Top 4 Summary*. Available: <http://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed: May 31, 2017.

California Air Resources Board. 2017b. *Area Designations Maps.* Last Revised: October 18, 2017. Available: <http://www.arb.ca.gov/desig/adm/adm.htm>. Accessed: December 29, 2017.

California Department of Public Health. 2016. Valley Fever Fact Sheet. January. Available: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/ValleyFeverFactSheet.pdf>. Accessed: December 29, 2017.

California Department of Transportation. 1998. *User's Guide for CL4: A User-Friendly Interface for the Caline 4 Model for Transportation Project Impact Assessments*. June. Available: <http://www.dot.ca.gov/hq/env/air/documents/CL4Guide.pdf>. Accessed: February 1, 2018.

City of Clovis. 2014a. *City of Clovis General Plan*. August. Available: <http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlan2014/ClovisGP_Adopted_Aug2014_wFig.pdf?ver=2015-04-03-100817-897>. Accessed: December 29, 2017.

City of Clovis. 2014b. *Final Environmental Impact Report: General Plan and Development Code Update*. Prepared by PlaceWorks, Santa Ana, CA. August. Available: <https://www.ci.clovis.ca.us/Portals/0/Documents/CityCouncil/Agendas/2014/20140825/PDS%20-%20Final%20PEIR%20Att%205.pdf?ver=2014-08-21-155952-403>. Accessed: December 29, 2017.

Garza, V. J., P. Graney, D. Sperling, D. Niemeier, D. Eisinger, T. Kear, D. Chang, and Y. Meng. 1997. *Transportation Project-Level Carbon Monoxide Protocol*. Report prepared for the Environmental Program of Caltrans by the Institute of Transportation Studies at the University of California, Davis (Report No. UCD-ITS-44-97-21).

Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program: Risk Assessment Guidelines and Guidance Manual for Preparation of Health Risk Assessments*. February. Available: <https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf>. Accessed: January 29, 2018.

San Joaquin Valley Air Pollution Control District. 2015a. *Guidance for Assessing and Mitigating Air Quality Impacts*. March. Available: <http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf>. Accessed: December 29, 2017.

San Joaquin Valley Air Pollution Control District. 2015b. *Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document*. May. Available: < http://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf>. Accessed: January 30, 2017.

U.S. Environmental Protection Agency. 2017a. *Monitor Values Report*. Last Revised: March 13, 2017. Available: <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>. Accessed: December 29, 2017.

U.S. Environmental Protection Agency. 2017b. *Greenbook of Nonattainment Areas for Criteria Pollutants*. Last Revised: December 31, 2017. Available: <https://www.epa.gov/green-book>. Accessed: December 31, 2017.

5.4.1.1 Personal Communications

Haussler, Andy. Community & Economic Development Director. City of Clovis. July 21, 2017 – Email to Cherry Zamora, ICF, Sacramento, CA, regarding the project's construction equipment EPA-rated engine tier levels.

5.5 Chapter 3.2, Greenhouse Gas Emissions

Printed References

Association of Environmental Professionals. 2016. *Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. October. Available: https://www.califaep.org/images/climate-change/AEP-2016_Final_White_Paper.pdf. Accessed: January 23, 2018.

Blasing, T. J. 2016. *Recent Greenhouse Gas Concentrations*. DOI: 10.3334/CDIAC/atg.032. Updated April. Accessed: December 29, 2017.

California Air Resources Board. 2016. *LCFS Workgroups and Subprograms*. May. Available: https://www.arb.ca.gov/fuels/lcfs/workgroups/workgroups.htm. Accessed: February 6, 2018.

California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November. Available: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: January 22, 2018.

Center for Climate and Energy Solutions. n.d. *Climate Basics: Changes in the Climate*. Available: https://www.c2es.org/content/changes-in-climate/. Accessed: February 6, 2018.

City of Clovis. 2014. *City of Clovis General Plan*. August. Available: <http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlan2014/ClovisGP_Adopted_Aug2014_wFig.pdf?ver=2015-04-03-100817-897>. Accessed: December 29, 2017.

Fresno Council of Governments. 2014. *2014 Regional Transportation Plan and Sustainable Communities Strategy*. June. Available: https://www.fresnocog.org/wp-content/uploads/publications/RTP/Final_RTP/Fresno_COG_2014_RTP-SCS_Final.pdf. Accessed: January 22, 2018.

Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor and H. L. Miller (eds.). Available: <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>. Accessed: December 29, 2017.

San Joaquin Valley Air Pollution Control District. 2009. *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA.* December. Available: <https://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf>. Accessed: December 29, 2017.

5.6 Chapter 3.3, Noise

Printed References

California Department of Transportation. 2013a. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September. Available: <http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf>. Accessed: May 7, 2017.

———. 2013b. Transportation and Construction Vibration Guidance Manual. September. Available: <http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf>. Accessed: May 7, 2017.

Charles M. Salter Associates, Inc. 2008. *Raley Field Entertainment Facility, Environmental Noise Study*. May 2.

City of Clovis. 2014. *City of Clovis General Plan*. Adopted August 25. Prepared by Placeworks.

———. 2016. *Traffic Impact Study for the Proposed Clovis Landmark Commons Project.* November 23.

Federal Highway Administration. 2006. Roadway Construction Noise Model User's Guide. January. Available: <http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf> Washington, DC.

———.2004. FHWA Traffic Noise Model, Version 2.5. February. Washington D.C.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Available: <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf >. Accessed: May 7, 2017.

U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*. December 31.

5.7 Chapter 3.4, Transportation/Traffic

Printed References

City of Clovis. 2016a. *Central Clovis Specific Plan*. Draft. November 7.

City of Clovis. 2016b. *Clovis Active Transportation Plan*. Prepared by Fehr and Peers. October.

Fresno Council of Governments. 2009. *Congestion Management Process*. October. Fresno, CA.

Fresno Council of Governments. 2014. *2014 Regional Transportation Plan and Sustainable Communities Strategy*. Adopted June 26. Fresno, CA.

Transportation Research Board. 2010a. *Highway Capacity Manual*.

Transportation Research Board 2010b. *Roundabouts: An Informational Guide*. National Cooperative Highway Research Program Report 672. Second Edition. Washington, D.C.

5.8 Chapter 4, Other CEQA Considerations

Printed References

City of Clovis. 2017. Landmark Commons Civic Center North Initial Study. March 2017.

Chapter 6
Report Preparers

The CEQA Lead Agency for this Draft EIR is the City of Clovis and the responsible agency is Fresno County.

This Draft EIR was prepared for the City of Clovis by ICF (ICF). This chapter lists the primary individuals who prepared the report.

6.1 City of Clovis

- Andrew Haussler—Community & Economic Development Director

6.2 ICF

- Sally Zeff, AICP—Project Director
- Terry Rivasplata, AICP—Project Manager, document review
- Cherry Zamora—Project Coordinator, document preparation and review
- Darrin Trageser—*Air Quality and Greenhouse Gas Emissions*
- Elizabeth Scott—*Noise*
- Paul Shigley—*Transportation/Traffic*
- Tim Messick—Graphics
- Alex Angier—GIS

Appendix A

Notice of Preparation

2017041010

Notice of Preparation

To: State Clearinghouse
Responsible Agencies
Other Agencies
(Interested Parties)

From: Marianne Mollring
City of Clovis
1033 Fifth Street
Clovis, CA 93612

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

The City of Clovis will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. A scoping meeting will be held for public agencies to provide input on the scope and content of the EIR. The scoping meeting will be directed towards government agencies on April 18, 2017, at 2:00 PM to 4:00 PM at the City of Clovis, 1033 Fifth Street, Clovis, CA 93612.

Please send your response to Marianne Mollring at the address shown above. We will need the name for a contact person in your agency.

Project Title: **Landmark Commons Civic Center North**

Date: April 4, 2017

Signature: M Mollring
Title: Analyst
Telephone: 559-324-2064

Notice of Completion & Environmental Document Transmittal

2017041010

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Landmark Commons Civic Center North

Lead Agency: City of Clovis
Contact Person: Marianne Mollring
Mailing Address: 1033 Fifth Street
Phone: (559) 324-2064
City: Clovis
Zip: 93612
County: Fresno

Project Location: County: Fresno
City/Nearest Community: Clovis
Cross Streets: North side of Third Street, between Clovis Avenue and Osmun Avenue
Zip Code: 93612
Longitude/Latitude (degrees, minutes and seconds): 36 ° 49 ′ 38.14″ N / 119 ° 41 ′ 58.06″ W
Total Acres: 5.33
Assessor's Parcel No.: 492-010-46 and 492-131-07
Section: 4
Twp.: 13S
Range: 21E
Base: Mt. Diablo
Within 2 Miles: State Hwy #: SR-168
Waterways:
Airports:
Railways:
Schools: San Joaquin College of Law, Clark Intermediate School, Weldon Elementary School, Our Lady of Perpetual Help School.

Document Type:

CEQA:
- [x] NOP
- [ ] Early Cons
- [ ] Neg Dec
- [ ] Mit Neg Dec
- [ ] Draft EIR
- [ ] Supplement/Subsequent EIR (Prior SCH No.)
- Other: Initial Study attached

NEPA:
- [ ] NOI
- [ ] EA
- [ ] Draft EIS
- [ ] FONSI

Other:
- [ ] Joint Document
- [ ] Final Document
- [ ] Other:

Local Action Type:

Governor's Office of Planning & Research
APR 04 2017
STATE CLEARINGHOUSE

- [ ] General Plan Update
- [ ] General Plan Amendment
- [ ] General Plan Element
- [ ] Community Plan
- [ ] Specific Plan
- [ ] Master Plan
- [ ] Planned Unit Development
- [x] Site Plan
- [ ] Rezone
- [ ] Prezone
- [ ] Use Permit
- [ ] Land Division (Subdivision, etc.)
- [ ] Annexation
- [x] Redevelopment
- [ ] Coastal Permit
- [ ] Other:

Development Type:

- [ ] Residential: Units ____ Acres ____
- [x] Office: Sq.ft. ____ Acres ____ Employees ____
- [ ] Commercial: Sq.ft. ____ Acres ____ Employees ____
- [ ] Industrial: Sq.ft. ____ Acres ____ Employees ____
- [ ] Educational:
- [ ] Recreational:
- [ ] Water Facilities: Type ____ MGD ____
- [ ] Transportation: Type
- [ ] Mining: Mineral
- [ ] Power: Type ____ MW ____
- [ ] Waste Treatment: Type ____ MGD ____
- [ ] Hazardous Waste: Type
- [ ] Other: Library: 36,000 sq.ft; Senior center & clinic: 25,000 sq.ft

Project Issues Discussed in Document:

- [x] Aesthetic/Visual
- [x] Agricultural Land
- [x] Air Quality
- [x] Archeological/Historical
- [x] Biological Resources
- [ ] Coastal Zone
- [ ] Drainage/Absorption
- [ ] Economic/Jobs
- [ ] Fiscal
- [ ] Flood Plain/Flooding
- [x] Forest Land/Fire Hazard
- [x] Geologic/Seismic
- [x] Minerals
- [x] Noise
- [x] Population/Housing Balance
- [x] Public Services/Facilities
- [x] Recreation/Parks
- [ ] Schools/Universities
- [ ] Septic Systems
- [ ] Sewer Capacity
- [x] Soil Erosion/Compaction/Grading
- [ ] Solid Waste
- [x] Toxic/Hazardous
- [x] Traffic/Circulation
- [ ] Vegetation
- [x] Water Quality
- [ ] Water Supply/Groundwater
- [ ] Wetland/Riparian
- [ ] Growth Inducement
- [x] Land Use
- [x] Cumulative Effects
- [ ] Other:

Present Land Use/Zoning/General Plan Designation:

Project Site Vacant / C-3 Central Trading District/ MU-V Mixed Use Village

Project Description: *(please use a separate page if necessary)*

The proposed project is a mixed-use development consisting of community and public uses. Specifically, it would entail the development of a combined 73,000 square feet of community and office uses including 36,000 square feet for the library. The county library would be moved from its current location in the Clovis Civic Center.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

X Air Resources Board
____ Boating & Waterways, Department of
____ California Emergency Management Agency
____ California Highway Patrol
____ Caltrans District # ____
____ Caltrans Division of Aeronautics
____ Caltrans Planning
____ Central Valley Flood Protection Board
____ Coachella Valley Mtns. Conservancy
____ Coastal Commission
____ Colorado River Board
____ Conservation, Department of
____ Corrections, Department of
____ Delta Protection Commission
____ Education, Department of
____ Energy Commission
____ Fish & Game Region # ____
____ Food & Agriculture, Department of
____ Forestry and Fire Protection, Department of
____ General Services, Department of
____ Health Services, Department of
____ Housing & Community Development
X Native American Heritage Commission

____ Office of Historic Preservation
____ Office of Public School Construction
____ Parks & Recreation, Department of
____ Pesticide Regulation, Department of
____ Public Utilities Commission
X Regional WQCB # 5
____ Resources Agency
____ Resources Recycling and Recovery, Department of
____ S.F. Bay Conservation & Development Comm.
____ San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
____ San Joaquin River Conservancy
____ Santa Monica Mtns. Conservancy
____ State Lands Commission
____ SWRCB: Clean Water Grants
X SWRCB: Water Quality
____ SWRCB: Water Rights
____ Tahoe Regional Planning Agency
X Toxic Substances Control, Department of
____ Water Resources, Department of

____ Other: ____
____ Other: ____

Local Public Review Period (to be filled in by lead agency)

Starting Date April 4th, 2017 Ending Date May 3rd, 2017

Lead Agency (Complete if applicable):

Consulting Firm: ICF International
Address: 630 K Street
City/State/Zip: Sacramento, CA 95814
Contact: Cherry Zamora
Phone: 916.737.3000

Applicant: ____
Address: ____
City/State/Zip: ____
Phone: ____

Signature of Lead Agency Representative: Marianne Mollring Digitally signed by Marianne Mollring Date: 2017.03.30 11:01:38 -07'00' **Date:** March 30, 2017

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

LANDMARK COMMONS CIVIC CENTER NORTH INITIAL STUDY

PREPARED FOR:

City of Clovis
1033 Fifth Street
Clovis, CA 93612
Contact: Marianne Mollring
559.324.2064

PREPARED BY:

ICF International
630 K Street, Suite 400
Sacramento, CA 95814
Contact: Cherry Zamora
916.737.3000

March 2017

ICF International. 2017. Landmark Commons Civic Center North Initial Study. Administrative Draft. November (ICF 00598.15.) Sacramento, CA. Prepared for City of Clovis, Clovis, CA.

Contents

Tables and Figures

Table **Page**

Figure **Follows Page**

Acronyms and Abbreviations

APNs	Assessor's Parcel Numbers
ARB	California Air Resources Board
BMP	best management practice
CAAQS	California ambient air quality standards
CBC	California Building Code
CEQA	California Environmental Quality Act
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
MLD	Most Likely Descendant
MSL	mean sea level
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NO_2	nitrogen dioxide
N_2O	nitrous oxide
O_3	ozone
Pb	lead
PM	particulate matter
SF_6	sulfur hexafluoride
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide

Project Description

The proposed Landmark Commons Civic Center North Project (proposed project) consists of construction and operation of a new senior activity center and clinic, public library, and transit center. The proposed project would be developed in multiple phases with full build-out anticipated in 2020. This section describes the project setting and project objectives; provides an overview of the project entitlements, land use plan, and project features; and identifies the approvals required to implement the proposed project.

Project Setting

The project site is in the City of Clovis, Fresno County, California, and is approximately 10 miles northeast of downtown Fresno. The project site is in the Old Town Clovis area and north of the Clovis Veterans Memorial Building and the San Joaquin College of Law. Figure 1 shows the regional location of the proposed project. This is a joint city/county project. For CEQA purposes, the City of Clovis is the lead agency and Fresno County is the responsible agency. The City of Clovis is developing the proposed senior center and transit hub; the County is developing the regional branch library.

Location

The 5.33-acre project site is located on the north side of Third Street, between Clovis Avenue and Osmun Avenue. It is approximately 1 mile northeast of the State Route 168/Bullard Avenue interchange and 0.75 mile south of the State Route 168/Herndon Avenue interchange. Figure 2 shows the project location.

Previous Conditions and Land Uses

The project site previously contained five buildings occupied by a variety of commercial businesses, including a lumberyard, a lawnmower repair service, an auto engine and brake service, a taxidermist, and a towing service. The buildings were demolished and the site was graded in 2015. The prior uses occupied the site to the exclusion of any native plants or habitat.

Existing Conditions and Land Uses

The project site is vacant. It is relatively flat, at an elevation of approximately 365 feet above mean sea level (MSL), and at the same approximate elevation of the surrounding area. Figure 3 shows the project area, existing conditions, and proposed future development areas. The project site is bound by residential uses to the east, the Clovis Old Town Trail and commercial uses to the west, residential, industrial, and office uses to the north, and public, commercial, and office uses to the south.

The site consists of Assessor's Parcel Numbers (APNs) 492-010-46 and 492-131-07. Table 1 presents land uses and zoning by APN.

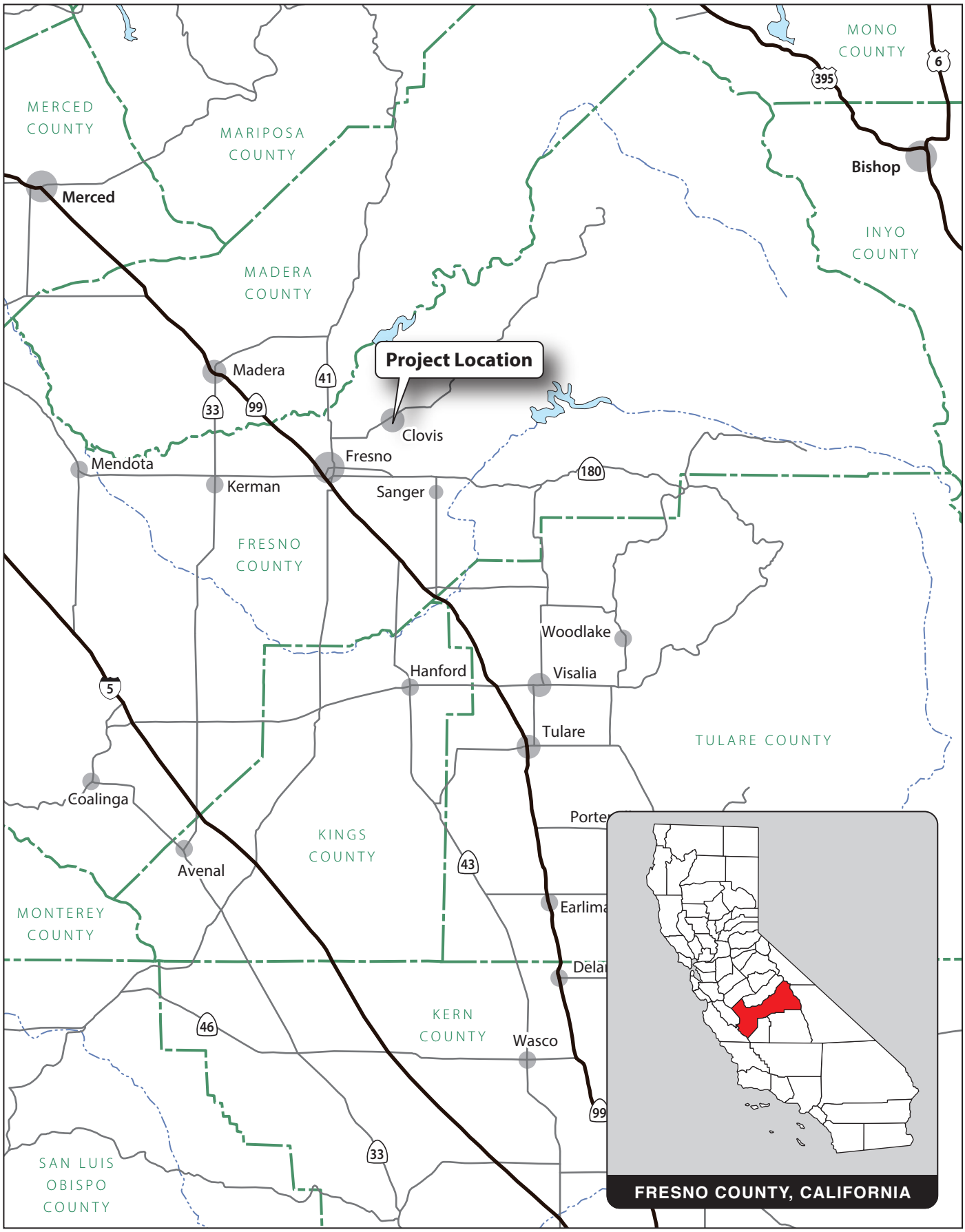


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Figure 1
Regional Location

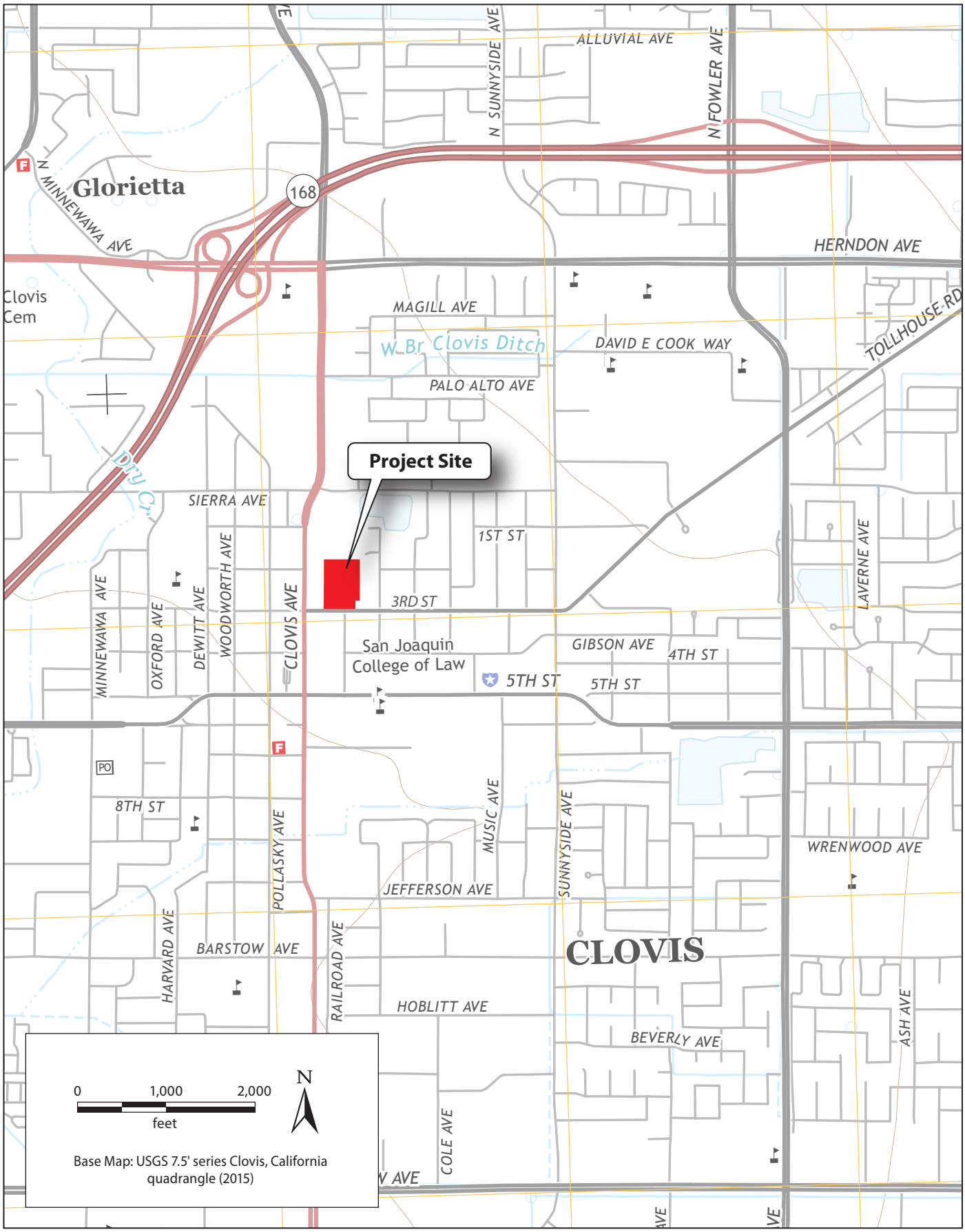

Figure 2
Project Site Location

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Figure 3
Existing Project Site

Table 1. Existing Land Use Designations and Zoning

Assessor's Parcel No.	Project Area (acres)[a]	Land Use	Zoning
492-010-46	1.21	MU-V	C-3
492-131-07	4.12	MU-V	C-3
Total	5.33		

MU-V Mixed Use Village (15.1-43.0 dwelling units per acre; mix of commercial, office, and/or residential uses on the same parcel).
C-3 Central Trading District
[a] Provided by the City of Clovis.

Project Objectives

There are two primary objectives for the proposed project.

- Accommodate the community's expanding needs for civic facilities located in central Clovis, including a transit service center, senior services activity center and clinic, and county library.
- Optimize public transit, pedestrian, and bicycle access to the site by locating the proposed project adjacent to local transit lines and adjacent to routes that provide safe and convenient access for pedestrians and bicycles.

Project Overview

The proposed project is a mixed-use development consisting of community and public uses. Specifically, it would entail the development of a combined 73,000 square feet of community and office uses including 36,000 square feet for the library. The county library would be moved from its current location in the Clovis Civic Center.

Project Entitlements

The proposed project would require a site plan review by the City of Clovis. The project is consistent with *Clovis General Plan* designations for the site and the site zoning, and so it would not require a general plan amendment or zone change. No County entitlement is either necessary or proposed.

Project Features

The proposed project would include a senior activity center and clinic, a transit center, a library, and associated parking and landscaping. A public plaza would be located between the senior activity center and the library. Figure 4 shows the proposed project site plan. Each of these features is described below.

Senior Activity Center and Clinic

An approximately 25,000-square-foot, one-story senior activity center and clinic is proposed in the southeastern portion of the site. The senior center would be a recreational activity center for people at least 50 years of age. No one would live at the senior center. It would contain classrooms, meeting rooms, an exercise room, gym, multipurpose room with commercial kitchen, and offices.

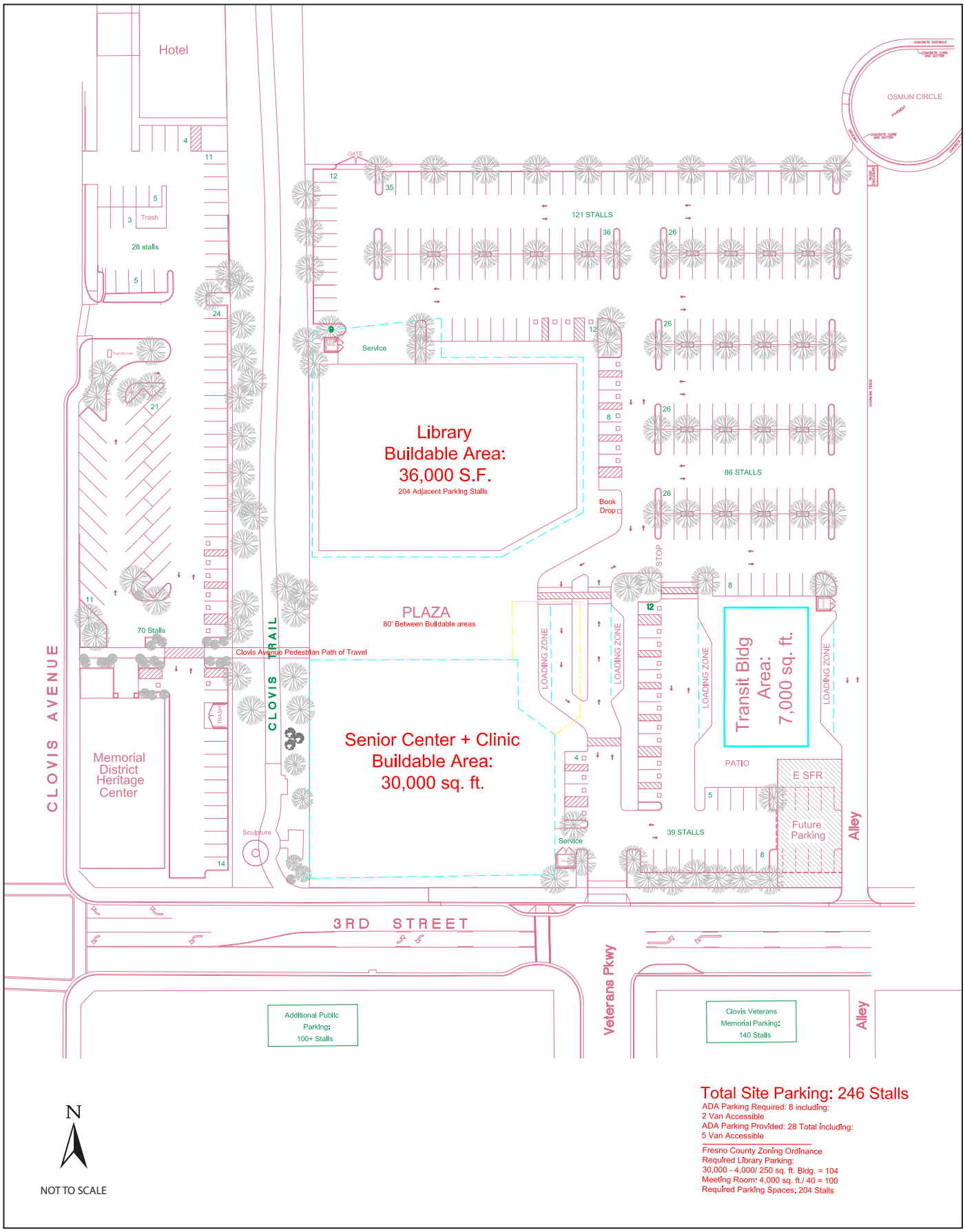

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Figure 4
Proposed Project Site Plan

This new facility would replace the existing senior activity center located at 850 Fourth Street. The number of people in the facility would vary hour-to-hour, depending upon the activity. Most people would come for an activity or two and not stay all day. Attendance is expected to range from 100 to 500 people a day. Regular facility hours would be 8:00 a.m. to 5 p.m. on weekdays, but there would be limited activities and events in the evening and on weekends for outside groups, classes, and special events.

The multipurpose room is expected to hold 300 people and would be available for rent on Saturday afternoons and evenings. The hours of the gym are expected to go beyond the regular office hours as well. Special events could include car shows, rummage sales, and 5K running events, all of which could increase the number of people in attendance. Regarding the number of vehicles, people would come and go throughout the day. At the most, 100 cars would be in the parking lot at any one time. Many seniors ride public transit, take a van provided by their apartment complex, or ride together, all of which reduces the number of single-occupant vehicles. For weekend hall rentals, there could be up to 200 cars. These events would typically be in the evening when transit is no longer operating and the library is closed. The city would coordinate with the library for special events to make sure that they are not both having events on the same day. There would be some service deliveries to the kitchen/multipurpose room: senior meals are delivered daily in a van and supplies are delivered weekly on average. During hall rentals or special events, deliveries of food, decorations, rental equipment, and other items would occur throughout the day. During hall rentals and special events, there may be live or recorded music inside the building or, if it is an outside event, outside the building. This could occur as early as 7:00 a.m., and as late as midnight for weekend special events and 10:00 p.m. on weekdays. There may be outside cooking such as barbecue, as well.

The clinic would provide medical, imaging, and lab services. Clinic staffing would consist of three clinical providers comprised of physicians and nurse practitioners. Each provider would be able to accommodate approximately 3,400 patient visits annually. Hours of operation for the clinic would be 7:30 a.m. to 5:30 p.m. on weekdays.

The building would have an emergency generator, but the generator would only run when the power is out or during testing of the unit.

Transit Center

An approximately 7,000 square-foot, one-story transit building would contain office space, a ticket and public information counter, staff break areas, loading areas, and bicycle parking. In addition, there would be a meeting and training room for 80 to 100 people that could also be used by the public. Buses would collect and drop off passengers at the transit center. The primary project access point will be a new driveway connecting to Third Street at Veterans Way. Secondary access will be provided via an existing north-south alley along the eastern edge of the project site that currently connects to Third Street at the south end and to the Osmun Circle cul de sac at the north end. An estimated 6 to 8 fixed-route buses per hour would stop at the center, plus there would be Roundup dial-a-ride type buses that stop intermittently throughout the day so that drivers may use the restroom or meet with staff. Passengers may wait for the bus inside or outside the building. Buses would not be stored at the site, but some could be parked there for an extended time during training. Bus drivers would be required to shut off bus engines and not allow them to idle more than 5 minutes. However, if there are passengers on board and it's very hot or cold, engines may run longer.

Library

An approximately 30,000-square-foot library is proposed in the western portion of the site. This one-story building would replace the existing library currently located in the Civic Center on Fifth Street. The proposed library would be county library and would be subject to county design and approval.

The current Civic Center library would be renovated to support future offices uses at a future date.

The new building will provide services that are presently not available in the current facility due to space limitations. The branch library will feature all of the amenities of a 21st Century modern library including: a children's garden, multiple study rooms, a meeting room (minimum 50 person capacity), a conference room (minimum 200 capacity), innovation lab (including 3D printer and sewing machines), quiet reading room, children's story time area, and a dedicated teen lounge. The branch library will house many personal computers for public use, early literacy stations for children, and fast, reliable Wi-Fi during open hours. Back-of-house operations will also be included, allowing ample storage of library materials and a means for shipping and receiving trucks and miscellaneous deliveries to conveniently access the branch library.

The branch library's hours of operation are to be Monday through Thursday 9:00 am to 9:00 p.m., Friday and Saturday 9:00 a.m. to 5:00 p.m. and Sunday 12 pm to 5:00 pm. There may be times outside operating hours when the public will use the building for special events and programming. For example, stargazing events, author talks, teen evening and weekend events and a host of additional programming are planned for this branch library, in keeping with events at facilities of similar size throughout the County Library system.

The new branch library is anticipated to host an average of 1,200 people throughout the course of the day. For special events, groups of up to 300 may be in the facility at one time to enjoy programming. Such events will be limited to 2-3 monthly.

Parking

Approximately 246 paved parking spaces are proposed for the site to serve the new facilities. The parking area would accommodate visitors to the proposed transit center, branch library, and senior center, as well as employees. The parking area is sized to accommodate the heavier demand when there are events at the senior center or the transit center meeting and training room is in full use. Approximately 204 parking stalls are expected to be in regular use by the library.

Public Spaces and Landscaping

There would be a public plaza between the senior activity center and the library. Landscaping would be installed at the locations of the proposed buildings. The proposed parking lot would contain shade trees and drought tolerant landscaping consistent with City requirements outlined in Chapter 10.1 of the Clovis Municipal Code and the City's Water Efficient Landscape Ordinance. There also would be a small courtyard by the library.

Project Phasing and Construction

Buildout of the project would likely occur over 2 years. It is anticipated construction would be phased within the project site. Construction is anticipated to begin in 2018.

Construction hours of all phases would conform to City noise ordinances, which apply to construction activities from 7 a.m. to 7 p.m. Monday through Friday, and 9 a.m. and 5 p.m. on weekends.

Required Approvals

The City will prepare an environmental impact report (EIR) to document the potential environmental effects of the proposed project and to determine whether the impacts could be avoided or mitigated to less-than-significant levels.

The City is the lead agency under the California Environmental Quality Act (CEQA) for the proposed project. This EIR may also be used by regulatory and responsible agencies — agencies other than the City that would be responsible for issuing permits and approvals needed for the City to proceed with the proposed project. A list of potential permits and approvals required by the City is identified below.

- Certification by the City of Clovis City Council of the Final EIR.
- Approval by the City of Clovis of building and grading permits.
- Site Plan Review approval by the City of Clovis
- Approval of future uses at the existing library site by the City of Clovis

Other local approvals under CEQA may be required as the project is implemented. This EIR may be used for other approvals that may be necessary or desirable for project implementation. The other local agency project approvals that may be required are listed below.

- Approvals by Fresno County related to design, construction, and relocation of the library.

Environmental Checklist

1.	**Project Title:**	Landmark Commons Civic Center North
2.	**Lead Agency Name and Address:**	City of Clovis 1033 Fifth Street Clovis, CA 93612
3.	**Contact Person and Phone Number:**	Marianne Mollring City of Clovis 1033 Fifth Street Clovis, CA 93612 (559) 324-2064
4.	**Project Location:**	APN 492-010-46, Clovis, California 93612 APN 492-131-07, Clovis, California 93612 (previously 755 Third Street, Clovis, California, 93612)
5.	**Project Sponsor's Name and Address:**	City of Clovis 1033 Fifth Street Clovis, CA 93612
6.	**General Plan Designation:**	Mixed Use Village
7.	**Zoning:**	C-3 Central Trading District

8. Description of Project:

See *Project Overview* section.

9. Surrounding Land Uses and Setting:

See *Project Overview* section.

10. Public Agencies Whose Approval is Required:

City of Clovis City Council – Certification of the Final EIR
City of Clovis – Approval of building and grading permits
Fresno County – Approvals for the design, construction, and relocation of the library

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural and Forestry	☒ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☒ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☒ Public Services	☒ Recreation
☒ Transportation/Traffic	☒ Utilities/Service Systems	☒ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☒ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature	Date
Printed Name	For

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact". The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XIX, *Earlier Analyses*, may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

I. Aesthetics	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☒	☐	☐

Aesthetics

Affected Environment

The project site is vacant. It is relatively flat, at an elevation of approximately 365 feet MSL, and is the same approximate elevation of the surrounding area. The project site is located in a developed area of Clovis and is bound by residential uses to the east, the Clovis Old Town Trail and commercial uses to the west, residential, industrial, and office uses to the north, and public, commercial, and office uses to the south.

Discussion

Checklist items a and c: Have a substantial adverse effect on a scenic vista? Substantially degrade the existing visual character or quality of the site and its surroundings?

The project site is located in a developed area of Clovis adjacent to residential, commercial, industrial, and office uses. The visual character of this area is defined by low buildings, parking lots, and residences in an urban setting. Because of the surrounding urban area and lack of topographic change, there are no scenic vistas.

The proposed project is considered infill development that would be consistent with the existing visual character and quality of the surrounding areas. It would effectively extend northward the civic uses embodied by the existing Clovis Veterans Memorial Building, Clovis Civic Center, and San Joaquin School of Law. The proposed project is not anticipated to degrade the existing visual character or quality of the site and its surroundings. Therefore, the proposed project would have **no impact.**

Checklist item b: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?

The project site is not visible from State Route 180, which is the only designated scenic highway in Fresno County (California Department of Transportation 2016). The proposed project would be located on a vacant site. Therefore, construction of the proposed project would not require any tree removal. There are no rock outcroppings or historic building present. Therefore, the proposed project would have **no impact**.

Checklist item d: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Existing sources of light and glare near the project site include the adjacent commercial, industrial, and office uses. Interior and exterior lighting associated with the project could provide additional light sources. Exterior light sources would consist of security lighting on buildings, walkway lighting, and lighting in the parking lot.

The proposed buildings would be single-story and would not be constructed of reflective material. Therefore, they would not be a source of daytime light or glare.

Nighttime lighting would be shielded in accordance with Mitigation Measure AES-1 in order to avoid creating a new source of substantial nighttime light or glare. The impact of the proposed project would be **less than significant with mitigation incorporated**.

Mitigation Measure AES-1: Implement Lighting Design That Limits Light Spill

All exterior lighting will be shielded to avoid release of light upward. Exterior building and walkway lighting shall be directed downward and light fixtures shall be no taller than necessary to provide secure lighting of buildings and walkways. Light spill onto adjoining properties shall be avoided through design and shielding of light fixtures. The parking lot lighting will be of no greater intensity or height than is necessary to provide secure lighting of the parking lot. Parking lot light fixtures shall be directed downward so that no light is emitted above a 90 degree angle from vertical, and light fixtures shall be shielded to keep light from spilling off the site.

References

California Department of Transportation. 2016. List of Eligible and Officially Designated State Scenic Highways. Available: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm. Accessed: August 1, 2016.

II. Agricultural and Forestry Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Agricultural and Forestry Resources

Affected Environment

The project site is vacant, previously developed land designated as "Urban and Built-Up Land" on the California Department of Conservation Important Farmland map (California Department of Conservation 2015). Surrounding areas consist of additional Urban and Built-Up Land.

Discussion

Checklist item a: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The proposed project would be located entirely within a previously developed site. Because the project site is not located on any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, there would be **no impact.**

Checklist item b: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

The project site is zoned for commercial use (City of Clovis 2015) and is not under a Williamson Act contract (California Department of Conservation 2016). Therefore, the proposed project would not conflict with existing zoning for agricultural uses or a Williamson Act contract. There would be **no impact**.

Checklist item c and d: Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? Result in the loss of forest land or conversion of forest land to non-forest use?

No timber management activities occur on the project site or in adjacent areas. Because the project site is not zoned as forest land, timberland, or for timberland production, and there are no forest resources located on the project site, there would be **no impact**.

Checklist item e: Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

As noted above, the project site does not contain any farmland or agricultural uses, and there are no agricultural uses in the vicinity. Therefore, there would be **no impact**.

References

California Department of Conservation. 2015. Fresno County Important Farmland 2014 (Sheet 2 of 2). Available: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/fre14_e.pdf. Accessed: July 14, 2016.

California Department of Conservation. 2016. Fresno County Williamson Act FY 2016/2016 (Sheet 2 of 2). Available: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Fresno_e_15_16_WA.pdf. Accessed: July 14, 2016.

City of Clovis. 2015. City of Clovis Zone Map. Available: http://www.ci.clovis.ca.us/Portals/0/Documents/GISMapping/ZoneMap.pdf?ver=2015-08-31-115323-457. Accessed: July 14, 2016

III. Air Quality	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Air Quality

Affected Environment

The proposed project would be located in Fresno County, which is in the San Joaquin Valley Air Pollution Control District (SJVAPCD). Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and particulate matter (PM10 and PM2.5) are commonly used as indicators of ambient air quality conditions. These pollutants are known as "criteria pollutants" and are regulated by the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB) through national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS), respectively. The NAAQS and CAAQS limit criteria pollutant concentrations to protect human health and prevent environmental and property damage. According to EPA, sensitive receptors include hospitals, schools, daycare facilities, elderly housing, and convalescent facilities. These facilities are called out because they have occupants who are more susceptible than other people to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants (U.S. Environmental Protection Agency 2016).

Discussion

The project would generate pollutant emissions during construction in the form of construction vehicle emissions and dust. During operations, the greatest source of emissions would be vehicles (both private vehicles and public transit vehicles) coming to and from the site. There would also be

emissions associated with hot water heating and stove use at the senior activity center, library, and clinic. Because of the expected emissions from construction of the proposed project and vehicle traffic related to project operations, the City has determined that the air quality impacts will be evaluated in the EIR to be prepared for this project.

References

U.S. Environmental Protection Agency. 2016. *What are Sensitive Receptors?* Available: https://www3.epa.gov/region1/eco/uep/sensitivereceptors.html. Accessed: July 14, 2016.

IV. Biological Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Biological Resources

Affected Environment

The project site is vacant. The project site has been entirely graded and does not contain habitat for sensitive plant or animal species. The project site previously contained structures, which were demolished in 2015. The structures limit the potential for biological habit. The west side of the project site is bordered by the Clovis Old Town Trail, but the trail is not known to contain habitat for sensitive plant or animal species. The potential for special-status wildlife or plant species to occur on the project site is extremely low because there are no natural communities onsite, and the project

site is not bordered by any parks, natural areas, water or riparian areas (Argonaut Ecological Consulting, Inc. 2013).

Discussion

Checklist item a: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

The entirety of the proposed project would be constructed within the project site, which consists of previously developed land. The entire project site has been graded in anticipation of future construction. The proposed project would not have a substantial adverse effect either directly or through habitat modification on any candidate, sensitive, or special-status species. The proposed project would have **no impact**.

Checklist item b: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS?

The proposed project would not impact riparian habitat or other sensitive natural communities because none is located on the project site. The proposed project would have **no impact**.

Checklist item c: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

The project site has been developed and there are no vernal pools or federally protected wetlands located within the project site; therefore, the proposed project would have **no impact**.

Checklist item d: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed project would have no impact on waterways and, therefore, no impact on native resident or migratory fish. Resident and migratory waterfowl would not be adversely affected by the construction of the project because the site is already developed. Further, no breeding, nesting, or foraging habitat exists on the project site or in any area that would be affected by project construction; therefore, waterfowl behavior and movement patterns would remain unchanged. There are no native wildlife nursery sites in the project site. The proposed project would have **no impact**.

Checklist items e and f: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The project site and surrounding area does not contain any natural lands. Therefore, the project would not conflict with any local policies (e.g., general plan policies) or ordinances protecting biological resources. Also, no adopted habitat conservation plans or natural community conservation plans apply to this part of Fresno County. No conflict with local policies or any adopted conservation plan would result from project implementation. The proposed project would have **no impact**.

References

Argonaut Ecological Consulting, Inc. 2013. *Biological Assessment of the Clovis Lumber Yard Property, Clovis, Fresno County, California.* Prepared for City of Clovis. October 2013.

V. Cultural Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Cultural and Paleontological Resources

Affected Environment

The project site previously contained five buildings occupied by a variety of commercial businesses, including a lumber company, a lawnmower repair service, an auto engine and brake service, a taxidermist, and a towing service. The buildings were demolished and the site was graded in 2015. The project site is vacant and contains no known properties eligible for or listed on the California Register of Historic Resources (Peak & Associates 2013). A city-wide cultural resources analysis was undertaken in 2012 as part of the EIR prepared for the *Clovis General Plan* (SWCA Environmental Consultants 2012). In addition, a site-specific analysis was prepared for the site prior to removal of the onsite buildings that were there previously (Peak & Associates 2013). These analyses found that no recorded archaeological or historical resources are located within the project boundaries (SWCA Environmental Consultants 2012; Peak & Associates 2013). The search of the Native American Heritage Commission's sacred lands database and consultations with tribes undertaken for the *Clovis General Plan* did not identify any sacred lands on the site, but did not eliminate that possibility that sacred lands exist on the project site. A search of the Native American Heritage Commission's sacred lands database completed in August 2016 did not result in any new or updated information. Therefore, the City concludes that it is unlikely that there are any cultural resources on the project site.

Discussion

Checklist items a and b: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?

It is unlikely that any cultural or historical resources would be found during the construction of the proposed project because all construction would take place on previously developed and disturbed land. However, it is possible construction of the new facilities would result in the discovery of buried cultural or historic resources, because the project site was graded but not the subject of excavation

for new buildings. California Public Resources Code Section 5097.5 prohibits destruction of cultural resources. Following is the text of this requirement:

> A person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

Therefore, to reduce potential impacts on potential undiscovered cultural resources, the following standard mitigation measure would be implemented if resources are found during construction.

Mitigation Measure CUL-1: Stop Work at Discovery of Cultural Resources

If buried cultural resources, such as chipped or ground stone, historic debris, or building foundations, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop a response plan, with appropriate treatment measures, in consultation with Fresno County, the State Historic Preservation Officer, and other appropriate agencies. Preservation in place shall be the preferred treatment method pursuant to State CEQA Guidelines Section 15126.4(b) (avoidance, open space, capping, easement). Data recovery of important information about the resource, research, or other actions determined during consultation is allowed if it is the only feasible treatment method.

Because there are no known historic or archaeological resources present on site, construction and operation of the proposed project is not anticipated to cause a substantial adverse change in the significance of a historical, archaeological, or paleontological resource. Therefore, with implementation of Mitigation Measure CUL-1 if necessary, the proposed project would result in an impact that is **less than significant with mitigation incorporated**.

Checklist item c: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

There are no known unique paleontological resources, sites, or unique geologic features at the project site. Although the entire project site has been previously graded, it is remotely possible that construction of the new facilities' foundations would result in the discovery of paleontological resources or sites. The potential is remote because project development would not require extensive excavations. To reduce potential impacts on undiscovered paleontological resources, the following mitigation measure would be implemented if resources are found during construction.

Mitigation Measure CUL-2: Stop Work at Discovery of Paleontological Resources

The construction contractor and subcontractors shall stop all work in the area immediately in the event that paleontological resources are encountered during grading, construction, landscaping, or other construction-related activity. The Clovis Public Works Department shall be notified and a qualified archaeologist will be contacted to evaluate the resources and recommend appropriate mitigation.

Work may resume after the find has been mitigated appropriately.

Because there are no known paleontological resources present on site, construction or operation of the proposed project is not anticipated to destroy any paleontological resources. Still,

paleontological resources could be encountered. With implementation of Mitigation Measure CUL-2, the proposed project would result in an impact that is **less than significant with mitigation incorporated**.

Checklist item d: Disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains, including those interred outside of formal cemeteries, on the project site. The proposed project would be constructed on previously developed land in which no human remains were found during construction of previous facilities.

Although the entire project site has been previously disturbed by construction of the previous lumber yard, it is possible construction of the new facilities would result in the discovery of human remains. To reduce potential impacts on undiscovered human remains, Mitigation Measure CUL-3 would be implemented if remains are found during construction.

Mitigation Measure CUL-3: Stop Work at Discovery of Human Remains

If human skeletal remains are encountered, ground-disturbing activities will be stopped within a 100-foot radius of the discovery. The Fresno County coroner must be contacted immediately and is required to examine the discovery within 48 hours. If the county coroner determines that the remains are Native American, the coroner is required to contact the Native American Heritage Commission (NAHC) within 24 hours. A qualified archaeologist should also be contacted immediately. The coroner is required to notify and seek out a treatment recommendation of the NAHC-designated Most Likely Descendant (MLD).

- If NAHC identifies an MLD, and the MLD makes a recommendation, and the landowner accepts the recommendation, then ground-disturbing activities may resume after a qualified archeologist verifies and notifies Fresno County that the recommendations have been completed.
- If NAHC is unable to identify the MLD, or the MLD makes no recommendation, or the landowner rejects the recommendation, and mediation pursuant to Public Resources Code Section 5094.98(k) fails, then ground-disturbing activities may resume, but only after a qualified archeologist verifies and notifies Fresno County that the landowner has completely reinterred the human remains and items associated with Native American burials with appropriate dignity on the property, and ensures no further disturbance of the site pursuant to Public Resources Code Section 5097.98(e) by County recording, open space designation, or a conservation easement.

If the coroner determines that no investigation of the cause of death is required and that the human remains are not Native American, then ground-disturbing activities may resume after the coroner informs Fresno County of such determination. According to state law, six or more human burials at one location constitute a cemetery and disturbance of Native American cemeteries is a felony (Public Resources Code Sections 21083.2, 5094.98, 5097.5, 5097.9; Health and Safety Code Sections. 7050.5, 7052).

Because no human remains have been discovered during previous disturbance of the project site, and the site is not located in a known sensitive zone for the existence of such resources, and with implementation of the above mitigation measure, the proposed project would result in an impact that is **less than significant with mitigation**.

References

Peak & Associates, Inc. 2013. *An Evaluation of the Clovis Lumber Yard Building Complex, 755 Third Street, City of Clovis, California*. Prepared for Argonaut Ecological Consulting, Inc. October.

SWCA Environmental Consultants. 2012. *Cultural Resources Study in Support of the Clovis General Plan Update Environmental Impact Report, City of Clovis, Fresno County, California*. Prepared for The Planning Center. December.

VI. Geology and Soils	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
2. Strong seismic ground shaking?	☐	☐	☒	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
4. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Geology and Soils

Affected Environment

The project site is located in the San Joaquin Valley, a broad structural trough bound by the Sierra Nevada and Coast Ranges of California. The San Joaquin Valley, which comprises the southern portion of the Great Valley of California, has been filled with several thousand feet of sedimentary deposits. Sediments in the eastern valley, derived from the erosion of the Sierra Nevada, have been

deposited by major to minor west-flowing drainages and their tributaries. Near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. The sedimentary deposits in the region form large coalescing alluvial fans with gentle slopes. The groundwater in the area is reported to be first encountered at a depth of approximately 95 feet below the ground surface. The groundwater flow direction in the area of the subject site is generally towards the southwest (Krazan & Associates, Inc. 2013).

A pre-quaternary fault has been identified approximately 5.5 miles east of the project site (City of Clovis 2014a).

Discussion

Checklist item a: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: 1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? 2) Strong seismic ground shaking? 3) Seismic-related ground failure, including liquefaction? 4) Landslides?

1. The project site is not located on a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map (California Department of Conservation 2016). The proposed project would be located outside of the Alquist-Priolo zone and designed in compliance with the Alquist-Priolo Special Studies Zone Act of 1972 and state earthquake codes. Therefore, there would be **no impact**.
2. Although the project site is not located on a known earthquake fault, a pre-quaternary fault has been identified approximately 5.5 miles east of the project site (City of Clovis 2014a). A major earthquake on the nearby fault would cause strong seismic ground shaking.

   This hazard cannot be avoided but the effects can be reduced to an acceptable level of risk by proper construction and implementation of required seismic requirements. The California Building Code (CBC) requires the implementation of engineering solutions for constraints to urban development posed by slopes, soils, and geology. The CBC and the California Division of Mines and Geology Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117, include design and construction requirements for safety. The City of Clovis Building Division oversees design and construction of all buildings and facilities subject to the CBC (City of Clovis 2016). City of Clovis staff reviews all applications to ensure the latest design criteria are met. Fresno County would review the design of the new library. These requirements reduce risks from seismic ground shaking on the project site to levels considered acceptable for the state and region. Compliance with these existing standards would ensure impacts of strong seismic ground shaking are **less than significant**.
3. The project site is not susceptible to liquefaction as identified in the Clovis General Plan due to the underlying geology (City of Clovis 2014b). The project would be required to be built in accordance with existing building standards, which would reduce the risks associated with liquefaction. Compliance with these standards would ensure impacts of seismic-induced liquefaction are **less than significant**.
4. The site is nearly flat and is, therefore, not subject to landslide. There would be **no impact.**

Checklist item b: Result in substantial soil erosion or the loss of topsoil?

The project site was previously graded. Project construction would result in temporary loss of minimal topsoil. Construction activities such as clearing, grading, and site preparation, which could contribute to the loss of topsoil, would be minimal because much of this work was done when the project site was graded previously. Prior to the initiation of grading, the City would be required to obtain coverage under the State Water Resources Control Board General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan. Compliance with the Construction General Permit would prevent erosion and loss of topsoil. Therefore, this impact would be **less than significant**. For a discussion of erosion potential as it relates to water quality, see Section IX, *Hydrology and Water Quality*.

Checklist item c: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

No liquefaction or lateral spreading issues have been identified by the California Department of Conservation (2016) and, because the project site is flat, there is no potential for landslides. Subsidence has not historically been an issue at the project site and is not anticipated to be in the future.

Potential impacts from unstable soils would be reduced through compliance with building codes discussed under checklist item a. Therefore, this impact would be **less than significant**.

Checklist item d: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The project site has not experience impacts resulting from expansive soils and it is anticipated that the proposed project would not either. In addition, potential effects from expansive soils would be minimized through design and construction compliance with CBC, and Fresno County and City of Clovis building codes. Therefore, the impact would be **less than significant.**

Checklist item e: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The proposed project would connect to the existing sewer system. Therefore, there would be **no impact**.

References

California Department of Conservation. 2016. CGS Information Warehouse: Regulatory Maps. Available: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed: August 2, 2016.

City of Clovis. 2014a. Figure ES-3 Regional Faults, Clovis General Plan. Available: http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlan2014/ES-3%20Regional_Faults_120814.pdf?ver=2015-01-16-091027-103. Accessed: August 2, 2016.

City of Clovis 2014b. *Clovis General Plan and Development Code Update Program Environmental Impact Report*. Draft. Section 5.6, *Geology and Soils*. June. Available: http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlanUpdate/June2014Review/Ch%2005-06%20GEO.pdf?ver=2014-06-23-140425-953. Accessed: August 2, 2016.

City of Clovis. 2016. Clovis Building Permits and Inspections. Available: https://www.ci.clovis.ca.us/Depts-Services/Planning-and-Development/Building-Permits. Accessed: August 2, 2016.

Krazan & Associates, Inc. 2013. *Phase 1 Environmental Site Assessment, Commercial/Industrial Property, 755 Third Street, Clovis, California 93612*. Prepared for City of Clovis. September.

VII. Greenhouse Gas Emissions	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Greenhouse Gas Emissions

Affected Environment

Climate change is a complex phenomenon that has the potential to alter local climatic patterns and meteorology. Increases in anthropogenic greenhouse gas (GHG) emissions have been unequivocally linked to recent warming and climate shifts (Intergovernmental Panel on Climate Change 2007). Although modeling indicates that climate change will result globally and regionally, there remains uncertainty with regard to characterizing the precise *local* climate characteristics and predicting precisely how various ecological and social systems will react to any changes in climate at the local level. Regardless of this uncertainty in precise predictions, it is widely understood that some degree of climate change is expected as a result of past and future GHG emissions.

The most common GHGs resulting from human activity are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). State CEQA Guidelines also define GHGs to include perfluorinated carbons, sulfur hexafluoride (SF_6), and hydrofluorocarbons. Unlike criteria air pollutants, which occur locally or regionally, the long atmospheric lifetimes of GHGs allow them to be well-mixed in the atmosphere and carried over distances. Within California, transportation is the largest source of GHG emissions (37% of emissions in 2014), followed by industrial sources (24%) (California Air Resources Board 2016).

There is currently no federal law specifically related to climate change or the reduction of GHGs. California has adopted statewide legislation addressing various aspects of climate change and GHG emissions mitigation. Much of this legislation establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. Of particular importance are Assembly Bill 32, which establishes a statewide goal to reduce GHG emissions to 1990 levels by 2020 and SB 32, which establishes a statewide reduction goal of 40% below 1990 levels by 2030. Governors Schwarzenegger and Brown have also issued several executive orders related to the state's evolving climate change policy. Although these orders do not directly apply to the City, they illustrate the state's commitment to reducing GHG emissions. At the local level, SJVAPCD has established GHG thresholds of significance to assist lead agencies in determining the level of significance of operational-related GHG emissions.

Discussion

The project would emit GHGs as a result of construction activities, and as a result of vehicle use (including transit vehicles) during operations. Because of the size of the construction project, the City has determined that GHG and climate change impacts will be evaluated in the EIR for the proposed project.

References

California Air Resources Board. 2016. *California GHG Inventory – 2016 Edition*. Emissions by Economic Sector. Last Revised: June 17, 2016. Available: http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed: August 2, 2016.

Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor and H. L. Miller (eds.).

VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Hazards and Hazardous Materials

Affected Environment

The project site is vacant. Past activities and facilities include a lumber yard, a lawnmower repair service, an auto engine and brake service, a taxidermist, a warehouse, and a towing service warehouse, which handled and sorted limited amounts of hazardous materials.

Discussion

Checklist items a and b: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction of the proposed project would involve the use, transportation, storage, and disposal of gasoline, oil, diesel fuel, solvents, paints, and other hazardous materials required for construction. Any transportation of hazardous materials would comply with all California Department of Transportation, California Environmental Protection Agency, California Department of Toxic Substances Control (DTSC), California Highway Patrol, and California State Fire Marshal regulations. In addition, handling and disposal of hazardous materials would be in accordance with all other federal, state, and local laws and regulations. The City complies with all state and federally mandated transportation, handling, and storage requirements. Typical construction best management practices (BMPs) would be implemented and may include the following provisions.

- Perform clearing and earth moving activities only during dry weather.
- Limit construction access routes and stabilize designated access points.
- No cleaning, fueling, or maintaining vehicles onsite, except in a designated area where washwater is contained and treated.
- Properly store, handle, and dispose of construction materials and wastes to prevent contact with stormwater.
- Train and provide instruction to all contractor employees and subcontractors on construction BMPs.
- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, washwater or sediments, rinse water from architectural copper, and non-stormwater discharges to storm drains and watercourses.

Compliance with federal, state, and local laws and regulation and implementation of BMPs would ensure impacts on the public and the environment are **less than significant**.

Checklist item c: Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Two schools, Weldon Elementary School and Clark Intermediate School, are located within a quarter mile of the project site. However, the proposed project's compliance with federal, state, and local laws and regulation and implementation of BMPs during construction would ensure impacts on schools are **less than significant.**

Checklist item d: Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A Phase 1 environmental site assessment was performed on the site in 2013 for the purpose of determining whether there are any records of hazardous materials on the site. The project site is not located on a hazardous materials sites list developed and maintained by DTSC pursuant to Government Code Section 65962.5 (Krazan & Associates, Inc. 2013). Potential asbestos and lead hazards were abated during the demolition of the buildings that were previously on the site. Therefore, the project site would pose no hazard to the public or the environment and the project would have **no impact**.

Checklist items e and f: Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area? Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?

The closest airport to the project site is the Fresno Yosemite International Airport, which is located in Fresno, approximate 3 miles south of the project site. The project site is not located in an airport land use area and is not within 2 miles of a public or private airport. Therefore, there would be no safety hazard for people residing or working at the project site due to aircraft overflight and there would be **no impact**.

Checklist item g: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not alter the project site in any way that would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Emergency response from fire and police protection would remain consistent with that of the existing site because the response time and distance would remain the same. There would be **no impact**.

Checklist item h: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The project site is located in an urban area of Clovis and is not within or adjacent to wildland areas. Project implementation would not significantly increase the risk from wildland fires to urbanized areas or residences, and standard measures would be employed to reduce risk of fire during construction and operation. There would be **no impact.**

References

Krazan & Associates, Inc. 2013. *Phase 1 Environmental Site Assessment, Commercial/Industrial Property, 755 Third Street, Clovis, California 93612*. Prepared for City of Clovis. September.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☒	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☒	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☒	☐	☐
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☐	☒
i. 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?	☐	☐	☒	☐
j. Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Hydrology and Water Quality

Affected Environment

The project site is located approximately 0.6 miles east of Dry Creek and approximately 6 miles southeast of the San Joaquin River. Groundwater Recharge Basin 6D is approximately 0.11 miles northeast of the project site. There are no surface water features within the project site. The project area is located within the Kings Subbasin of the larger San Joaquin Valley groundwater basin (Department of Water Resources Basin Number 5-22.08) (California Department of Water Resources 2006). Groundwater at the project site is reported to be first encountered at a depth of approximately 95 feet below ground surface (bgs). The direction of groundwater flow is generally to the southwest (WGR Southwest 2015).

Discussion

Checklist items a and f: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality?

Project construction activities, such as excavation, site clearing and grading, paving, and landscaping, could temporarily affect water quality by introducing sediments, turbidity, and pollutants associated with sediments into storm drains or other water bodies. Impervious surface area is expected to increase after project implantation. Runoff from impervious surfaces could contain nonpoint pollution sources associated with automobiles and landscaped areas. Because of regionwide Low Impact Development (LID), no site specific post-construction (or LID) BMPs are needed.

Municipal stormwater discharges in Fresno County are regulated under a State Water Board Phase I MS4 permit (National Pollutant Discharge Elimination Systems [NPDES] Order No. R5-2013-0080, General Permit No. CA0083500). The order specifies requirements for the Permittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP) to ensure that the increased pollutant loads and flows do not adversely affect the beneficial uses of the receiving waters. The Permit requires Permittees to develop and implement a storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the Fresno-Clovis Urbanized Area subject to the Permittees' jurisdiction. Federal regulations require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. As required for MS4 permit compliance, the Fresno-Clovis Storm Water Quality Management Program (SWQMP) for stormwater discharges from Fresno-Clovis urbanized areas was developed (Resolution No. R5-2015-0046). The project would be subject to SWQMP requirements to address pollutants in stormwater discharges by including specific pollution prevention and control practices in project design, construction, and maintenance. The project would be subject to NPDES requirements, and a Storm Water Pollution Prevention Plan (SWPPP) would be prepared for the project. The City would implement measures to minimize and contain erosion and sedimentation, and to minimize runoff flows into storm drains. The SWPPP would include BMPs to ensure impacts from erosion and sediment, non-stormwater discharges, and hazardous spills are minimized.

All project construction activities would be subject to existing regulatory requirements, as identified in Mitigation Measure HYD-1. The proposed project would be required to meet all applicable water

quality objectives for surface waters and groundwater contained in the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan). Accordingly, the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality. The impact would be **less than significant with mitigation**.

Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit

The City shall obtain coverage under the Construction General Permit in accordance with State Water Resources Control Board Order No. 2009-0009-DWQ. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list best management practices (BMPs) that the discharger will use to protect stormwater runoff and document the placement and maintenance of those BMPs. The City shall implement all applicable BMPs to reduce construction effects on water quality and eliminate non-stormwater discharges. BMPs shall include the following.

- The work site, areas adjacent to the work site, and access roads will be maintained in an orderly condition, free and clear from debris. Personnel shall not sweep, grade, or flush surplus materials, rubbish, debris, or dust into storm drains or waterways. For activities that last more than 1 day, materials or equipment left on the site overnight shall be stored as inconspicuously as possible, and shall be neatly arranged. Any materials and equipment left on the site overnight shall be stored to avoid erosion, leaks, or other potential impacts on water quality. Upon completion of work, all building materials, debris, unused materials, concrete forms, and other construction-related materials shall be removed from the work site.
- Temporary sanitary facilities shall be provided, in compliance with California Division of Occupational Safety and Health Act regulation 8, California Code of Regulations 1526. All temporary sanitary facilities shall be located where overflow or spillage cannot enter a watercourse directly (overbank) or indirectly (through a storm drain).
- The stockpiling and disposing of demolition debris, concrete, and soil shall only take place in predetermined locations identified on construction site plans. These locations shall be protected against the potential migration of pollutants through the use of appropriate protective measures.
- All trash receptacles shall be appropriately sited at locations of common congregation such as parking, break, and restroom areas. All trash receptacles shall be securable to prevent wildlife entry.

Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District

Prior to the issuance of grading or building permits, the City of Clovis shall obtain approval of the project grading and drainage plans by the Fresno Metropolitan Flood Control District (FMFCD).

Mitigation Measure HYD-3: Implement stormwater collection measures

In the Fresno-Clovis area, the FMFCD has encouraged the capture of local stormwater into earthen basins, which allows percolation of storm water into the local groundwater aquifer. FMFCD's system has created a region-wide Low Impact Development on a macro scale. BMPs for

onsite collection of storm water prior to connection to the FMFCD system must be implemented to ensure that onsite stormwater flow is captured and ultimately drains to groundwater aquifers. Developments are required to pay connection fees to FMFCD to help fund construction and maintenance of master-planned facilities. The system accomplishes the goals set by the State Water Resources Control Board and the Regional Water Quality Control Board for the post-construction BMP program. No additional mitigation is required onsite.

Checklist item b: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge?

Water sources available in the City of Clovis consist of groundwater, surface water, and recycled water. However, groundwater is the only source of water available to the project. The groundwater source relies upon Clovis' portion of the perennial yield of the aquifer (Provost and Pritchard Consulting Group 2016). Recharge of the Kings Subbasin occurs through river and stream seepage, deep percolation of irrigation water, canal seepage, and intentional recharge. Efforts to recharge water in the greater urban area include a collaboration between the Cities of Fresno and Clovis, Fresno Irrigation District, and Fresno Metropolitan Flood Control District (FMFCD). New impervious areas that are part of the project may reduce the project site's infiltration capacities and cause more precipitation to run off into FMFCD collection facilities (storm sewers) infiltrating and recharging the underlying aquifer. Project landscaping would allow for groundwater recharge.

Groundwater at the project site is reported to be first encountered at a depth of approximately 95 feet bgs. Trenching for utilities would require up to 4 feet of excavation, and building foundations would extend up to 2 feet bgs. Construction dewatering in areas of shallow groundwater may be required during excavation activities, which could result in a temporary reduction in groundwater volumes. In the event that groundwater is encountered during construction, dewatering would be conducted on a one-time or temporary basis during the construction phase. This dewatering would not result in a loss of water that would substantially deplete groundwater supplies. Compliance with dewatering regulations would ensure dewatering activities are monitored, would not likely affect beneficial uses, and would not violate any water quality standards and waste discharge requirements.

If dewatering activities require discharges to the storm drain system or other water bodies, the water shall be pumped to a tank and tested for water quality. If it is found that the water does not meet water quality standards, it should either be treated as necessary prior to discharge so that all applicable water quality objectives (as defined in the Basin Plan) are met or hauled offsite for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such water. As required by NPDES Order No. R5-2013-0080, General Permit No. CA0083500, discharged water must meet waste discharge requirements through best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not result and to reduce pollutants to the maximum extent practicable. The water for construction activities (e.g., dust control, concrete mixing, material washing) would most likely come from nearby hydrants and be applied by truck or a direct connection with a hose. Therefore, impacts on groundwater supplies as a result of construction activities would be **less than significant**.

Checklist items c, d, and e: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite, substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite, or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The majority of the stormwater flow running off the proposed project area is in the form of sheet flow. Project construction activities would alter existing drainage patterns and could result in local (onsite) and temporary erosion and siltation. After implementation of the project, drainage patterns on the project site would be altered. The project would increase impervious surface area, and all project runoff would be re-directed into FMFCD collection and disposal system by sloped surfaces and channelization. All storm drainage would flow offsite either by surface flow or by pipe, and would be collected in public storm drainage facilities owned and operated by FMFCD, which is typical for the Fresno-Clovis area. Any runoff that may currently be flowing onto neighboring parcels would be redirected into storm drains. FMFCD has master-planned storm drain infrastructure in place to serve the project area (Figure 5). An inlet and pipeline in Third Street near the western project boundary is the primary facility available to serve the project. The project would be designed in a way that directs all project runoff to that pipeline in a manner acceptable to FMFCD.

There are no surface water features within the project site. Any water running off of the site runs onto adjacent properties via sheet flow. The quantity of runoff may increase; however, FMFCD facilities are designed to accommodate the increased flow and runoff would not result in adverse erosion or siltation or result in flooding onsite or offsite. The existing storm drain system can adequately handle the anticipated runoff volume from the site. The City would implement measures during construction according to SWPPP requirements to minimize and contain erosion and sedimentation in accordance with the Clovis Municipal Code. In addition, a grading permit would be required from the City prior to commencement of construction activities. The impact of erosion and siltation would be less than significant.

The capacity of the FMFCD master planned facilities would be sufficient to accommodate runoff from the proposed project. Only the highest-rate and highest-volume storms are large enough to burden the system of inlets, pipe and basins. However, BMPs for onsite collection and treatment of stormwater prior to connection to the FMFCD system must be implemented (Mitigation Measure HYD-3). As a result, no substantial additional pollution load would be added to the FMFCD collection or disposal facilities. The drainage study prepared for the project indicated that, with implementation of hydrological mitigation measures such as obtaining coverage under the Construction General Permit and implementing a SWPPP, the project would not substantially alter the drainage pattern and result in erosion or siltation or increase runoff that would result in flooding (Provost and Pritchard Consulting Group 2016). Impacts related to erosion or siltation, surface runoff, and stormwater drainage would be **less than significant**.

Checklist items g and h: Place housing or structures that would impede or redirect floodflows within a 100-year flood hazard area?

The project site is not within the Federal Emergency Management Agency's (FEMA's) 100-year floodplain, and lies outside of the FEMA Special Flood Hazard Area (Federal Emergency Management Agency 2009). The project site is within Flood Zone X (unshaded), which is outside the

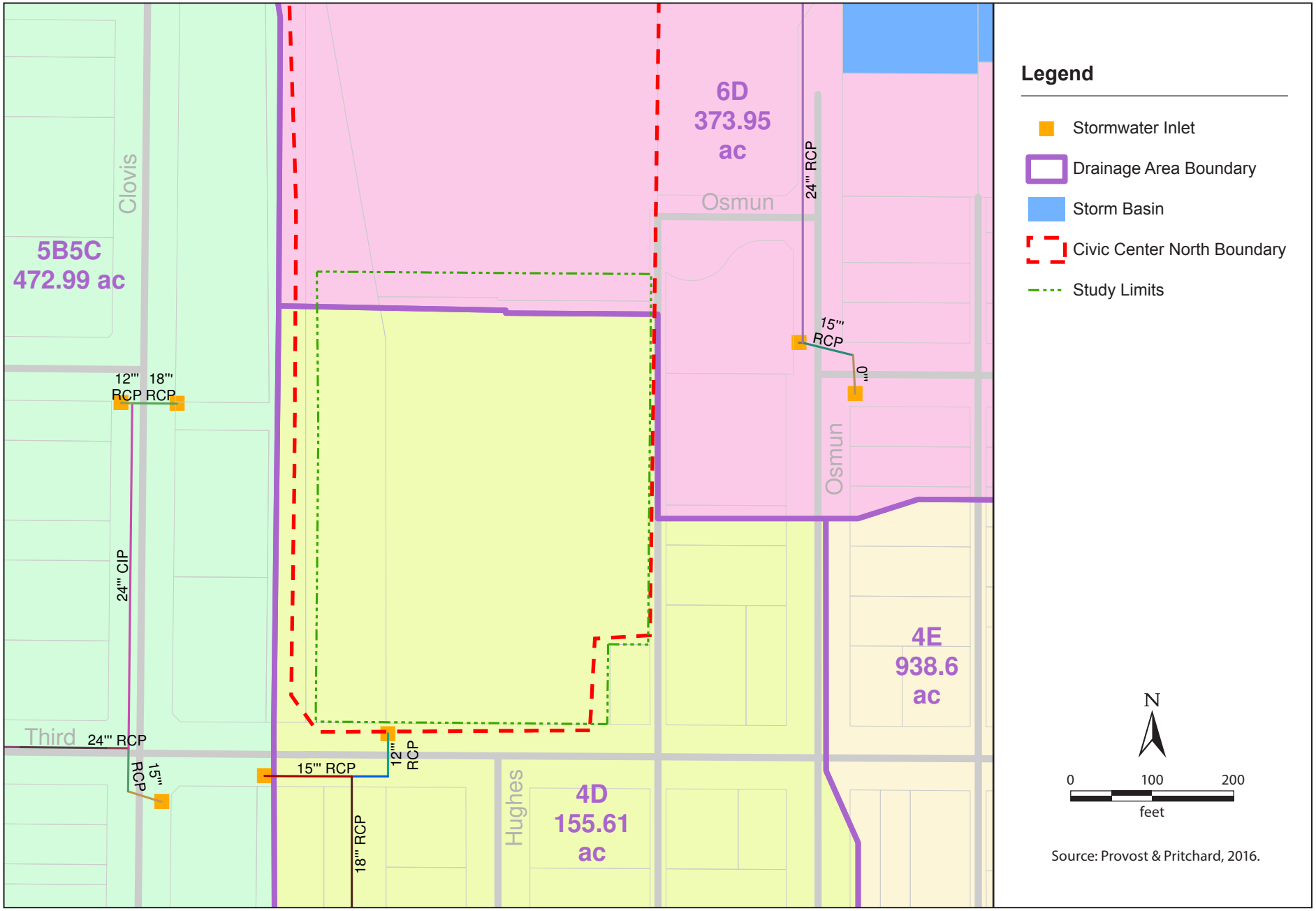

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Figure 5
Stormwater Facilities

500-year floodplain. The closest floodplain is along the San Joaquin River several miles north of the site. The site is not subject to flooding and therefore the project would not be affected by flood hazard (California Department of Water Resources 2016). No housing is proposed as part of the Project. There would be **no impact**.

Checklist item i: 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?

The project site is not located within a dam inundation area (Provost and Pritchard Consulting Group 2016). There would be **no impact**.

Checklist item j: Contribute to inundation by seiche, tsunami, or mudflow? The project site is located approximately 117 miles east of the Pacific Ocean, and, therefore, is not subject to flooding from tsunami. There are no large bodies of water near the project site, and, therefore not subject to seiche (i.e., sloshing of a confined water body due to seismic shaking). The project site and project area are generally level and are not located near slopes that would be subject to mudflows and not subject to landslides or risks from mudflows or landslides. There would be **no impact**.

References

California Department of Water Resources. 2016. Best Available Maps. Available: http://gis.bam.water.ca.gov/bam/. Accessed: September 26, 2016.

California Department of Water Resources. 2006. *San Joaquin Valley Groundwater Basin Kings Subbasin*. Bulletin 118. Available: http://www.dwr.water.ca.gov/groundwater/bulletin118/basindescriptions/5-22.08.pdf. Accessed: September 13, 2016.City of Clovis. 2014a. *Clovis General Plan*. Available: http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlan2014/ClovisGP_Adopted_Aug2014_wFig.pdf?ver=2015-04-03-100817-897. Accessed: July 14, 2016.

City of Clovis. 2016. Wastewater Collection, Treatment, and Disposal. Available: https://www.ci.clovis.ca.us/Depts-Services/Public-Utilities/Wastewater. Accessed: August 3, 2016.

Federal Emergency Management Agency. 2009. *National Flood Hazard Layer (Official).* Panel 1580 of 3525, Map # 06019C1580H, dated February 18, 2008. Available: http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30. Accessed: August 1, 2016.

Provost and Pritchard Consulting Group. 2016. *Civic Center North Drainage and Water Supply Study*. Fresno, CA. August.

WGR Southwest, Inc. 2015. *Stormwater Pollution Prevention Plan City of Clovis – Civic Center North Projec*t. May 28.

X. Land Use and Planning	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Land Use and Planning

Affected Environment

The Clovis General Plan designation for the site is MU-V for Mixed Use Village and the site is zoned C-3 for Central Trading District. Surrounding lands are designated for General Commercial (GC), Public/Quasi-Public Facilities (P), Water (W), School (S), Medium High Density Residential (MH), and High Density Residential (H) (City of Clovis 2014).

Discussion

Checklist item a: Physically divide an established community?

The proposed senior activity center and clinic, transit center, and library would be consistent with the surrounding uses and, therefore, would not divide an established community. There would be **no impact**.

Checklist item b: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed senior activity center and clinic, transit center, and library and would be consistent with the existing land use designations and zoning of the site. The proposed project would not conflict with any applicable land use plan, policy, or regulation. There would be **no impact**.

Checklist item c: Conflict with any applicable habitat conservation plan or natural community conservation plan?

No habitat conservation plan or natural community conservation plan covers the project site. Therefore, the proposed project would have **no impact**.

References

City of Clovis. 2014. *Clovis General Plan*. Available: http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlan2014/ClovisGP_Adopted_Aug2014_wFig.pdf?ver=2015-04-03-100817-897. Accessed: July 14, 2016.

XI. Mineral Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Mineral Resources

Affected Environment

The proposed project is not located in or near any of the aggregate resource or other mineral resource areas identified by the California Geological Survey (California Department of Conservation 2012).

Discussion

Checklist items a and b: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The proposed project is not located in an area of high likelihood of known significant aggregate or mineral resources (California Department of Conservation 2012). The proposed project would not limit the use of other mineral resources near the project site. Therefore, there would be **no impact**.

References

California Department of Conservation. 2012. *Aggregate Sustainability in California*. Available: http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52_2012.pdf. Accessed: July 14, 2016.

XII. Noise	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☒	☐	☐	☐
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Noise

Affected Environment

Noise Sensitive Land Uses and Ambient Noise Environment

The project site is located on the north side of Third Street, between Clovis Avenue and Osmun Avenue. It is approximately 1 mile northeast of the State Route 168/Bullard Avenue interchange and 0.75 mile south of the State Route 168/Herndon Avenue interchange. It is surrounded by residential uses to the east, the Clovis Old Town Trail and commercial uses to the west, residential, industrial, and office uses to the north, and public, commercial, and office uses to the south. The nearest residence is a single-family home, located adjacent to the southeast corner of the project site. The majority of noise in the project area comes from motor vehicle traffic and surrounding commercial, industrial, and office uses. Outdoor events that could generate noise may also be held by the library.

Discussion

Checklist items a, b, c and d: Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies? Expose persons to or generate excessive groundborne vibration or groundborne noise levels? Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

The project would generate noise during construction. Operational noise, primarily from motor vehicles, would be generated by public use of the senior activity center and clinic, transit center, and library and by transit vehicle traffic. Because a traffic analysis has not been completed for the project, noise modelling cannot be performed at this time. The preliminary finding is that the proposed construction and operational vehicle use have the potential to result in significant noise impacts. Mitigation measures will be developed when the noise study is completed, but the City cannot be sure until that time that the noise can be reduced to a less-than-significant level. A noise study will be undertaken with the project EIR, and its findings will form the basis for the final determination of significance and the inclusion of mitigation measures.

Checklist items e and f: Be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels? Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?

The closest airport to the project site is the Fresno Yosemite International Airport, which is located in Fresno, approximate 3 miles south of the project site. The project site is not located in an airport land use area and is not within 2 miles of a public or private airport. Because the proposed project would not expose employees, visitors, or construction workers to excessive noise levels related to aircraft overflight, there would be **no impact**.

References

None.

XIII. Population and Housing	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Population and Housing

Affected Environment

Fresno County and the City of Clovis' population has grown steadily since 2010. Clovis has historically grown at a faster pace than the County and this pace is expected to continue over the next 15 years. As of 2015, Clovis' population was 104,180 and is expected to grow to at an average annual rate of 1.8 percent over the next 15 years. Clovis' total population is expected to reach 164,256 by 2030 (City of Clovis 2009, U.S. Census Bureau 2015, and California Department of Transportation 2012). Population growth and growth projections within Clovis and Fresno County from 2010 to 2030 is described in Table 2.

Table 2. Clovis and Fresno County Population Growth Forecast 2010–2030

Jurisdiction	2010	2015	2030	Annual Growth Rate 2010 - 2015	Annual Growth Rate 2015 - 2030
Clovis	95,699	104,180	164,256	1.8%	3.8%
Fresno	930,452	974,861	1,186,431	0.9%	1.4%

Source: City of Clovis 2009, U.S. Census Bureau 2015, and California Department of Transportation 2012.

Discussion

Checklist item a: Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

The proposed project would not induce substantial population growth in the area, either directly or indirectly. The proposed project does not include construction of residential units or businesses that would attract new residents. The project site is adequately served by existing infrastructure and the

proposed project not include any road or infrastructure improvements that would indirectly induce growth. Impacts would, therefore, be **less than significant**.

Checklist items b and c: Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere? Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?

No housing would be removed as a part of the proposed project. There would be **no impact**.

References

California Department of Transportation. 2012. *Fresno County Economic Forecast*. Available: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2012/Fresno.pdf. Accessed: July 14, 2016.

City of Clovis. 2009. *Community Profile*. Screencheck Draft. May. Available: http://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlanUpdate/GPUCommunityProfile.pdf?ver=2009-07-15-104751-000. Accessed July 14, 2016.

U.S. Census Bureau. 2015. QuickFacts: Clovis city, California. Available: http://www.census.gov/quickfacts/table/PST045215/0614218,06019. Accessed: July 14, 2016.

XIV. Public Services	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐

Public Services

Affected Environment

Fresno County and the City of Clovis provide fire and police protection to the project site and surrounding area. The project site is located in the Clovis Unified School District. Nearby park and recreation facilities include the Clovis Old Town Trail and Treasure Ingmire Park. The project is serviced by public facilities that serve downtown Clovis.

Discussion

Checklist item a: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 fire protection, police protection, schools, parks, or other public facilities?

The project's uses would not require extraordinary fire or police protection. No additional fire or police protection facilities would be needed and the project would have no impact in that regard.

The project will not generate any school children; therefore, no new school facilities would be needed.

Similarly, the project would not include uses that require the provision of park and recreation facilities, nor would the project result in an increased use in any nearby park and recreation facilities to the extent that there would be a physical change in those facilities.

The project consists of infill development and would provide public facilities, including a replacement of the County library now in the Civic Center. No other new public facilities would be needed to serve the project.

References

None.

XV. Recreation	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. 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?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Recreation

Affected Environment

Treasure Ingmire Park is the closest park, located 0.1 mile northwest of the project site. Treasure Ingmire Park consists of a play structure, picnic and barbeque areas, and restrooms (Visit Clovis 2016). The Clovis Old Town Trail is located just west of the project site. It provides a bicycle and pedestrian trail link to Fresno. The project site is also located within 0.3 mile of the existing Clovis Library and 0.10 mile of the Clovis Senior Center.

Discussion

The project would not generate new demand for recreational uses, nor would it result in the need to rehabilitate or repair existing facilities.

The proposed senior center that is one component of this project would provide recreational opportunities for seniors. The impacts of the senior center will be disclosed in the EIR prepared for the project.

References

Visit Clovis. 2016. Clovis Parks. Available: http://www.visitclovis.com/parks-and-rec/clovis-parks. Accessed: August 1, 2016.

XVI. Transportation/Traffic	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b. Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e. Result in inadequate emergency access?	☒	☐	☐	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Transportation and Traffic

Affected Environment

The project site is located on the north side of Third Street, between Clovis Avenue and Osmun Avenue. It is approximately 1 mile northeast of the State Route 168/Bullard Avenue interchange and 0.75 mile south of the State Route 168/Herndon Avenue interchange.

Discussion

Construction traffic would include travel by construction workers and materials deliveries. Visitors and employees of the proposed uses and transit vehicles serving the transit center would generate traffic during project operation. Because a traffic study has not been completed for the project, the

City has made a preliminary determination that some of the transportation and traffic impacts could be significant. Once the traffic study is completed, traffic impacts will be determined and potential mitigation measures will be identified in the project EIR.

The project consists of one-story buildings and will not make any change in air traffic patterns. One of its objectives is to provide improved public transit facilities, so it will not conflict with adopted policies, plans, or programs. There would be no impact on bicycle or pedestrian facilities.

References

None.

XVII. Utilities and Service Systems	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☒	☐
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Utilities and Service Systems

Affected Environment

The City of Clovis supplies water to the project site. The City of Clovis depends on groundwater, surface water, and recycled water for its water supply. Wastewater service is provided by the City of Clovis and the Fresno-Clovis Regional Wastewater Treatment Facility in southwest Fresno.

Solid waste generated within the City is delivered to three landfills: City of Clovis Landfill, American Avenue Disposal Site, and Avenal Regional Landfill. Most of the solid waste goes to the City of Clovis Landfill. Of these three, Avenal Regional Landfill has the largest permitted throughput (6,000 tons per day), and American Avenue Disposal Site has the greatest remaining capacity, 29,385,535 cubic yards.

Discussion

The City has sufficient wastewater treatment capacity to serve the project and no additional facilities would be needed. Because it can be served by existing capacity, the project would not exceed Regional Water Quality Control Board requirements (City of Clovis 2014c).

The proposed senior activity center and clinic, transit center, and library would be the primary consumers of water. Water would also be used to maintain site landscaping. Because the project involves the construction of new facilities with connections to the water system, the City commissioned a study of the project's potential impact on water supply. The water supply and drainage study found that the City has sufficient water to adequately serve the project. However, it noted that the City should continue to monitor water use citywide to ensure that cumulative project demand does not exceed supply (Provost and Pritchard Consulting Group 2016)

The EIR prepared for the City's recent General Plan update found that there is sufficient landfill capacity to accommodate future development within the City (City of Clovis 2014c). The City would be responsible for meeting all requirements for solid waste disposal.

References

City of Clovis. 2014c. *Clovis General Plan and Development Code Update Environmental Impact Report*. Draft. Chapter 5: *Hydrology and Water Quality*. Available: https://www.ci.clovis.ca.us/Portals/0/Documents/Planning/GeneralPlanUpdate/June2014Review/Ch%2005-09%20HYD.pdf?ver=2014-06-23-140447-467. Accessed: September 26, 2016.

Provost and Pritchard Consulting Group. 2016. *Civic Center North Drainage and Water Supply Study*. Fresno, CA. August.

XVIII. Mandatory Findings of Significance	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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.)	☒	☐	☐	☐
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Mandatory Findings of Significance

Discussion

Checklist item a: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As discussed in Section IV, *Biological Resources*, the proposed project would not have a significant impact on biological resources in the project site. As discussed in Section V, *Cultural and Paleontological Resources*, the proposed project is unlikely to impact cultural resources; however, should cultural resources be encountered during project construction, mitigation measures contained in this initial study would reduce the impacts on these resources to a less-than-significant level. Compliance with existing regulations and standards and implementation of mitigation measures would reduce any impact on cultural resources during construction and operation of the proposed project. The impact of the proposed project would be **less than significant with mitigation incorporated**.

Checklist item b: Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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.)

The project is not expected to contribute to cumulative impacts in the following resource topics:

Aesthetics. There would be no impact on aesthetics resources as a result of the project. Therefore, there would be no cumulative impact.

Agricultural and Forestry Resources. There would be no impact on agriculture and forestry resources as a result of the project. Therefore, there would be no cumulative impact.

Biological Resources. There would be no impact on biological resources as a result of the project. Therefore, there would be no cumulative impact.

Cultural Resources. The impact on cultural resources would be less than significant with mitigation incorporated. The project would have measures in place to protect cultural resources and would not be expected to contribute to cumulative losses of these resources.

Geology and Soils. Design and engineering standards would address potential geology and soils issues, and the potential impact on paleontological resource would be less than significant with mitigation. The project would have measures in place to protect paleontological resources and would not be expected to contribute to cumulative losses of these resources.

Hazards and Hazardous Materials. The project is not anticipated to exacerbate risk based on hazards or hazardous materials. The small potential for increased risk during construction would not be individually or cumulatively significant because the handling requirements ensure hazardous materials are stored, transported, and used correctly.

Land Use and Planning. The proposed project would have no land use or planning impacts. Therefore, there would be no cumulative impact.

Mineral Resources. The proposed project would not adversely impact mineral resources. Therefore, there would be no cumulative impact.

Population and Housing. The proposed project would not adversely impact population or housing. Therefore, there would be no cumulative impact.

As noted in this Initial Study, the proposed project has the potential to have impacts that degrade the quality of the environment. As a part of the evaluation of impacts in the following topical areas, the EIR will also evaluate the potential for the project to contribute to cumulative impacts.

- Air Quality
- Greenhouse Gas Emissions and Energy
- Noise
- Transportation and Traffic

Checklist item c: Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

As noted in this Initial Study, the proposed project has the potential to have impacts that cause adverse effects on human beings related to areas including air quality and noise. These impacts and possible mitigation will be further evaluated in the EIR.

Appendix B

Existing Operational CalEEMod Output

Existing Operational CalEEMod Output

Clovis Civic Center

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	7.00	1000sqft	0.16	7,000.00	0
Library	8.46	1000sqft	0.19	8,457.00	0
Parking Lot	259.00	Space	4.00	103,600.00	0
Health Club	25.00	1000sqft	0.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking Lot acreage from Additional Questions.docx

Construction Phase - Project construction schedule based on total building construction period of 9/24/18 - 2/24/20 in Landmark Commons_Schedule.pdf

Off-road Equipment - Existing operations only.

Off-road Equipment - Existing operations only.

Off-road Equipment - Existing operations only.

Off-road Equipment - Existing operations only.

Off-road Equipment - Existing operations only.

Trips and VMT - Existing operations only.

Construction Off-road Equipment Mitigation - Revised to Tier 4 Interim based on emails on 7/21/17 from City of Clovis, Clovis GP EIR mitigation language, and conversation with Shannon Hatcher.

Stationary Sources - Emergency Generators and Fire Pumps - Existing operations only.

Vehicle Trips - Existing Trip Rates from Project TIS Addendum #1.

Grading -

Energy Use - Existing operations only.

Water And Wastewater - Existing operations only.

Solid Waste - Existing operations only.

Land Use Change - Existing operations only.

Sequestration - Existing operations only.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	8.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	18.00	0.00
tblConstructionPhase	NumDays	18.00	0.00
tblConstructionPhase	PhaseEndDate	9/28/2018	9/23/2018
tblConstructionPhase	PhaseEndDate	10/10/2018	9/28/2018
tblConstructionPhase	PhaseEndDate	8/28/2019	10/10/2018
tblConstructionPhase	PhaseEndDate	9/23/2019	8/28/2019
tblConstructionPhase	PhaseEndDate	10/17/2019	9/23/2019
tblLandUse	LotAcreage	2.33	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
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tblOffRoadEquipment	UsageHours	8.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003

tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	700.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	13.00
tblTripsAndVMT	VendorTripNumber	24.00	0.00
tblTripsAndVMT	WorkerTripNumber	60.00	0.00
tblTripsAndVMT	WorkerTripNumber	12.00	0.00
tblVehicleTrips	ST_TR	0.00	33.14
tblVehicleTrips	ST_TR	20.87	13.12
tblVehicleTrips	ST_TR	46.55	56.24
tblVehicleTrips	SU_TR	0.00	33.14
tblVehicleTrips	SU_TR	26.73	13.12
tblVehicleTrips	SU_TR	25.49	56.24
tblVehicleTrips	WD_TR	27.92	33.14
tblVehicleTrips	WD_TR	32.93	13.12

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1953	3.0000e-005	2.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3500e-003	5.3500e-003	1.0000e-005	0.0000	5.7200e-003
Energy	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	157.1015	157.1015	6.0100e-003	1.8500e-003	157.8023
Mobile	0.4406	4.5402	3.7179	0.0139	0.6961	0.0212	0.7173	0.1877	0.0201	0.2078	0.0000	1,296.7570	1,296.7570	0.1776	0.0000	1,301.1963
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	38.6069	0.0000	38.6069	2.2816	0.0000	95.6468
Water						0.0000	0.0000		0.0000	0.0000	0.9942	7.1452	8.1395	0.1024	2.4800e-003	11.4390

Total	**0.6401**	**4.5789**	**3.7532**	**0.0142**	**0.6961**	**0.0241**	**0.7202**	**0.1877**	**0.0231**	**0.2108**	**39.6011**	**1,461.0090**	**1,500.6101**	**2.5676**	**4.3300e-003**	**1,566.0902**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1953	3.0000e-005	2.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3500e-003	5.3500e-003	1.0000e-005	0.0000	5.7200e-003
Energy	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	157.1015	157.1015	6.0100e-003	1.8500e-003	157.8023
Mobile	0.4406	4.5402	3.7179	0.0139	0.6961	0.0212	0.7173	0.1877	0.0201	0.2078	0.0000	1,296.7570	1,296.7570	0.1776	0.0000	1,301.1963
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	38.6069	0.0000	38.6069	2.2816	0.0000	95.6468
Water						0.0000	0.0000		0.0000	0.0000	0.9942	7.1452	8.1395	0.1024	2.4800e-003	11.4390
Total	**0.6401**	**4.5789**	**3.7532**	**0.0142**	**0.6961**	**0.0241**	**0.7202**	**0.1877**	**0.0231**	**0.2108**	**39.6011**	**1,461.0090**	**1,500.6101**	**2.5676**	**4.3300e-003**	**1,566.0902**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT

New Trees	0.0000
Vegetation Land Change	0.0000
Total	**0.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/24/2018	9/23/2018	5	0	
2	Grading	Grading	9/29/2018	9/28/2018	5	0	
3	Building Construction	Building Construction	10/11/2018	10/10/2018	5	0	
4	Paving	Paving	8/29/2019	8/28/2019	5	0	
5	Architectural Coating	Architectural Coating	9/24/2019	9/23/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 60,686; Non-Residential Outdoor: 20,229; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Excavators	0	0.00	158	0.38
Grading	Graders	0	0.00	187	0.41
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	0	0.00	231	0.29
Building Construction	Forklifts	0	0.00	89	0.20

Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Welders	0	0.00	46	0.45
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	0	0.00	130	0.42
Paving	Paving Equipment	0	0.00	132	0.36
Paving	Rollers	0	0.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4406	4.5402	3.7179	0.0139	0.6961	0.0212	0.7173	0.1877	0.0201	0.2078	0.0000	1,296.7570	1,296.7570	0.1776	0.0000	1,301.1963
Unmitigated	0.4406	4.5402	3.7179	0.0139	0.6961	0.0212	0.7173	0.1877	0.0201	0.2078	0.0000	1,296.7570	1,296.7570	0.1776	0.0000	1,301.1963

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Government (Civic Center)	231.98	231.98	231.98	443,462	443,462
Health Club	328.00	328.00	328.00	566,675	566,675
Library	475.62	475.62	475.62	806,111	806,111
Parking Lot	0.00	0.00	0.00		
Total	1,035.60	1,035.60	1,035.60	1,816,247	1,816,247

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Government (Civic Center)	9.50	7.30	7.30	75.00	20.00	5.00	50	34	16
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government (Civic Center)	0.468366	0.035190	0.167801	0.140631	0.021453	0.005613	0.031137	0.118174	0.002382	0.001847	0.005495	0.001155	0.000758
Health Club	0.468366	0.035190	0.167801	0.140631	0.021453	0.005613	0.031137	0.118174	0.002382	0.001847	0.005495	0.001155	0.000758
Library	0.468366	0.035190	0.167801	0.140631	0.021453	0.005613	0.031137	0.118174	0.002382	0.001847	0.005495	0.001155	0.000758
Parking Lot	0.468366	0.035190	0.167801	0.140631	0.021453	0.005613	0.031137	0.118174	0.002382	0.001847	0.005495	0.001155	0.000758

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	114.9655	114.9655	5.2000e-003	1.0800e-003	115.4160
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	114.9655	114.9655	5.2000e-003	1.0800e-003	115.4160
NaturalGas Mitigated	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1359	42.1359	8.1000e-004	7.7000e-004	42.3863
NaturalGas Unmitigated	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1359	42.1359	8.1000e-004	7.7000e-004	42.3863

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	tons/yr										MT/yr					
Government (Civic Center)	91350	4.9000e-004	4.4800e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8748	4.8748	9.0000e-005	9.0000e-005	4.9038
Health Club	521750	2.8100e-003	0.0256	0.0215	1.5000e-004		1.9400e-003	1.9400e-003		1.9400e-003	1.9400e-003	0.0000	27.8426	27.8426	5.3000e-004	5.1000e-004	28.0080
Library	176498	9.5000e-004	8.6500e-003	7.2700e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004	0.0000	9.4186	9.4186	1.8000e-004	1.7000e-004	9.4746
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.2500e-003**	**0.0387**	**0.0325**	**2.3000e-004**		**2.9400e-003**	**2.9400e-003**		**2.9400e-003**	**2.9400e-003**	**0.0000**	**42.1359**	**42.1359**	**8.0000e-004**	**7.7000e-004**	**42.3863**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Government (Civic Center)	91350	4.9000e-004	4.4800e-003	3.7600e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8748	4.8748	9.0000e-005	9.0000e-005	4.9038
Health Club	521750	2.8100e-003	0.0256	0.0215	1.5000e-004		1.9400e-003	1.9400e-003		1.9400e-003	1.9400e-003	0.0000	27.8426	27.8426	5.3000e-004	5.1000e-004	28.0080
Library	176498	9.5000e-004	8.6500e-003	7.2700e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004	0.0000	9.4186	9.4186	1.8000e-004	1.7000e-004	9.4746
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.2500e-003**	**0.0387**	**0.0325**	**2.3000e-004**		**2.9400e-003**	**2.9400e-003**		**2.9400e-003**	**2.9400e-003**	**0.0000**	**42.1359**	**42.1359**	**8.0000e-004**	**7.7000e-004**	**42.3863**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Government (Civic Center)	63840	18.5718	8.4000e-004	1.7000e-004	18.6446
Health Club	220500	64.1460	2.9000e-003	6.0000e-004	64.3973
Library	74590.7	21.6993	9.8000e-004	2.0000e-004	21.7843
Parking Lot	36260	10.5485	4.8000e-004	1.0000e-004	10.5898
Total		**114.9655**	**5.2000e-003**	**1.0700e-003**	**115.4160**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government (Civic Center)	63840	18.5718	8.4000e-004	1.7000e-004	18.6446
Health Club	220500	64.1460	2.9000e-003	6.0000e-004	64.3973
Library	74590.7	21.6993	9.8000e-004	2.0000e-004	21.7843
Parking Lot	36260	10.5485	4.8000e-004	1.0000e-004	10.5898
Total		**114.9655**	**5.2000e-003**	**1.0700e-003**	**115.4160**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Mitigated	0.1953	3.0000e-005	2.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3500e-003	5.3500e-003	1.0000e-005	0.0000	5.7200e-003
Unmitigated	0.1953	3.0000e-005	2.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3500e-003	5.3500e-003	1.0000e-005	0.0000	5.7200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0303					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3500e-003	5.3500e-003	1.0000e-005	0.0000	5.7200e-003
Total	**0.1953**	**3.0000e-005**	**2.7900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.3500e-003**	**5.3500e-003**	**1.0000e-005**	**0.0000**	**5.7200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0303					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.3500e-003	5.3500e-003	1.0000e-005	0.0000	5.7200e-003

Total	**0.1953**	**3.0000e-005**	**2.7900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.3500e-003**	**5.3500e-003**	**1.0000e-005**	**0.0000**	**5.7200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.1395	0.1024	2.4800e-003	11.4390
Unmitigated	8.1395	0.1024	2.4800e-003	11.4390

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government (Civic Center)	1.39062 / 0.852314	3.4980	0.0455	1.1000e-003	4.9617
Health Club	1.47858 / 0.906226	3.7193	0.0483	1.1700e-003	5.2755
Library	0.264704 / 0.414024	0.9222	8.6600e-003	2.1000e-004	1.2018
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.1395**	**0.1024**	**2.4800e-003**	**11.4390**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government (Civic Center)	1.39062 / 0.852314	3.4980	0.0455	1.1000e-003	4.9617
Health Club	1.47858 / 0.906226	3.7193	0.0483	1.1700e-003	5.2755
Library	0.264704 / 0.414024	0.9222	8.6600e-003	2.1000e-004	1.2018
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.1395**	**0.1024**	**2.4800e-003**	**11.4390**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	38.6069	2.2816	0.0000	95.6468
Unmitigated	38.6069	2.2816	0.0000	95.6468

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government (Civic Center)	39.9	8.0993	0.4787	0.0000	20.0658
Health Club	142.5	28.9262	1.7095	0.0000	71.6635
Library	7.79	1.5813	0.0935	0.0000	3.9176
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**38.6069**	**2.2816**	**0.0000**	**95.6468**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government (Civic Center)	39.9	8.0993	0.4787	0.0000	20.0658
Health Club	142.5	28.9262	1.7095	0.0000	71.6635
Library	7.79	1.5813	0.0935	0.0000	3.9176
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**38.6069**	**2.2816**	**0.0000**	**95.6468**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	0	0	13	700	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.0000	0.0000	0.0000	0.0000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Scrub	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	0	0.0000	0.0000	0.0000	0.0000

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Construction and Operational CalEEMod Output

Clovis Civic Center

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government (Civic Center)	7.00	1000sqft	0.16	7,000.00	0
Library	30.00	1000sqft	0.69	30,000.00	0
Parking Lot	259.00	Space	4.00	103,600.00	0
Health Club	25.00	1000sqft	0.57	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking Lot acreage from Additional Questions.docx

Construction Phase - Project construction schedule based on total building construction period of 9/24/18 - 2/24/20 in Landmark Commons_Schedule.pdf

Off-road Equipment -

Off-road Equipment - Revised to 6 hrs/day based on emails on 7/21/17 from City of Clovis

Off-road Equipment - Revised to 6 hrs/day based on emails on 7/21/17 from City of Clovis

Off-road Equipment - Revised to 6 hrs/day for CMM, PE, and Rollers based on emails on 7/21/17 from City of Clovis

Off-road Equipment - Revised to 6 hrs/day based on 7/21/17 emails from City of Clovis

Trips and VMT - Hauling trips revised for site prep, grading, and paving phases based on emails on 7/21/17 from City of Clovis

Vehicle Trips - Trip Rates and Trip Lengths from Project TIS.

Construction Off-road Equipment Mitigation - Revised to Tier 4 Interim based on emails on 7/21/17 from City of Clovis, Clovis GP EIR mitigation

Stationary Sources - Emergency Generators and Fire Pumps - HP and hrs/year assumptions based on 700 East Middlefield project, which included a

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	24.00
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	24.00
tblConstructionPhase	NumDays	10.00	7.00
tblEnergyUse	LightingElect	2.92	2.99
tblEnergyUse	LightingElect	2.70	2.78
tblEnergyUse	LightingElect	2.70	2.78
tblEnergyUse	LightingElect	0.35	0.88
tblEnergyUse	T24E	2.62	2.75
tblEnergyUse	T24E	1.96	2.05
tblEnergyUse	T24E	1.96	2.05
tblEnergyUse	T24NG	12.77	12.84
tblEnergyUse	T24NG	17.03	17.11
tblEnergyUse	T24NG	17.03	17.11
tblGrading	AcresOfGrading	4.13	4.00
tblLandUse	LotAcreage	2.33	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblSequestration	NumberOfNewTrees	0.00	35.00
tblTripsAndVMT	HaulingTripNumber	0.00	264.00
tblTripsAndVMT	HaulingTripNumber	0.00	608.00
tblTripsAndVMT	HaulingTripNumber	0.00	152.00
tblVehicleTrips	CC_TL	7.30	6.30
tblVehicleTrips	CC_TL	7.30	6.30
tblVehicleTrips	CC_TL	7.30	6.30
tblVehicleTrips	CC_TL	7.30	6.30
tblVehicleTrips	CNW_TL	7.30	6.30
tblVehicleTrips	CNW_TL	7.30	6.30
tblVehicleTrips	CNW_TL	7.30	6.30
tblVehicleTrips	CNW_TL	7.30	6.30
tblVehicleTrips	CW_TL	9.50	6.30
tblVehicleTrips	CW_TL	9.50	6.30
tblVehicleTrips	CW_TL	9.50	6.30
tblVehicleTrips	CW_TL	9.50	6.30
tblVehicleTrips	ST_TR	0.00	33.14
tblVehicleTrips	ST_TR	20.87	13.12
tblVehicleTrips	ST_TR	46.55	56.24
tblVehicleTrips	SU_TR	0.00	33.14
tblVehicleTrips	SU_TR	26.73	13.12
tblVehicleTrips	SU_TR	25.49	56.24

tblVehicleTrips	WD_TR	27.92	33.14
tblVehicleTrips	WD_TR	32.93	13.12

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0981	1.0026	0.6068	1.5200e-003	0.1024	0.0466	0.1490	0.0476	0.0435	0.0911	0.0000	139.1195	139.1195	0.0250	0.0000	139.7438
2019	0.3024	2.6990	2.1393	4.5000e-003	0.0939	0.1375	0.2314	0.0255	0.1291	0.1546	0.0000	403.1740	403.1740	0.0753	0.0000	405.0572
2020	0.4695	0.1230	0.1247	2.4000e-004	3.7200e-003	6.2800e-003	9.9900e-003	9.9000e-004	5.8900e-003	6.8800e-003	0.0000	21.1612	21.1612	4.4700e-003	0.0000	21.2730
Maximum	**0.4695**	**2.6990**	**2.1393**	**4.5000e-003**	**0.1024**	**0.1375**	**0.2314**	**0.0476**	**0.1291**	**0.1546**	**0.0000**	**403.1740**	**403.1740**	**0.0753**	**0.0000**	**405.0572**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0333	0.5534	0.6253	1.5200e-003	0.1024	3.6000e-003	0.1060	0.0476	3.5300e-003	0.0511	0.0000	139.1194	139.1194	0.0250	0.0000	139.7437
2019	0.1147	1.6284	2.2225	4.5000e-003	0.0939	0.0123	0.1061	0.0255	0.0121	0.0375	0.0000	403.1737	403.1737	0.0753	0.0000	405.0569
2020	0.4605	0.0858	0.1341	2.4000e-004	3.7200e-003	3.3000e-004	4.0500e-003	9.9000e-004	3.3000e-004	1.3100e-003	0.0000	21.1612	21.1612	4.4700e-003	0.0000	21.2730
Maximum	**0.4605**	**1.6284**	**2.2225**	**4.5000e-003**	**0.1024**	**0.0123**	**0.1061**	**0.0476**	**0.0121**	**0.0511**	**0.0000**	**403.1737**	**403.1737**	**0.0753**	**0.0000**	**405.0569**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**30.05**	**40.71**	**-3.87**	**0.00**	**0.00**	**91.50**	**44.62**	**0.00**	**91.08**	**64.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-24-2018**	**12-23-2018**	1.0143	0.5420
2	**12-24-2018**	**3-23-2019**	0.7548	0.4344
3	**3-24-2019**	**6-23-2019**	0.7625	0.4413
4	**6-24-2019**	**9-23-2019**	0.7623	0.4411
5	**9-24-2019**	**12-23-2019**	0.7441	0.4333
6	**12-24-2019**	**3-23-2020**	0.6458	0.5827
		Highest	1.0143	0.5827

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2944	3.0000e-005	2.9700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	2.0000e-005	0.0000	6.1200e-003
Energy	6.7100e-003	0.0610	0.0512	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	255.7314	255.7314	9.8300e-003	2.9900e-003	256.8679
Mobile	0.7283	8.2330	5.4429	0.0236	1.1169	0.0263	1.1432	0.3011	0.0249	0.3260	0.0000	2,199.4795	2,199.4795	0.3604	0.0000	2,208.4884
Stationary	7.4700e-003	0.0209	0.0190	4.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	3.4653	3.4653	4.9000e-004	0.0000	3.4774
Waste						0.0000	0.0000		0.0000	0.0000	42.6342	0.0000	42.6342	2.5196	0.0000	105.6244
Water						0.0000	0.0000		0.0000	0.0000	1.2081	9.2795	10.4875	0.1245	3.0200e-003	14.4989
Total	**1.0369**	**8.3149**	**5.5161**	**0.0240**	**1.1169**	**0.0320**	**1.1489**	**0.3011**	**0.0306**	**0.3318**	**43.8423**	**2,467.9614**	**2,511.8036**	**3.0148**	**6.0100e-003**	**2,588.9631**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2944	3.0000e-005	2.9700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	2.0000e-005	0.0000	6.1200e-003
Energy	6.7100e-003	0.0610	0.0512	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	255.7314	255.7314	9.8300e-003	2.9900e-003	256.8679
Mobile	0.7283	8.2330	5.4429	0.0236	1.1169	0.0263	1.1432	0.3011	0.0249	0.3260	0.0000	2,199.4795	2,199.4795	0.3604	0.0000	2,208.4884
Stationary	7.4700e-003	0.0209	0.0190	4.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	3.4653	3.4653	4.9000e-004	0.0000	3.4774
Waste						0.0000	0.0000		0.0000	0.0000	42.6342	0.0000	42.6342	2.5196	0.0000	105.6244
Water						0.0000	0.0000		0.0000	0.0000	1.2081	9.2795	10.4875	0.1245	3.0200e-003	14.4989
Total	**1.0369**	**8.3149**	**5.5161**	**0.0240**	**1.1169**	**0.0320**	**1.1489**	**0.3011**	**0.0306**	**0.3318**	**43.8423**	**2,467.9614**	**2,511.8036**	**3.0148**	**6.0100e-003**	**2,588.9631**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	24.7800
Vegetation Land Change	2.8600

Total	27.6400

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/24/2018	10/2/2018	5	7	
2	Grading	Grading	10/3/2018	10/17/2018	5	11	
3	Building Construction	Building Construction	10/18/2018	12/18/2019	5	305	
4	Paving	Paving	12/19/2019	1/21/2020	5	24	
5	Architectural Coating	Architectural Coating	1/22/2020	2/24/2020	5	24	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 93,000; Non-Residential Outdoor: 31,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	6.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	6.00	97	0.37
Grading	Excavators	1	6.00	158	0.38
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	3	6.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Building Construction	Welders	1	6.00	46	0.45

Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	264.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	608.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	69.00	27.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	152.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0474	0.0000	0.0474	0.0261	0.0000	0.0261	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0120	0.1265	0.0590	1.0000e-004		6.7600e-003	6.7600e-003		6.2200e-003	6.2200e-003	0.0000	9.1245	9.1245	2.8400e-003	0.0000	9.1955
Total	**0.0120**	**0.1265**	**0.0590**	**1.0000e-004**	**0.0474**	**6.7600e-003**	**0.0542**	**0.0261**	**6.2200e-003**	**0.0323**	**0.0000**	**9.1245**	**9.1245**	**2.8400e-003**	**0.0000**	**9.1955**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-003	0.0420	5.4800e-003	1.1000e-004	2.2600e-003	1.7000e-004	2.4300e-003	6.2000e-004	1.6000e-004	7.8000e-004	0.0000	10.2860	10.2860	9.1000e-004	0.0000	10.3088
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.2000e-004	2.2300e-003	1.0000e-005	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4636	0.4636	2.0000e-005	0.0000	0.4640
Total	**1.5300e-003**	**0.0423**	**7.7100e-003**	**1.2000e-004**	**2.7600e-003**	**1.7000e-004**	**2.9400e-003**	**7.5000e-004**	**1.6000e-004**	**9.2000e-004**	**0.0000**	**10.7496**	**10.7496**	**9.3000e-004**	**0.0000**	**10.7728**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0474	0.0000	0.0474	0.0261	0.0000	0.0261	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8300e-003	0.0319	0.0603	1.0000e-004		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	9.1245	9.1245	2.8400e-003	0.0000	9.1955
Total	**1.8300e-003**	**0.0319**	**0.0603**	**1.0000e-004**	**0.0474**	**1.6000e-004**	**0.0476**	**0.0261**	**1.6000e-004**	**0.0262**	**0.0000**	**9.1245**	**9.1245**	**2.8400e-003**	**0.0000**	**9.1955**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-003	0.0420	5.4800e-003	1.1000e-004	2.2600e-003	1.7000e-004	2.4300e-003	6.2000e-004	1.6000e-004	7.8000e-004	0.0000	10.2860	10.2860	9.1000e-004	0.0000	10.3088
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.2000e-004	2.2300e-003	1.0000e-005	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4636	0.4636	2.0000e-005	0.0000	0.4640
Total	**1.5300e-003**	**0.0423**	**7.7100e-003**	**1.2000e-004**	**2.7600e-003**	**1.7000e-004**	**2.9400e-003**	**7.5000e-004**	**1.6000e-004**	**9.2000e-004**	**0.0000**	**10.7496**	**10.7496**	**9.3000e-004**	**0.0000**	**10.7728**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0270	0.0000	0.0270	0.0139	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.1265	0.0684	1.2000e-004		6.4000e-003	6.4000e-003		5.8900e-003	5.8900e-003	0.0000	11.1816	11.1816	3.4800e-003	0.0000	11.2686
Total	**0.0114**	**0.1265**	**0.0684**	**1.2000e-004**	**0.0270**	**6.4000e-003**	**0.0334**	**0.0139**	**5.8900e-003**	**0.0198**	**0.0000**	**11.1816**	**11.1816**	**3.4800e-003**	**0.0000**	**11.2686**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7600e-003	0.0968	0.0126	2.5000e-004	5.2000e-003	3.9000e-004	5.5900e-003	1.4300e-003	3.7000e-004	1.8000e-003	0.0000	23.6889	23.6889	2.1100e-003	0.0000	23.7415

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.9000e-004	2.9200e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6071	0.6071	2.0000e-005	0.0000	0.6076
Total	**3.1900e-003**	**0.0971**	**0.0155**	**2.6000e-004**	**5.8600e-003**	**3.9000e-004**	**6.2500e-003**	**1.6100e-003**	**3.7000e-004**	**1.9800e-003**	**0.0000**	**24.2960**	**24.2960**	**2.1300e-003**	**0.0000**	**24.3492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0270	0.0000	0.0270	0.0139	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1500e-003	0.0426	0.0783	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	11.1816	11.1816	3.4800e-003	0.0000	11.2686
Total	**2.1500e-003**	**0.0426**	**0.0783**	**1.2000e-004**	**0.0270**	**2.0000e-004**	**0.0272**	**0.0139**	**2.0000e-004**	**0.0141**	**0.0000**	**11.1816**	**11.1816**	**3.4800e-003**	**0.0000**	**11.2686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7600e-003	0.0968	0.0126	2.5000e-004	5.2000e-003	3.9000e-004	5.5900e-003	1.4300e-003	3.7000e-004	1.8000e-003	0.0000	23.6889	23.6889	2.1100e-003	0.0000	23.7415
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.9000e-004	2.9200e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6071	0.6071	2.0000e-005	0.0000	0.6076
Total	**3.1900e-003**	**0.0971**	**0.0155**	**2.6000e-004**	**5.8600e-003**	**3.9000e-004**	**6.2500e-003**	**1.6100e-003**	**3.7000e-004**	**1.9800e-003**	**0.0000**	**24.2960**	**24.2960**	**2.1300e-003**	**0.0000**	**24.3492**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0567	0.5014	0.3731	5.7000e-004		0.0319	0.0319		0.0300	0.0300	0.0000	50.6796	50.6796	0.0126	0.0000	50.9957
Total	**0.0567**	**0.5014**	**0.3731**	**5.7000e-004**		**0.0319**	**0.0319**		**0.0300**	**0.0300**	**0.0000**	**50.6796**	**50.6796**	**0.0126**	**0.0000**	**50.9957**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-003	0.1022	0.0185	2.1000e-004	4.7400e-003	8.3000e-004	5.5700e-003	1.3700e-003	7.9000e-004	2.1600e-003	0.0000	19.6326	19.6326	2.5100e-003	0.0000	19.6953
Worker	9.5700e-003	6.5100e-003	0.0646	1.5000e-004	0.0146	1.0000e-004	0.0147	3.8900e-003	9.0000e-005	3.9800e-003	0.0000	13.4557	13.4557	4.4000e-004	0.0000	13.4668
Total	**0.0133**	**0.1087**	**0.0831**	**3.6000e-004**	**0.0194**	**9.3000e-004**	**0.0203**	**5.2600e-003**	**8.8000e-004**	**6.1400e-003**	**0.0000**	**33.0883**	**33.0883**	**2.9500e-003**	**0.0000**	**33.1621**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.0114	0.2308	0.3803	5.7000e-004		1.7400e-003	1.7400e-003		1.7400e-003	1.7400e-003	0.0000	50.6795	50.6795	0.0126	0.0000	50.9956
Total	**0.0114**	**0.2308**	**0.3803**	**5.7000e-004**		**1.7400e-003**	**1.7400e-003**		**1.7400e-003**	**1.7400e-003**	**0.0000**	**50.6795**	**50.6795**	**0.0126**	**0.0000**	**50.9956**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-003	0.1022	0.0185	2.1000e-004	4.7400e-003	8.3000e-004	5.5700e-003	1.3700e-003	7.9000e-004	2.1600e-003	0.0000	19.6326	19.6326	2.5100e-003	0.0000	19.6953
Worker	9.5700e-003	6.5100e-003	0.0646	1.5000e-004	0.0146	1.0000e-004	0.0147	3.8900e-003	9.0000e-005	3.9800e-003	0.0000	13.4557	13.4557	4.4000e-004	0.0000	13.4668
Total	**0.0133**	**0.1087**	**0.0831**	**3.6000e-004**	**0.0194**	**9.3000e-004**	**0.0203**	**5.2600e-003**	**8.8000e-004**	**6.1400e-003**	**0.0000**	**33.0883**	**33.0883**	**2.9500e-003**	**0.0000**	**33.1621**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2373	2.1457	1.7307	2.7200e-003		0.1304	0.1304		0.1225	0.1225	0.0000	238.1816	238.1816	0.0592	0.0000	239.6613
Total	**0.2373**	**2.1457**	**1.7307**	**2.7200e-003**		**0.1304**	**0.1304**		**0.1225**	**0.1225**	**0.0000**	**238.1816**	**238.1816**	**0.0592**	**0.0000**	**239.6613**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0157	0.4599	0.0784	9.7000e-004	0.0225	3.3400e-003	0.0259	6.5100e-003	3.1900e-003	9.7000e-003	0.0000	92.5419	92.5419	0.0118	0.0000	92.8359
Worker	0.0411	0.0270	0.2709	6.9000e-004	0.0695	4.6000e-004	0.0700	0.0185	4.2000e-004	0.0189	0.0000	62.0866	62.0866	1.8500e-003	0.0000	62.1328
Total	**0.0567**	**0.4870**	**0.3493**	**1.6600e-003**	**0.0921**	**3.8000e-003**	**0.0959**	**0.0250**	**3.6100e-003**	**0.0286**	**0.0000**	**154.6285**	**154.6285**	**0.0136**	**0.0000**	**154.9687**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0540	1.0972	1.8084	2.7200e-003		8.2900e-003	8.2900e-003		8.2900e-003	8.2900e-003	0.0000	238.1813	238.1813	0.0592	0.0000	239.6610
Total	**0.0540**	**1.0972**	**1.8084**	**2.7200e-003**		**8.2900e-003**	**8.2900e-003**		**8.2900e-003**	**8.2900e-003**	**0.0000**	**238.1813**	**238.1813**	**0.0592**	**0.0000**	**239.6610**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0157	0.4599	0.0784	9.7000e-004	0.0225	3.3400e-003	0.0259	6.5100e-003	3.1900e-003	9.7000e-003	0.0000	92.5419	92.5419	0.0118	0.0000	92.8359
Worker	0.0411	0.0270	0.2709	6.9000e-004	0.0695	4.6000e-004	0.0700	0.0185	4.2000e-004	0.0189	0.0000	62.0866	62.0866	1.8500e-003	0.0000	62.1328
Total	**0.0567**	**0.4870**	**0.3493**	**1.6600e-003**	**0.0921**	**3.8000e-003**	**0.0959**	**0.0250**	**3.6100e-003**	**0.0286**	**0.0000**	**154.6285**	**154.6285**	**0.0136**	**0.0000**	**154.9687**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7100e-003	0.0574	0.0554	9.0000e-005		3.2400e-003	3.2400e-003		2.9900e-003	2.9900e-003	0.0000	7.5250	7.5250	2.3200e-003	0.0000	7.5829
Paving	1.9700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.6800e-003**	**0.0574**	**0.0554**	**9.0000e-005**		**3.2400e-003**	**3.2400e-003**		**2.9900e-003**	**2.9900e-003**	**0.0000**	**7.5250**	**7.5250**	**2.3200e-003**	**0.0000**	**7.5829**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	2.5000e-004	8.5900e-003	1.1500e-003	2.0000e-005	1.1000e-003	3.0000e-005	1.1300e-003	2.8000e-004	3.0000e-005	3.2000e-004	0.0000	2.1962	2.1962	2.0000e-004	0.0000	2.2011
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	2.8000e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6427	0.6427	2.0000e-005	0.0000	0.6432
Total	**6.8000e-004**	**8.8700e-003**	**3.9500e-003**	**3.0000e-005**	**1.8200e-003**	**3.0000e-005**	**1.8500e-003**	**4.7000e-004**	**3.0000e-005**	**5.2000e-004**	**0.0000**	**2.8389**	**2.8389**	**2.2000e-004**	**0.0000**	**2.8443**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	0.0353	0.0609	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	7.5250	7.5250	2.3200e-003	0.0000	7.5829
Paving	1.9700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2800e-003**	**0.0353**	**0.0609**	**9.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**7.5250**	**7.5250**	**2.3200e-003**	**0.0000**	**7.5829**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.5900e-003	1.1500e-003	2.0000e-005	1.1000e-003	3.0000e-005	1.1300e-003	2.8000e-004	3.0000e-005	3.2000e-004	0.0000	2.1962	2.1962	2.0000e-004	0.0000	2.2011
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	2.8000e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6427	0.6427	2.0000e-005	0.0000	0.6432
Total	**6.8000e-004**	**8.8700e-003**	**3.9500e-003**	**3.0000e-005**	**1.8200e-003**	**3.0000e-005**	**1.8500e-003**	**4.7000e-004**	**3.0000e-005**	**5.2000e-004**	**0.0000**	**2.8389**	**2.8389**	**2.2000e-004**	**0.0000**	**2.8443**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.8800e-003	0.0885	0.0921	1.4000e-004		4.8800e-003	4.8800e-003		4.5000e-003	4.5000e-003	0.0000	12.2790	12.2790	3.8600e-003	0.0000	12.3755
Paving	3.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0122**	**0.0885**	**0.0921**	**1.4000e-004**		**4.8800e-003**	**4.8800e-003**		**4.5000e-003**	**4.5000e-003**	**0.0000**	**12.2790**	**12.2790**	**3.8600e-003**	**0.0000**	**12.3755**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8000e-004	0.0134	1.8000e-003	4.0000e-005	1.1800e-003	5.0000e-005	1.2200e-003	3.1000e-004	4.0000e-005	3.6000e-004	0.0000	3.6179	3.6179	3.2000e-004	0.0000	3.6258
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.1000e-004	4.1700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0379	1.0379	3.0000e-005	0.0000	1.0386
Total	**1.0300e-003**	**0.0138**	**5.9700e-003**	**5.0000e-005**	**2.3800e-003**	**6.0000e-005**	**2.4300e-003**	**6.3000e-004**	**5.0000e-005**	**6.9000e-004**	**0.0000**	**4.6558**	**4.6558**	**3.5000e-004**	**0.0000**	**4.6644**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1800e-003	0.0589	0.1015	1.4000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	12.2790	12.2790	3.8600e-003	0.0000	12.3755
Paving	3.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4600e-003**	**0.0589**	**0.1015**	**1.4000e-004**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**12.2790**	**12.2790**	**3.8600e-003**	**0.0000**	**12.3755**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8000e-004	0.0134	1.8000e-003	4.0000e-005	1.1800e-003	5.0000e-005	1.2200e-003	3.1000e-004	4.0000e-005	3.6000e-004	0.0000	3.6179	3.6179	3.2000e-004	0.0000	3.6258
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	4.1000e-004	4.1700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0379	1.0379	3.0000e-005	0.0000	1.0386
Total	**1.0300e-003**	**0.0138**	**5.9700e-003**	**5.0000e-005**	**2.3800e-003**	**6.0000e-005**	**2.4300e-003**	**6.3000e-004**	**5.0000e-005**	**6.9000e-004**	**0.0000**	**4.6558**	**4.6558**	**3.5000e-004**	**0.0000**	**4.6644**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4527					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	2.9100e-003	0.0202	0.0220	4.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	3.0639	3.0639	2.4000e-004	0.0000	3.0698
Total	**0.4556**	**0.0202**	**0.0220**	**4.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**3.0639**	**3.0639**	**2.4000e-004**	**0.0000**	**3.0698**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3000e-004	4.6000e-004	4.6700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	1.1625	1.1625	3.0000e-005	0.0000	1.1632
Total	**7.3000e-004**	**4.6000e-004**	**4.6700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.1625**	**1.1625**	**3.0000e-005**	**0.0000**	**1.1632**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4527					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-004	0.0127	0.0220	4.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	3.0639	3.0639	2.4000e-004	0.0000	3.0698
Total	**0.4533**	**0.0127**	**0.0220**	**4.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**3.0639**	**3.0639**	**2.4000e-004**	**0.0000**	**3.0698**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3000e-004	4.6000e-004	4.6700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	1.1625	1.1625	3.0000e-005	0.0000	1.1632
Total	**7.3000e-004**	**4.6000e-004**	**4.6700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.1625**	**1.1625**	**3.0000e-005**	**0.0000**	**1.1632**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7283	8.2330	5.4429	0.0236	1.1169	0.0263	1.1432	0.3011	0.0249	0.3260	0.0000	2,199.4795	2,199.4795	0.3604	0.0000	2,208.4884
Unmitigated	0.7283	8.2330	5.4429	0.0236	1.1169	0.0263	1.1432	0.3011	0.0249	0.3260	0.0000	2,199.4795	2,199.4795	0.3604	0.0000	2,208.4884

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

Government (Civic Center)	231.98	231.98	231.98	312,557	312,557
Health Club	328.00	328.00	328.00	465,539	465,539
Library	1,687.20	1,687.20	1687.20	2,135,368	2,135,368
Parking Lot	0.00	0.00	0.00		
Total	2,247.18	2,247.18	2,247.18	2,913,464	2,913,464

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Government (Civic Center)	6.30	6.30	6.30	75.00	20.00	5.00	50	34	16
Health Club	6.30	6.30	6.30	16.90	64.10	19.00	52	39	9
Library	6.30	6.30	6.30	52.00	43.00	5.00	44	44	12
Parking Lot	6.30	6.30	6.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government (Civic Center)	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667
Health Club	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667
Library	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667
Parking Lot	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.3421	189.3421	8.5600e-003	1.7700e-003	190.0840
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.3421	189.3421	8.5600e-003	1.7700e-003	190.0840
NaturalGas Mitigated	6.7100e-003	0.0610	0.0512	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3894	66.3894	1.2700e-003	1.2200e-003	66.7839
NaturalGas Unmitigated	6.7100e-003	0.0610	0.0512	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3894	66.3894	1.2700e-003	1.2200e-003	66.7839

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Government (Civic Center)	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Health Club	523750	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9493	27.9493	5.4000e-004	5.1000e-004	28.1154
Library	628500	3.3900e-003	0.0308	0.0259	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003	0.0000	33.5392	33.5392	6.4000e-004	6.1000e-004	33.7385
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.7100e-003**	**0.0610**	**0.0512**	**3.6000e-004**		**4.6300e-003**	**4.6300e-003**		**4.6300e-003**	**4.6300e-003**	**0.0000**	**66.3894**	**66.3894**	**1.2700e-003**	**1.2100e-003**	**66.7839**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Government (Civic Center)	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Health Club	523750	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9493	27.9493	5.4000e-004	5.1000e-004	28.1154

Library	628500	3.3900e-003	0.0308	0.0259	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003	0.0000	33.5392	33.5392	6.4000e-004	6.1000e-004	33.7385
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.7100e-003**	**0.0610**	**0.0512**	**3.6000e-004**		**4.6300e-003**	**4.6300e-003**		**4.6300e-003**	**4.6300e-003**	**0.0000**	**66.3894**	**66.3894**	**1.2700e-003**	**1.2100e-003**	**66.7839**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government (Civic Center)	65240	18.9791	8.6000e-004	1.8000e-004	19.0534
Health Club	224750	65.3824	2.9600e-003	6.1000e-004	65.6385
Library	269700	78.4588	3.5500e-003	7.3000e-004	78.7663
Parking Lot	91168	26.5218	1.2000e-003	2.5000e-004	26.6257
Total		**189.3421**	**8.5700e-003**	**1.7700e-003**	**190.0840**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Government (Civic Center)	65240	18.9791	8.6000e-004	1.8000e-004	19.0534
Health Club	224750	65.3824	2.9600e-003	6.1000e-004	65.6385
Library	269700	78.4588	3.5500e-003	7.3000e-004	78.7663

Parking Lot	91168	26.5218	1.2000e-003	2.5000e-004	26.6257
Total		**189.3421**	**8.5700e-003**	**1.7700e-003**	**190.0840**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2944	3.0000e-005	2.9700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	2.0000e-005	0.0000	6.1200e-003
Unmitigated	0.2944	3.0000e-005	2.9700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	2.0000e-005	0.0000	6.1200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0453					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2488					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	2.9700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	2.0000e-005	0.0000	6.1200e-003

Total	**0.2944**	**3.0000e-005**	**2.9700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.7400e-003**	**5.7400e-003**	**2.0000e-005**	**0.0000**	**6.1200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0453					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2488					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	2.9700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.7400e-003	5.7400e-003	2.0000e-005	0.0000	6.1200e-003
Total	**0.2944**	**3.0000e-005**	**2.9700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.7400e-003**	**5.7400e-003**	**2.0000e-005**	**0.0000**	**6.1200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	10.4875	0.1245	3.0200e-003	14.4989
Unmitigated	10.4875	0.1245	3.0200e-003	14.4989

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government (Civic Center)	1.39062 / 0.852314	3.4980	0.0455	1.1000e-003	4.9617
Health Club	1.47858 / 0.906226	3.7193	0.0483	1.1700e-003	5.2755
Library	0.938667 / 1.46817	3.2703	0.0307	7.5000e-004	4.2618
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.4875**	**0.1245**	**3.0200e-003**	**14.4989**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Government (Civic Center)	1.39062 / 0.852314	3.4980	0.0455	1.1000e-003	4.9617
Health Club	1.47858 / 0.906226	3.7193	0.0483	1.1700e-003	5.2755
Library	0.938667 / 1.46817	3.2703	0.0307	7.5000e-004	4.2618
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.4875**	**0.1245**	**3.0200e-003**	**14.4989**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	42.6342	2.5196	0.0000	105.6244
Unmitigated	42.6342	2.5196	0.0000	105.6244

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government (Civic Center)	39.9	8.0993	0.4787	0.0000	20.0658
Health Club	142.5	28.9262	1.7095	0.0000	71.6635
Library	27.63	5.6086	0.3315	0.0000	13.8952
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**42.6342**	**2.5196**	**0.0000**	**105.6244**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Government (Civic Center)	39.9	8.0993	0.4787	0.0000	20.0658
Health Club	142.5	28.9262	1.7095	0.0000	71.6635
Library	27.63	5.6086	0.3315	0.0000	13.8952
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**42.6342**	**2.5196**	**0.0000**	**105.6244**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	13	700	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 750 HP)	7.4700e-003	0.0209	0.0190	4.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	3.4653	3.4653	4.9000e-004	0.0000	3.4774
Total	**7.4700e-003**	**0.0209**	**0.0190**	**4.0000e-005**		**1.1000e-003**	**1.1000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**3.4653**	**3.4653**	**4.9000e-004**	**0.0000**	**3.4774**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	27.6400	0.0000	0.0000	27.6400

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Scrub	0 / 0.2	2.8600	0.0000	0.0000	2.8600

Total		**2.8600**	**0.0000**	**0.0000**	**2.8600**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	35	24.7800	0.0000	0.0000	24.7800
Total		**24.7800**	**0.0000**	**0.0000**	**24.7800**

Health Risk Assessment Calculations

bus loading			
weekday		weekend	
0.011023778	grams/idle hour	0.011023778	grams/idle hour
0.047769704	grams/day	0.036745926	grams/day
1.02072E-06	grams/second	1.02072E-06	grams/second

1.02072E-06 weighted grams/second

bus path			
weekday		weekend	
0.00073293	grams/trip	0.00073293	grams/trip
0.03811261	grams/day	0.02931739	grams/day
8.1437E-07	grams/second	8.1437E-07	grams/second

8.14372E-07 weighted grams/second

0.0000018350922 AERMOD grams/second

	365	days/year
	2.5	EMFAC2014 User Guide conversion from 5mph speed bin to idling
	3,600	seconds/hour
	13	hours/day of weekday operation
	10	hours/day of weekend operation
	5	weekdays/week
	2	weekend days/week
	7	days/week
	24	hours/day
	1609.344	meters/mile
bus path length	267.5	meters/bus trip
bus path length	0.166216794	miles/bus trip
1 bus every 15 mins =>	52	bus trips/weekday
1 bus every 15 mins =>	40	bus trips/weekend day
	5	idle mins/bus
	260	bus idle mins/weekday
	200	bus idle mins/weekend day
	60	mins/hour
	4.333333333	bus idle hours/weekday
	3.333333333	bus idle hours/weekend day

Construction Health Risk Calculations

Methodolology, OEHHA Science Review Panel Draft, Sept 2014 (post public review)

http://oehha.ca.gov/air/hot_spots/Sept2014HotSpotsRags_SRP.html

Receptor	Avg Annual Conc. from AERMOD first 0.25	Avg Annual Conc. from AERMOD 0-2 years	Avg Annual Conc. from AERMOD 2-9 years	Avg Annual Conc. from AERMOD 9-16 years	Avg Annual Conc. from AERMOD 16-70 years	First 0.25 years Dose-Air (mg/kg/d)	0-2 years Dose-Air (mg/kg/d)	2-9 years Dose-Air (mg/kg/d)	9-16 years Dose-Air (mg/kg/d)	16-70 Dose-Air (mg/kg/d)	First 0.25 years Cancer Risk	0-2 years Cancer Risk	2-9 years Cancer Risk
1 First 2 years	0.000000	0.011513	0.000000	0.000000	0.000000	0.00E+00	1.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.78E-06	0.00E+00
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.000000	0.000000	0.000000	0.000000	0.000000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	0.000000	0.000000	0.000000	0.000000	0.000000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thresholds											*1.00E-05*		

Note: Max highlighted in green. Exceedences in red highlight.

Dose factors		First 0.25 years	0-2 years	2-9 years	9-16 years	16-70	
	$\text{Dose-air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$						
	Daily Breath Rate - child (L/kg-day)	361	1090	861	745	290	95th percentile, table 5.6, OEHHA 2014, 2>16 yrs
	A	1	1	1	1	1	constant
	exposure frequency	350	350	350	350	350	
	Conversion Factor	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	(mg/ug + m3/L)
Risk Factors	$\text{RISK}_{inh\text{-}res} = \text{DOSE}_{air} \times \text{CPF} \times \text{ASF} \times \text{ED/AT} \times \text{FAH}$	0.25	0-2	2-9	9-16	16-70	
	CPF, DPM ([mg/kg-day]$^{-1}$)	1.1	1.1	1.1	1.1	1.1	OEHHA 2014, Table 7.1

20-yr avg emission to mid-year exposure emissions		98 % (90% Tier 3, 10% tier 4)+ 2% (30% T1 and 70%T2)	99 % (90% Tier 3 + 10% tier 4)+1% (30% T1 and 70%T2)	no T1 or T2 100% (80% Tier 3 and 20% T4 by 2023)		
Year		2018	2019	2023	2030	2040
	1.434	1.57	1.53	1.39	1.0	0.4
Ratio		1.09	1.07	0.97	0.70	0.28

	First 0.25 years	0-2 years	2-9 years	9-16 years	16-70	
Ratio		1.00	1.00	1.00	1.00	
ASF (Average Age Sensitivity Factor, children 2-16)	10	10	3	3	1	
ED, Exposure Duration (years)	0.25	2	1	7	54	
AT, Average Time (days)	70	70	70	70	70	years, constant
FAH	1.00	1.00	1.00	1.00	1.00	

Health Risk Factor, Hazard

Chronic Inhalation Reference Exposure Level, respiratory	5	OEHHA 2014, Table 6.3
	1,000,000	

9-16 years Cancer Risk	16-70 years Cancer Risk	Total Cancer Risk	or in cases per million	Old Methodology	Increase New Method (factor)	
0.00E+00	0.00E+00	3.78E-06	3.78	0.0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	98% AESS and age specific emission
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	98% AESS and age specific emission
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	

10

Hazard Index => 0.002303

2 to 9

A. Equation 5.4.1.1: $\text{Dose-air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Concentration in air ($\mu g/m^3$)
3. {BR/BW} = Daily Breathing rate normalized to body weight (L/kg body weight - day)
4. A = Inhalation absorption factor (unitless)
5. EF = Exposure frequency (unitless), days/365 days
6. 10^{-6} = Micrograms to milligrams conversion, liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.1:

1. {BR/BW} = Daily breathing rates by age groupings, see As supplemental information, the assessor may wish to evaluate the inhalation dose by using the mean point estimates in Table 5.6 to provide a range of breathing rates for cancer risk assessment to the risk manager.
2. Table (point estimates) and Table 5.7 (parametric model distributions for Tier III stochastic risk assessment). For Tier 1 residential estimates, use 95th percentile breathing rates in Table 5.6.
3. A = 1
4. EF = 0.96 (350 days/365 days in a year for a resident)

b: Assumption for EQ 5.4.1.1:

1. The fraction of chemical absorbed (A) is the same fraction absorbed in the study on which the cancer potency or Reference Exposure Level is based.

A. Equation 5.4.1.2 A: $\text{Dose-air} = (C_{air} \times WAF) \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Concentration in air ($\mu g/m^3$)
3. WAF = Worker air concentration adjustment factor (unitless)
4. {BR/BW} = Eight-hour breathing rate normalized to body weight (L/kg body weight - day)
5. A = Inhalation absorption factor (unitless)
6. EF = Exposure frequency (unitless), days/365 days)
7. 10^{-6} = Micrograms to milligrams conversion, Liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.2 A:

1. WAF = See EQ. 5.4.1.2 B for formula to calculate WAF, or App. M for refined post-processing modeling to calculate WAF.
2. {BR/BW} = For workers, use age16-70 year, 95th percentile, moderate intensity 8-hour point estimate breathing rates (see Table 5.8). No worker breathing rate distributions exist for stochastic risk assessment.
3. A = 1
4. EF = 0.68 (250 days / 365 days). Equivalent to working 5 days/week, 50 weeks/year.

b: Assumption for EQ 5.4.1.2 A:

1. The fraction of chemical absorbed (A) through the lungs is the same fraction absorbed in the study on which the cancer potency factor is based.
2. The source emits during the daylight hours. Calculate WAF (EQ 5.4.1.2 B) if a special post-processing modeling run described in App. M was not completed. For nighttime emissions and exposure scenarios, see Appendix N.

A. Equation 8.2.4 A: $RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
8. $DOSE_{air}$ = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor ($mg/kg\text{-}day^{-1}$)
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

a: Recommended default values for EQ 8.2.4 A:

5. $DOSE_{air}$ = Calculated for each age group from Eq. 5.4.1
6. CPF = Substance-specific (see Table 7.1)
7. ASF = See Section 8.2.1
8. ED = 0.25 years for 3rd trimester, 2 years for 0<2, 7 years for 2<9, 14 years for 2<16, 14 years for 16<30, 54 years for 16-70
9. AT = 70 years*
10. FAH = See Table 8.4

Table 5.6 Point Estimates of Residential Daily Breathing Rates for 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years (L/kg BW-day)

	3rd Trimester	0<2 years	2<9 years	2<16 years	16<30 years	16<70 years
	L/kg-day					
Mean	225	658	535	452	210	185
95th Percentile	361	1090	861	745	335	290

Table 8.3 Age Sensitivity Factors by Age Group for Cancer Risk Assessment

Age Group	Age Sensitivity Factor (unitless)
3rd Trimester	10
0<2 years	10
2<9 years	3
2<16 years	3
16<30 years	1
16-70 years	1

Table 8.4 Recommendations for Fraction of Time at Home (FAH) for Evaluating Residential Cancer Risk

Age Range	Fraction of Time at Residence
3rd Trimester, and 0<2 years	0.85[1]
2<16 years[2]	0.72[1]
16-70 years[3]	0.73

[1] Use FAH = 1 if a school is within the 1×10^{-6} (or greater) cancer risk isopleth
[2] Also use FAH= 0.72 for 2<9 yr age group.

Table 8.5 Summary of Recommendations for Exposure Duration for Individual Cancer Risk at the MEIR and MEIW

Receptor	*Recommendation*
Resident (MEIR)	30 years
Resident (supplemental Information)	9 years for central tendency; 70 years for maximum (lifetime)
Worker (MEIW)	25 years

Health Risk Calculationss

Methodolology, OEHHA Science Review Panel Draft, Sept 2014 (post public review)

http://oehha.ca.gov/air/hot_spots/Sept2014HotSpotsRags_SRP.html

Receptor	Avg Annual Conc. from AERMOD first 0.25	Avg Annual Conc. from AERMOD 0-2 years	Avg Annual Conc. from AERMOD 2-9 years	Avg Annual Conc. from AERMOD 9-16 years	Avg Annual Conc. from AERMOD 16-70 years	First 0.25 years Dose-Air (mg/kg/d)	0-2 years Dose-Air (mg/kg/d)	2-9 years Dose-Air (mg/kg/d)	9-16 years Dose-Air (mg/kg/d)	16-70 Dose-Air (mg/kg/d)	First 0.25 years Cancer Risk	0-2 years Cancer Risk	2-9 years Cancer Risk
1 All 30 years	0.000487	0.000487	0.000487	0.000487	0.000487	1.69E-07	5.09E-07	4.02E-07	3.48E-07	1.35E-07	6.62E-09	1.60E-07	1.90E-08
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.000000	0.000000	0.000000	0.000000	0.000000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	0.000000	0.000000	0.000000	0.000000	0.000000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11						0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thresholds											*1.00E-05*		

Note: Max highlighted in green. Exceedences in red highlight.

Dose factors	$Dose\text{-}air = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$	First 0.25 years	0-2 years	2-9 years	9-16 years	16-70	
	Daily Breath Rate - child (L/kg-day)	361	1090	861	745	290	95th percentile, table 5.6, OEHHA 2014, 2>16 yrs
	A	1	1	1	1	1	constant
	exposure frequency	350	350	350	350	350	
	Conversion Factor	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	(mg/ug + m3/L)
Risk Factors	$RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$	0.25	0-2	2-9	9-16	16-70	
	CPF, DPM ([mg/kg-day]$^{-1}$)	1.1	1.1	1.1	1.1	1.1	OEHHA 2014, Table 7.1

20-yr avg emission to mid-year exposure emissions		98 % (90% Tier 3, 10% tier 4)+ 2% (30% T1 and 70%T2)	99 % (90% Tier 3 + 10% tier 4)+1% (30% T1 and 70%T2)	no T1 or T2 100% (80% Tier 3 and 20% T4 by 2023)		
Year		2018	2019	2023	2030	2040
	1.434	1.57	1.53	1.39	1.0	0.4
Ratio		1.09	1.07	0.97	0.70	0.28

	First 0.25 years	0-2 years	2-9 years	9-16 years	16-70	
		1.00	1.00	1.00	1.00	
ASF (Average Age Sensitivity Factor, children 2-16)	10	10	3	3	1	
ED, Exposure Duration (years)	0.25	2	1	7	54	
AT, Average Time (days)	70	70	70	70	70	years, constant
FAH	1.00	1.00	1.00	1.00	1.00	

Health Risk Factor, Hazard

Chronic Inhalation Reference Exposure Level, respiratory	5	OEHHA 2014, Table 6.3
	1,000,000	

9-16 years Cancer Risk	16-70 years Cancer Risk	Total Cancer Risk	or in cases per million	Old Methodology	Increase New Method (factor)	
1.15E-07	1.15E-07	4.15E-07	0.42	0.0	99.486	
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	98% AESS and age specific emission
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	98% AESS and age specific emission
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0.0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
0.00E+00	0.00E+00	0.00E+00	0.00	0	#DIV/0!	
			10			
			Hazard Index =>	9.74236E-05		

2 to 9

A. Equation 5.4.1.1: $\text{Dose-air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Concentration in air ($\mu g/m^3$)
3. {BR/BW} = Daily Breathing rate normalized to body weight (L/kg body weight - day)
4. A = Inhalation absorption factor (unitless)
5. EF = Exposure frequency (unitless), days/365 days
6. 10^{-6} = Micrograms to milligrams conversion, liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.1:

1. {BR/BW} = Daily breathing rates by age groupings, see As supplemental information, the assessor may wish to evaluate the inhalation dose by using the mean point estimates in Table 5.6 to provide a range of breathing rates for cancer risk assessment to the risk manager.
2. Table (point estimates) and Table 5.7 (parametric model distributions for Tier III stochastic risk assessment). For Tier 1 residential estimates, use 95th percentile breathing rates in Table 5.6.
3. A = 1
4. EF = 0.96 (350 days/365 days in a year for a resident)

b: Assumption for EQ 5.4.1.1:

1. The fraction of chemical absorbed (A) is the same fraction absorbed in the study on which the cancer potency or Reference Exposure Level is based.

A. Equation 5.4.1.2 A: $\text{Dose-air} = (C_{air} \times WAF) \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Concentration in air ($\mu g/m^3$)
3. WAF = Worker air concentration adjustment factor (unitless)
4. {BR/BW} = Eight-hour breathing rate normalized to body weight (L/kg body weight - day)
5. A = Inhalation absorption factor (unitless)
6. EF = Exposure frequency (unitless), days/365 days)
7. 10^{-6} = Micrograms to milligrams conversion, Liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.2 A:

1. WAF = See EQ. 5.4.1.2 B for formula to calculate WAF, or App. M for refined post-processing modeling to calculate WAF.
2. {BR/BW} = For workers, use age16-70 year, 95th percentile, moderate intensity 8-hour point estimate breathing rates (see Table 5.8). No worker breathing rate distributions exist for stochastic risk assessment.
3. A = 1
4. EF = 0.68 (250 days / 365 days). Equivalent to working 5 days/week, 50 weeks/year.

b: Assumption for EQ 5.4.1.2 A:

1. The fraction of chemical absorbed (A) through the lungs is the same fraction absorbed in the study on which the cancer potency factor is based.
2. The source emits during the daylight hours. Calculate WAF (EQ 5.4.1.2 B) if a special post-processing modeling run described in App. M was not completed. For nighttime emissions and exposure scenarios, see Appendix N.

A. Equation 8.2.4 A: $RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
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10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

a: Recommended default values for EQ 8.2.4 A:

5. $DOSE_{air}$ = Calculated for each age group from Eq. 5.4.1
6. CPF = Substance-specific (see Table 7.1)
7. ASF = See Section 8.2.1
8. ED = 0.25 years for 3rd trimester, 2 years for 0<2, 7 years for 2<9, 14 years for 2<16, 14 years for 16<30, 54 years for 16-70
9. AT = 70 years*
10. FAH = See Table 8.4

Table 5.6 Point Estimates of Residential Daily Breathing Rates for 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years (L/kg BW-day)

	3rd Trimester	0<2 years	2<9 years	2<16 years	16<30 years	16<70 years
	L/kg-day					
Mean	225	658	535	452	210	185
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Table 8.3 Age Sensitivity Factors by Age Group for Cancer Risk Assessment

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16<30 years	1
16-70 years	1

Table 8.4 Recommendations for Fraction of Time at Home (FAH) for Evaluating Residential Cancer Risk

Age Range	Fraction of Time at Residence
3rd Trimester, and 0<2 years	0.85[1]
2<16 years[2]	0.72[1]
16-70 years[3]	0.73

[1] Use FAH = 1 if a school is within the 1×10^{-6} (or greater) cancer risk isopleth
[2] Also use FAH = 0.72 for 2<9 yr age group.

Table 8.5 Summary of Recommendations for Exposure Duration for Individual Cancer Risk at the MEIR and MEIW

Receptor	*Recommendation*
Resident (MEIR)	30 years
Resident (supplemental Information)	9 years for central tendency; 70 years for maximum (lifetime)
Worker (MEIW)	25 years

AERMOD Output Available Upon Request

Appendix C

Traffic Impact Studies

Traffic Impact Study

Proposed Clovis Landmark Commons Project

North of the Intersection of Third Street and Veterans Way

Clovis, California

Prepared For:

City of Clovis
1033 Fifth Street
Clovis, California 93612

Date:

November 23, 2016

Job No.:

16-036.01

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

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EXECUTIVE SUMMARY

This traffic impact study has been prepared to study the potential traffic impacts related to the proposed Landmark Commons project in Clovis, California, hereinafter referred to as the "Project." The traffic impact study will be utilized in the preparation of an environmental impact report (EIR) for the Project. The analyses were performed in conformance with the *City of Clovis Traffic Impact Study Guidelines* (City Guidelines) approved August 25, 2014.

The traffic impact study was prepared to investigate potential traffic impacts resulting from the Project in both the near-term and long-term cumulative (year 2039) conditions. The analysis focuses on the anticipated effect of vehicle traffic on study area intersections. Additional discussions related to transit facilities, bicycle facilities, and pedestrian facilities are included.

The Project site covers approximately seven acres and is located on the north side of Third Street east of Clovis Avenue, north of the north end of Veterans Way (formerly Hughes Avenue) in Clovis, California. The Project is a mixed-use development consisting of community and public uses. Specifically, it would entail the development of approximately 67,000 square feet of community and office uses that would be developed in multiple phases with full build-out anticipated in 2019.

The Project would include a wide variety of amenities for residents and visitors, including the following.

- Senior Activity Center – An approximately 30,000-square-foot senior activity center is proposed in the northeastern portion of the site to accommodate banquet, office, classroom, and gym space.
- Transit Center – An approximately 8,766-square-foot transit building is proposed to accommodate office space.
- Library – An approximately 30,000-square-foot library is proposed in the southwestern portion of the site.

The primary Project access point will be a new driveway connecting to Third Street at Veterans Way. Secondary access will be provided via an existing north-south alley along the eastern edge of the Project site that currently connects to Third Street at the south end and to the Osmun Circle cul de sac at the north end.

Construction hours of all phases would conform to City noise ordinances, which apply to construction activities occurring between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 9:00 a.m. and 5:00 p.m. on weekends.

The study intersections were determined based on the anticipated volume and distribution of Project traffic in consultation with staff of the City of Clovis. Staff of the California Department of Transportation (Caltrans) were also contacted and, per a letter dated November 30, 2015, Caltrans did not request analysis of State facilities. This report includes analysis of the following intersections:

1. Veterans Way / Third Street
2. Veterans Way / Fifth Street
3. Clovis Avenue / Sierra Avenue
4. Clovis Avenue / Second Street
5. Clovis Avenue / Third Street
6. Clovis Avenue / Fourth Street
7. Clovis Avenue / Fifth Street

The study time periods include the weekday a.m. and p.m. peak hours determined between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. The peak hours were analyzed for the following conditions:

Baseline Conditions

- Existing Conditions;
- Long-Term (Year 2039) No-Project Conditions;

Project Conditions

- Existing Plus Project Conditions;
- Near-Term With-Project Conditions (includes approved and pending projects);
- Long-Term (Year 2039) With-Project Conditions.

Standard traffic engineering principles and methods were employed to establish the existing conditions, to estimate the number of trips expected to be generated by the Project, and to analyze the traffic conditions expected to occur in the future.

The traffic impact study found that the intersection of Veterans Way and Fifth Street is currently operating below the target LOS during the a.m. peak hour, primarily as a result of school traffic. The other study intersections currently operate at LOS C or better and are expected to continue to operate at LOS D or better through the year 2039 without the Project.

The Project is expected to cause or contribute to significant traffic impacts at the following intersections:

- Clovis Avenue / Second Street (year 2039 cumulative impact);
- Veterans Way / Third Street (year 2039 cumulative impact);
- Clovis Avenue / Fifth Street (year 2039 cumulative impact);
- Veterans Way / Fifth Street (Project impact, near-term cumulative impact, and year 2039 cumulative impact).

In general, the study intersections have been constructed to the ultimate configuration. In addition, traffic signal warrants are not expected to be satisfied at the significantly-impacted study locations. Measures intended to solve LOS deficiencies at certain locations (such as all-way stop control or roundabouts at certain locations) are not recommended if traffic

volumes do not meet warrants or if there is a high potential for the resulting queues to extend into adjacent signalized intersections. Therefore, with the exception of the intersection of Veterans Way and Third Street, no feasible mitigations have been identified for the significant impacts based on LOS. These impacts would remain significant and unavoidable.

At the intersection of Veterans Way and Third Street, a roundabout should be considered to mitigate the year 2039 significant impacts. A roundabout may be included with construction of the Project or may be deferred until the significant impact is observed. If deferred, the Project will be required to provide assurance that the mitigation will eventually be constructed. Such assurance may be in the form of adding the cost of the roundabout to the City's development fee program.

The Project will generate new vehicle trips across the Clovis Old Town Trail at Third Street, and will likely generate new pedestrian and bicycle trips on the trail. The appropriate signage and pavement markings should be installed in accordance with the most recent version of the CMUTCD. Construction of a roundabout at the intersection of Veterans Way and Third Street would create a minimized crosswalk length across Third Street. The roundabout would include narrow roadways and a pedestrian refuge in the splitter island that allows pedestrians and bicycles to cross against only one direction of vehicular travel at a time.

The average length of trips generated by the Project will be 6.3 miles. For comparison purposes, the average work-based trip length in the Fresno County region is approximately 11 to 12 miles. The Project is expected to contribute to a reduction in the overall number of vehicle miles traveled in the City of Clovis by accommodating automobile, transit, pedestrian, and bicycle modes of travel (with convenient transfer between modes) near regional destinations such as the library, senior center, civic center, and downtown Clovis.

The Project and cumulative impacts are described in the following sections with a possible mitigation measure or a statement indicating that no feasible mitigation measures exist.

Existing-Plus-Project Conditions - Impacts and Mitigation Measures

Impact TRANS-1

At the intersection of Veterans Way and Fifth Street, the Project will exacerbate the existing LOS F during the a.m. peak hour by increasing average delays from 50.7 seconds per vehicle to 56.3 seconds per vehicle.

Mitigation Measure TRANS-1

There is no feasible mitigation.

Impact TRANS-2

The Project will generate new vehicle trips across the Clovis Old Town Trail at Third Street, and will likely generate new pedestrian and bicycle trips on the trail.

Mitigation Measure TRANS-2

The appropriate signage and pavement markings should be installed at the Clovis Old Town Trail at Third Street in accordance with the most recent version of the CMUTCD.

Near-Term With-Project Conditions - Impacts and Mitigation Measures

Impact TRANS-3

At the intersection of Veterans Way and Fifth Street, the cumulative projects plus the Project will exacerbate the existing LOS F by increasing average delays from 50.7 seconds per vehicle to 56.3 seconds per vehicle during the a.m. peak hour. This impact is identical to Impact Trans-1 in the existing-plus-Project scenario.

Mitigation Measure TRANS-3

There is no feasible mitigation.

Year 2039 With-Project Conditions - Impacts and Mitigation Measures

Impact TRANS-4

At the intersection of Clovis Avenue and Second Street, the cumulative projects, including 20 years of regional growth, are expected to cause the LOS to drop from the existing LOS C to LOS E on the minor street approach during the p.m. peak hour. Vehicles on Clovis Avenue are not required to stop and experience little to no delay.

Mitigation Measure TRANS-4

There is no feasible mitigation.

Impact TRANS-5

At the intersection of Veterans Way and Third Street, the cumulative projects, including 20 years of regional growth, are expected to cause the LOS to drop from the existing LOS C during the a.m. peak hour and LOS B during the p.m. peak hour to LOS F during the a.m. peak hour and LOS E during the p.m. peak hour.

Mitigation Measure TRANS-5

The intersection should be modified by the year 2039 to a single-lane modern roundabout designed in accordance with typical industry standards, which currently are primarily based on the TRB NCHRP Report 672: Roundabouts: An Informational Guide, Second Edition, 2010.

Construction of a roundabout at the intersection of Veterans Way and Third Street would create a minimized crosswalk length across Third Street and would be beneficial to the Dry Creek Trail. The roundabout would include narrow roadways and a pedestrian refuge in the splitter island that allows pedestrians and bicycles to cross against only one direction of vehicular travel at a time.

Impact TRANS-6

At the intersection of Clovis Avenue and Fifth Street, the cumulative projects, including 20 years of regional growth, are expected to cause the LOS to drop from the existing LOS C to LOS E during the p.m. peak hour.

Mitigation Measure TRANS-6

There is no feasible mitigation.

Impact TRANS-7

At the intersection of Veterans Way and Fifth Street, the cumulative projects, including 20 years of regional growth, are expected to exacerbate the existing LOS F during the a.m. peak hour and will cause the existing LOS C to drop to LOS E during the p.m. peak hour.

Mitigation Measure TRANS-7

There is no feasible mitigation.

1 – INTRODUCTION

This traffic impact study has been prepared to study the potential traffic impacts related to the proposed Landmark Commons project in Clovis, California, hereinafter referred to as the "Project." The traffic impact study will be utilized in the preparation of an environmental impact report (EIR) for the Project. The analyses were performed in conformance with the *City of Clovis Traffic Impact Study Guidelines* (City Guidelines) approved August 25, 2014.

1.1 – Purpose

The traffic impact study was prepared to investigate potential traffic impacts resulting from the Project in both the near-term and long-term cumulative (year 2039) conditions. The analysis focuses on the anticipated effect of vehicle traffic on study area intersections. Additional discussions related to transit facilities, bicycle facilities, and pedestrian facilities are included.

1.2 – Project Description

The Project site location is presented in the attached Figure 1-1, Vicinity Map, and the conceptual Project site plan is presented in the attached Figure 1-2, Site Plan.

The Project site covers approximately seven acres and is located on the north side of Third Street east of Clovis Avenue, north of the north end of Veterans Way (formerly Hughes Avenue) in Clovis, California.

The Project is a mixed-use development consisting of community and public uses. Specifically, it would entail the development of approximately 67,000 square feet of community and office uses that would be developed in multiple phases with full build-out anticipated in 2019.

The Project would include a wide variety of amenities for residents and visitors, including the following.

- Senior Activity Center – An approximately 30,000-square-foot senior activity center is proposed in the northeastern portion of the site to accommodate banquet, office, classroom, and gym space.
- Transit Center – An approximately 8,766-square-foot transit building is proposed to accommodate office space.
- Library – An approximately 30,000-square-foot library is proposed in the southwestern portion of the site.

The primary Project access point will be a new driveway connecting to Third Street at Veterans Way. Secondary access will be provided via an existing north-south alley along the eastern edge of the Project site that currently connects to Third Street at the south end and to the Osmun Circle cul de sac at the north end.

Construction hours of all phases would conform to City noise ordinances, which apply to construction activities occurring between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 9:00 a.m. and 5:00 p.m. on weekends.

1.3 – Study Area and Time Period

The study intersections were determined based on the anticipated volume and distribution of Project traffic in consultation with staff of the City of Clovis. Staff of the California Department of Transportation (Caltrans) were also contacted and, per a letter dated November 30, 2015, Caltrans did not request analysis of State facilities. This report includes analysis of the following intersections:

1. Veterans Way / Third Street
2. Veterans Way / Fifth Street
3. Clovis Avenue / Sierra Avenue
4. Clovis Avenue / Second Street
5. Clovis Avenue / Third Street
6. Clovis Avenue / Fourth Street
7. Clovis Avenue / Fifth Street

The locations of the study intersections are presented in Figure 1-3, Study Intersections.

1.4 – Study Scenarios

The study time periods include the weekday a.m. and p.m. peak hours determined between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. The peak hours were analyzed for the following conditions:

Baseline Conditions

- Existing Conditions;
- Long-Term (Year 2039) No-Project Conditions;

Project Conditions

- Existing-Plus-Project Conditions;
- Near-Term With-Project Conditions (includes approved and pending projects);
- Long-Term (Year 2039) With-Project Conditions.

1.5 – List of Abbreviations

The following is a list of abbreviations that may be used the text of this report.

NBL – Northbound left
NBR – Northbound through
NBR – Northbound right
SBL – Southbound left
SBT – Southbound through
SBR – Southbound right
EBL – Eastbound left
EBT – Eastbound through
EBR – Eastbound right
WBL – Westbound left
WBT – Westbound through
WBR – Westbound right
VMT – Vehicle miles traveled
BTP – 2011 Clovis Bicycle Transportation Plan
TGH – Trip Generation Handbook
ITE – Institute of Transportation Engineers
COG – Fresno Council of Governments
CMUTCD – California Manual on Uniform Traffic Control Devices
NCHRP – National Cooperative Highway Research Program
LOS – Level of service
mph – miles per hour
CVC – California Vehicle Code
TRB – Transportation Research Board
HCM – Highway Capacity Manual
PHF – Peak Hour Factor
EIR – Environmental Impact Report
sec – seconds

2 – IMPACT SIGNIFICANCE CRITERIA

2.1 – Level of Service

The Transportation Research Board *Highway Capacity Manual*, 2010, (HCM2010) defines level of service (LOS) as, "A quantitative stratification of a performance measure or measures that represent quality of service, measured on an A-F scale, with LOS A representing the best operating conditions from the traveler's perspective and LOS F the worst."

Automobile mode LOS characteristics for both unsignalized and signalized intersections are presented in Tables 2.1 and 2.2.

Table 2.1
Level of Service Characteristics for Unsignalized Intersections

Level of Service	Average Vehicle Delay (seconds)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Reference: *Highway Capacity Manual,* Transportation Research Board, 2010

Table 2.2
Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Volume-to-capacity ratio is low. Progression is exceptionally favorable or the cycle length is very short.	<10
B	Volume-to-capacity ratio is low. Progression is highly favorable or the cycle length is very short.	>10-20
C	Volume-to-capacity ratio is no greater than 1.0. Progression is favorable or cycle length is moderate.	>20-35
D	Volume-to-capacity ratio is high but no greater than 1.0. Progression is ineffective or cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35-55
E	Volume-to-capacity ratio is high but no greater than 1.0. Progression is unfavorable and cycle length is long. Individual cycle failures are frequent.	>55-80
F	Volume-to-capacity ratio is greater than 1.0. Progression is very poor and cycle length is long. Most cycles fail to clear the queue.	>80

Reference: *Highway Capacity Manual,* Transportation Research Board, 2010

Policy 2.1 of the Clovis General Plan states the following LOS standards:

A. Achieve LOS D vehicle traffic operations during the a.m. and p.m. peak hours
B. Allow exceptions on a case-by-case basis where lower levels of service would result in other public benefits, such as:
   i. Preserving agriculture or open space land
   ii. Preserving the rural/historic character of a neighborhood
   iii. Preserving or creating a pedestrian-friendly environment in Old Town or mixed-use village districts
   iv. Avoiding adverse impacts to pedestrians, cyclists, and mass transit riders
   v. Where right-of-way constraints would make capacity expansion infeasible

The City Guidelines indicate that an impact is considered significant if the addition of the traffic generated by a proposed project results in any one of the following:

- Triggers an intersection operating at acceptable LOS to operate at unacceptable levels of service;
- Increases the average delay for a study intersection that is already operating at unacceptable LOS.

2.2 – Intersection Queuing Criteria

The City Guidelines require a queuing analysis of the study intersections and recommendations for queues that are projected to exceed the available storage capacity. However, it should be noted that queuing is not included in the significance criteria recognized by the City and is reviewed to confirm the LOS results.

For purposes of these analyses, a queuing deficiency is identified in the no-Project condition if the calculated 95th-percentile queue length exceeds the storage length. A potential queuing issue is determined if the Project causes the calculated 95th-percentile queue length to exceed the existing or planned storage capacity at a signalized intersection. In storage lanes that are already deficient without the Project, a potential queuing issue is determined if the Project increases the calculated 95th-percentile queue length by at least 25 feet (the average storage length for one vehicle).

Where left-turn lanes connect to two-way left-turn lanes, although the calculated queue may exceed the length of the painted left-turn pocket, the presence of the two-way left-turn lane provides additional storage and allows the queue to avoid spilling into through lanes. Therefore, queues exceeding the painted storage length in these situations are not highlighted as existing deficiencies because they do not contribute to operational problems.

Where right-turn queues exceed the length of the right-turn lane, operational problems do not typically occur since the right-turn lane and the adjacent through lanes operate on the same traffic signal phase. In some cases, very long right-turn queues can extend into through lanes and affect lane utilization. The need for mitigation of right-turn queues should be based on engineering judgment on a case-by-case basis.

2.3 – Transit, Bicycle, and Pedestrian Facilities

A significant impact is determined if a proposed project would disrupt or impede existing or planned transit, bicycle, or pedestrian facilities.

3 – TRAFFIC ANALYSIS METHODOLOGY

This section describes the methods and criteria used to evaluate LOS and traffic signal warrants.

3.1 – Intersection Analysis Methodology

The levels of service and 95th-percentile queues at the study intersections were determined using the computer program Synchro 9, which is based on the HCM2010 procedures for calculating levels of service.

For signalized intersections and all-way-stop-controlled intersections, the overall intersection LOS and the average delay per vehicle are presented. For one-way and two-way stop-controlled intersections, an overall intersection LOS is not defined in the HCM2010. Therefore, for one-way and two-way stop-controlled intersections the LOS and average delay per vehicle for the movement with the greatest delay is reported.

Although peak-hour traffic volumes are typically utilized in the operational analysis of intersections, the HCM2010 actually utilizes the peak 15-minute period as the basis for operational analyses by incorporating the peak hour factor (PHF) into the analyses. The PHF is the relationship between peak-hour volumes and peak 15-minute volumes calculated by dividing the peak-hour volume by four times the peak 15-minute volume. PHFs for the existing-conditions, existing-plus-Project conditions, and near-term conditions analyses were determined based on the existing traffic volumes. It is typical traffic engineering practice to utilize a PHF of 0.92 in urban areas in the absence of field data. However, since the Project site is near a school and a relatively well-developed area near downtown, it is assumed that the peak hour factors will not change dramatically in the future. Therefore, peak hour factors similar to the existing conditions were used for the year 2039 analyses.

3.2 – Traffic Signal Warrants

The California Department of Transportation *California Manual on Uniform Traffic Control Devices for Streets and Highways, 2014 Edition* (CMUTCD) presents various warrant analyses to assist in evaluating the need for traffic signals at an intersection. Traffic signal warrants are a series of criteria that provide guidelines for determining whether a traffic signal is appropriate at a given intersection. If one or more of the signal warrants are met, signalization of the intersection may be appropriate. However, a signal likely should not be installed if none or few of the warrants are met since the installation of signals may increase delays on the previously uncontrolled major street and may contribute to an increase in accidents.

The installation of a traffic signal can serve as mitigation when a significant impact is identified at an unsignalized intersection. Since the analyses presented herein are based on peak hour traffic volumes, Warrant 3, Peak Hour as presented in the CMUTCD is utilized. For purposes of this study, traffic signals are considered to be a feasible mitigation if the peak-hour traffic signal warrant is met.

3.3 – Stop Sign Warrants

The CMUTCD presents the following discussion relative to the use of STOP signs:

Section 2B.06 STOP Sign Applications

Guidance:

01 *At intersections where a full stop is not necessary at all times, consideration should first be given to using less restrictive measures such as YIELD signs (see Sections 2B.08 and 2B.09).*

02 *The use of STOP signs on the minor-street approaches should be considered if engineering judgment indicates that a stop is always required because of one or more of the following conditions:*

A. *The vehicular traffic volumes on the through street or highway exceed 6,000 vehicles per day;*

B. *A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway; and/or*

C. *Crash records indicate that three or more crashes that are susceptible to correction by the installation of a STOP sign have been reported within a 12-month period, or that five or more such crashes have been reported within a 2-year period. Such crashes include right-angle collisions involving road users on the minor-street approach failing to yield the right-of-way to traffic on the through street or highway.*

Support:

03 The use of STOP signs at grade crossings is described in Sections 8B.04 and 8B.05.

Section 2B.07 Multi-Way Stop Applications

Support:

01 Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.

02 The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

03 *The decision to install multi-way stop control should be based on an engineering study.*

04 *The following criteria should be considered in the engineering study for a multi-way STOP sign installation:*

A. *Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*

B. *Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*

C. Minimum volumes:

1 The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Option:

05 Other criteria that may be considered in an engineering study include:

A. The need to control left-turn conflicts;

B. he need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;

C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

4 – PROJECT TRIPS

4.1 – Project Trip Generation

Data provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition*, are typically used to estimate the number of trips anticipated to be generated by proposed projects. However, ITE does not contain a substantial amount of information for projects similar to the Landmark Commons project. In this case, Project-specific characteristics and local information are useful for estimating the proposed Project trip generation.

Information on current senior center activities and transit operations were provided by City staff. The trips generated by these current activities were estimated during discussions with City staff and are utilized as the near-term estimate of trip generation for the proposed senior center and transit center.

Observations were made at the existing Clovis library and a local trip generation count was performed at the existing library near the intersection of Champlain and Perrin Avenues in Fresno, California. The library near Champlain and Perrin Avenues was chosen because the single-use parking lot and building location facilitate traffic counts, the library is similar in size to the proposed library, and it is expected to provide a reasonable local verification of the ITE estimates. The results of the local trip generation counts are presented in Appendix A and suggest that ITE presents a reasonable estimate of library trips.

Tables 4.1 and 4.2 present the trip generation estimates for the Project.

Table 4.1
Project Vehicle Trip Generation – Near-Term

Location	Type of Trip	A.M. Peak Hour (Occurs between 7:00 and 9:00 a.m.)			P.M. Peak Hour (Occurs between 4:00 and 6:00 p.m.)			Daily
		In	Out	Total	In	Out	Total	
Transit Center	Stageline Fixed Route	8	8	16	8	8		208
	Roundup Driver Breaks	0	0	0	2	2	4	24
Senior Center	Employee	6	0	6	0	6	6	24
	Clovis Roundup	3	3	6	3	3	6	48
	Visitor Vehicles	15	5	18	18	18	36	240
	Instructors	2	0	2	2	2	4	16
Library	Employees and Visitors	23	9	32	104	114	219	1,688
	TOTALS	**57**	**25**	**80**	**137**	**153**	**275**	**2,248**

Reference: *Trip Generation Manual, 9th Edition, Institute of Transportation Engineers 2012* for Library (Land Use 590, a.m. rate: 1.04 trips per 1,000 square feet, 71% entering; p.m. rate: 7.30 trips per 1,000 square feet, 48% entering; daily rate: 56.24 trips per 1,000 square feet)
Daily volumes are combined entering and exiting.

It should be noted that the senior center and library listed in Table 4.1 currently operate near the site, while Roundup drivers typically take breaks near the senior center, and these trips are typically already occurring at the study intersections. It is expected that the existing library will be utilized for City staff offices that currently are located in modular buildings that will be removed. It is also expected that the existing senior center will be incorporated into the existing law school for a law library that is expected to generate a negligible number of new trips.

Table 4.2
Project Vehicle Trip Generation – Future

Location	Type of Trip	A.M. Peak Hour (Occurs between 7:00 and 9:00 a.m.)			P.M. Peak Hour (Occurs between 4:00 and 6:00 p.m.)			Daily
		In	Out	Total	In	Out	Total	
Transit Center	Stageline Fixed Route	16	16	32	16	16	0	416
	Roundup Driver Breaks	0	0	0	4	4	8	48
Senior Center	Employee	12	0	12	0	12	12	48
	Clovis Roundup	6	6	12	6	6	12	96
	Visitor Vehicles	30	10	36	36	36	72	480
	Instructors	4	0	4	4	4	8	32
Library	Employees and Visitors	23	9	32	104	114	219	1,688
	TOTALS	**91**	**41**	**128**	**170**	**192**	**331**	**2,808**

Reference: *Trip Generation Manual, 9th Edition, Institute of Transportation Engineers 2012* for Library
Daily volumes are combined entering and exiting.

Table 4.2 presents future trip generation estimates for the case in which transit center trips and senior center trips are expected to double in 20 years, per discussions with City staff, as the population of Clovis increases and senior center services are expanded. The library trips are not doubled in Table 4.2 because the ITE trip generation rates are constant based on the size of the facility.

Pass-by trips and internally-captured trips are expected to be negligible and were not considered in the analyses.

4.2 – Project Trip Distribution and Assignment

The regional distribution of Project trips was estimated based on existing traffic volumes, existing transportation facilities, complementary land uses, City boundaries, and engineering judgment.

The percentage distribution of Project traffic is presented in the attached Figure 4-1, Project Trip Distribution Percentages.

The peak-hour Project traffic volumes presented in Tables 4.1 and 4.2 were assigned to the study intersections in accordance with the trip distribution percentages described above. The peak-hour Project traffic volumes are presented in Figure 4-2, Near-Term A.M. and P.M. Peak Hour Project Traffic Volumes, and Figure 4-3, Future A.M. and P.M. Peak Hour Project Traffic Volumes.

4.3 – Vehicle Miles Traveled (VMT)

The Fresno Council of Governments (COG) maintains a travel model that is typically used to forecast traffic volumes. Project information was provided to COG to perform Project-specific select zone analyses for the purposes of estimating the average number of vehicle miles traveled per Project trip. The modeling revealed that the average length of trips generated by the Project will be 6.3 miles. For comparison purposes, the average work-based trip length in the Fresno County region is approximately 11 to 12 miles.

In general, although difficult to quantify, it is anticipated that the Project will contribute to a reduction in the overall number of vehicle miles traveled in the City of Clovis by accommodating automobile, transit, pedestrian, and bicycle modes of travel (with convenient

transfer between modes) near regional destinations such as the library, senior center, civic center, and downtown Clovis.

5 – EXISTING CONDITIONS

5.1 – Existing Roadway Network

The Project location and the study intersections are illustrated in Figure 1-3, Study Intersections. The Project study area includes seven intersections. The existing lane configurations and intersection control at the study intersections are illustrated in Figure 5-1, Existing Lane Configurations and Intersection Control. Descriptions of the major roadways near the Project site are presented below.

Clovis Avenue is a north-south roadway extending through the entire length of the City of Clovis and into the City of Fresno to the south. The Clovis General Plan designates Clovis Avenue as an arterial street. Clovis Avenue consists of two lanes in each direction at the study locations. The posted speed limit on Clovis Avenue is 35 mile per hour (mph) south of Sierra Avenue and 40 mph north of Sierra Avenue.

Veterans Way (formerly Hughes Avenue) is a north-south local street with one lane in each direction between Third Street and Fifth Street. The speed limit on Veterans Way is not posted. According to California Vehicle Code (CVC) Section 22352, the prima facie speed on Veterans Way is 25 mph.

Sierra Avenue is an east-west roadway with one lane in each direction extending to Sunnyside Avenue to the east and into the City of Fresno to the west. The Clovis General Plan designates Sierra Avenue as a collector street west of Clovis Avenue and a local street east of Clovis Avenue. The posted speed limit on Sierra Avenue is 40 mph west of Clovis Avenue and 25 mph east of Clovis Avenue.

Second Street is an east-west local road with one lane in each direction extending between Clovis Avenue at the east end and DeWitt Avenue at the west end. The speed limit on Second Street is not posted. According to CVC Section 22352, the prima facie speed on Second Street is 25 mph.

Third Street is an east-west roadway with one lane in each direction extending to Sunnyside Avenue to the east (and continuing as Tollhouse Road to the northeast) and to Minnewawa Avenue to the west. The Clovis General Plan designates Third Street as a collector street between Clovis Avenue and Sunnyside Avenue. It is designated as a local street west of Clovis Avenue. The posted speed limit on Third Street west of Clovis Avenue is 25 mph. In the eastbound direction a speed limit of 40 mph is posted east of Clovis Avenue. However, the speed limit in the westbound direction is not posted on Third Street east of Clovis Avenue. The nearest speed limit sign in the westbound direction east of Clovis Avenue exists on Tollhouse Road (which is essentially the extension of Third Street east of Sunnyside Avenue) approximately 800 feet east of Sunnyside Avenue with a posted limit of 35 mph.

Fourth Street is an east-west local road with one lane in each direction extending between Clovis Avenue at the east end and Minnewawa Avenue at the west end. The speed limit on Fourth Street is not posted. According to CVC Section 22352, the prima facie speed on Fourth Street is 25 mph.

Fifth Street is an east-west roadway with one lane in each direction connecting to Bullard Avenue near Minnewawa Avenue to the west and connecting to Bullard Avenue near Sunnyside Avenue. The Clovis General Plan designates Fifth Street as an arterial street between Clovis Avenue and Sunnyside Avenue. The posted speed limit on Fifth Street is 25 mph.

5.2 – Existing Transit Service

Clovis Transit Stageline provides bus service to the Clovis area. Clovis Transit Stageline Route 10 includes a stop on Sierra Avenue west of DeWitt Avenue and on Fifth Street east of Clovis Avenue.

Clovis Transit Round Up offers service throughout the metropolitan area, providing rides for disabled residents of Clovis who need to travel in Clovis, Fresno and nearby areas. Riders must complete and submit an Americans with Disabilities Act form and be approved for eligibility before using Round Up for the first time.

Transit buses run on a schedule for 12 to 14 hours per day.

The current Clovis Transit fleet is comprised of the following vehicles, with the type of fuel used also listed:

- 16 Glaval 27-foot-long cutaway style (one uses gasoline, the remainder use diesel)
- Two Glaval 32-foot-long cutaway style (gasoline)
- One El Dorado 22-foot-long cutaway style (diesel)
- Six ARBOC low-floor 26-foot-long cutaway style (diesel)
- Three Goshen 32-foot-long cutaway style (diesel)
- Two Champion Defenders 34-foot-long (diesel)

Clovis Transit staff expects to expand to full-size buses (40 feet in length) in the future; therefore, the Project will be designed to accommodate large buses. There is no timeline for expansion to larger buses, which will be based on demand; however, buses larger than 35 feet in length are not expected to be utilized within the next 10 years.

There are no current plans to convert to electric or natural gas buses.

Clovis Transit is planning to include funds for a consultant in the 2017-2018 fiscal budget to perform a study to evaluate the routes, schedules, and coordination with Fresno. The study will assist in designing new routes that utilize the proposed Transit Center for transfers.

5.3 – Existing Bicycle Facilities

The 2011 Clovis Bicycle Transportation Plan (BTP) classifies bikeways as follows:

- Class I – Bike Path: Off-street bike paths are facilities for use exclusively by bicycles and pedestrians, with minimal cross-flow by motor vehicles. They are often located in a separate right of way.
- Class II – Bike Lane: Bike lanes are areas within paved streets that are identified with striping, stencils, and signs for preferential (semi-exclusive) bicycle use.
- Class III – Bike Route: on-street routes intended to provide continuity to the bikeway system. Bike routes are designated by signs or permanent markings and are shared by motorists.

The Clovis Old Town Trail, a Class I bike path, runs generally parallel to and east of Clovis Avenue in the study area, and is adjacent to the western boundary of the Project site. The path runs along the west side of Veterans Way and continues parallel with Clovis Avenue south of Fifth Street.

The roadways and intersections in the study area are typically not wide enough to accommodate Class II bike lanes, with the exception that Class II bike lanes exist on Sierra Avenue west of Clovis Avenue.

The BTP proposes future Class III bike routes on Third Street between Veterans Way and Sunnyside Avenue, on Fifth Street between the western and eastern connections to Bullard Avenue, and on Sierra Avenue between Clovis Avenue and Sunnyside Avenue.

5.4 – Existing Pedestrian Facilities

Sidewalks and pedestrian facilities, such as crosswalks and pedestrian signals, are well established throughout the study area.

5.5 – Existing Traffic Volumes

Existing peak-hour traffic volumes were determined by performing manual turning movement counts at each of the study intersections. The traffic counts were performed on weekdays between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. The counts were performed while school was in session and were not performed on holidays. The traffic counts included a determination of the number of heavy vehicles (vehicles with three or more axles) on each turning movement. The traffic count data sheets are attached in Appendix B and include the date the counts were performed. In addition, Peters Engineering Group staff observed the study intersections during peak periods.

The intersection turning movement counts reveal that heavy vehicles (three or more axles) comprise less than one percent of the total volume of traffic at every study intersection during both the a.m. and p.m. peak hours.

Existing peak-hour turning movement volumes at the study intersections are presented in Figure 5-2, Existing A.M. and P.M. Peak Hour Traffic Volumes.

Counts of pedestrians and bicycles on the Clovis Old Town Trail near Second Street revealed an average of approximately 164 pedestrians and 79 bicycles per day in August 2016.

During the typical vehicular peak hours (between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m.), the peak number of pedestrians averaged 17 per hour and the peak number of bicycles averaged up to approximately eight per hour.

5.6 – Existing-Conditions Intersection LOS Analysis

The results of the existing-conditions intersection LOS analyses are summarized in Table 5.1. Levels of service and delays below the target LOS D are identified in bold type. The intersection analysis sheets are presented in Appendix C.

Table 5.1
Peak Hour Intersection Analysis Summary – Existing Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Clovis/Sierra	Signals	17.4	B	16.8	B
Clovis / Second	One-way stop*	15.1	C**	18.4	C**
Clovis / Third	Signals	19.3	B	25.8	C
Veterans / Third	One-way stop*	15.4	C	12.4	B
Clovis / Fourth	Signals	12.0	B	14.8	B
Clovis / Fifth	Signals	28.2	C	31.3	C
Veterans / Fifth	One-way stop*	**50.7**	**F**	19.8	C

* A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition

** The reported LOS is for the eastbound approach. The westbound approach is a private driveway and experiences a negligible number of peak hour trips.

The following study intersection is currently operating below the target LOS:

- Veterans Way / Fifth Street (LOS F on the southbound approach and LOS E on the northbound approach during the a.m. peak hour, likely a function of school traffic).

The other study intersections are currently operating at acceptable levels of service.

5.7 – Existing-Conditions Queuing Analysis

The results of the existing-conditions queuing analyses are summarized in Table 5.2. The queue analysis sheets are presented in Appendix C.

The calculated 95th-percentile queues do not exceed the existing storage capacity at the study intersections, with the exception that the calculated queue is longer than the left-turn lane on the eastbound approach to the intersection of Clovis Avenue and Fifth Street.

Table 5.2
Queuing Analysis Summary – Existing Conditions

Intersection		Storage and Queue Length (feet)											
		EBL	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Clovis / Sierra	Storage	115*	**	115	70	**	25	120	**	65	165	**	60
	A.M.	170	86	4	19	92	0	78	135	0	45	138	31
	P.M.	132	80	29	22	62	0	68	211	0	68	140	35
Clovis / Second	Storage	S	325	S	S	D	S	S	400	S	S	800	S
	A.M.	S	5	S	S	0	S	S	3	S	S	0	S
	P.M.	S	8	S	S	3	S	S	3	S	S	0	S
Clovis / Third	Storage	50	320	S	95	**	55	S	400	S	S	**	S
	A.M.	21	78	S	46	130	41	S	154	S	S	186	S
	P.M.	40	103	S	33	102	47	S	246	S	S	218	S
Veterans / Third	Storage	-	NS	NS	325*	NS	-	800	-	S	-	-	-
	A.M.	-	NS	NS	5	NS	-	45	-	S	-	-	-
	P.M.	-	NS	NS	3	NS	-	13	-	S	-	-	-
Clovis / Fourth	Storage	S	320	S	S	130 D	S	S	400	S	S	400	S
	A.M.	S	30	S	S	34	S	S	127	S	S	127	S
	P.M.	S	48	S	S	29	S	S	155	S	S	147	S
Clovis / Fifth	Storage	80	320	S	150*	350	S	S	**	S	S	410	S
	A.M.	41	195	S	126	251	S	S	184	S	S	154	S
	P.M.	**82**	264	S	89	206	S	S	297	S	S	244	S
Veterans / Fifth	Storage	45*	NS	NS	100	NS	NS	S	D	S	S	800	S
	A.M.	5	NS	NS	3	NS	NS	S	103	S	S	48	28
	P.M.	3	NS	NS	3	NS	NS	S	3	S	S	13	8

* Left-turn lane connects to a two-way left-turn lane, additional storage available equal to length of adjacent through lane.
** Greater than 1,000 feet to next signalized or all-way stop controlled intersection.
\- Not existing at the time that traffic counts were performed
D = Driveway
S = Shared with through lane.
NS = Not required to stop.

6 – NEAR-TERM AND LONG-TERM BASELINE TRAFFIC PROJECTIONS

6.1 – Cumulative Projects

The analyses for the near-term and long-term conditions consider the effects of traffic expected to be generated by pending and approved projects in the study area. Based on information provided by City of Clovis staff, the projects listed below are either approved or pending approval and are assumed to be constructed in the near-term condition.

- Golden Triangle - southwest of the intersection of Herndon and Clovis Avenues, includes the Falls Event Center
- Assisted Care Facility - 48 units on the south side of Sierra Avenue east of State Route 168
- California Health Sciences University -east side of Clovis Avenue north of Sierra Avenue, 9,405-square-foot office/pharmacy (under construction) and 17,079-square-foot medical classrooms (completed)

The traffic volumes expected to be generated at each of the study intersections by the pending projects described above are presented in Figure 6-1, Pending Projects A.M. and P.M. Peak Hour Traffic Volumes.

6.2 – Baseline Lane Configurations and Intersection Control

The baseline lane configurations for the near-term and long-term conditions are assumed to be the same as the existing conditions presented in Figure 5-1.

6.3 – Baseline Near-Term Traffic Volumes

The baseline weekday a.m. and p.m. peak hour traffic volumes for the near-term conditions were estimated by adding the estimated traffic volumes for the pending projects presented in Figure 6-1 to the existing traffic volumes presented in Figure 5-2. The resulting traffic volumes are presented in Figure 6-2, Near-Term No-Project A.M. and P.M. Peak Hour Traffic Volumes.

6.4 – Traffic Modeling and Baseline 2039 Traffic Volumes

COG maintains a travel model that is typically used to forecast traffic volumes. The baseline traffic volumes for the year 2039 no-Project conditions were determined using the COG travel model and the COG Increment Method, which is described in a document available from the COG entitled *"Model Steering Committee Recommended Procedures for Using Traffic Projections from the Fresno COG Travel Model"* dated December 2002. The Increment Method forecasts future traffic volumes by adding the growth increment projected by the model between the current year and the horizon year to the existing traffic volumes.

Future turning-movement forecasts were based on the methods presented in Chapter 8 of the Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 255 entitled *"Highway Traffic Data for Urbanized Area Project Planning and Design."* The baseline 2039 no-Project traffic volumes are presented in Figure 6-3, 2039 No-Project A.M. and P.M. Peak Hour Traffic Volumes.

7 – YEAR 2039 NO-PROJECT CONDITIONS ANALYSES

7.1 – Year 2039 No-Project Intersection LOS Analysis

The results of the year 2039 no-Project intersection LOS analyses are summarized in Table 7.1. Levels of service and delays below the target LOS D are identified in bold type. The intersection analysis sheets are presented in Appendix C.

Table 7.1
Peak Hour Intersection Analysis Summary – 2039 No-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Clovis/Sierra	Signals	27.5	C	20.5	C
Clovis / Second	One-way stop*	26.3	D**	32.2	D**
Clovis / Third	Signals	29.9	C	40.7	D
Veterans / Third	One-way stop*	22.6	C	13.6	B
Clovis / Fourth	Signals	14.5	B	18.3	B
Clovis / Fifth	Signals	48.9	D	48.7	D
Veterans / Fifth	One-way stop*	**241.5**	**F**	28.6	D

* A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition

** The reported LOS is for the eastbound approach. LOS E occurs on the westbound approach (which is a private driveway) for both peak hours, but experiences a negligible number of peak hour trips.

The following study intersection is expected to operate below the target level of service:

- Veterans Way / Fifth Street (LOS F during the a.m. peak hour on the northbound and southbound approaches).

The other study intersections are expected to operate at acceptable levels of service.

7.2 – Year 2039 No-Project Conditions Queuing Analysis

The results of the year 2039 no-Project queuing analyses are summarized in Table 7.2. Calculated 95th-percentile queues exceeding the available storage capacity are identified in bold type. The queue analysis sheets are presented in Appendix C.

Table 7.2
Queuing Analysis Summary – 2039 No-Project Conditions

Intersection		Storage and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Clovis / Sierra	Storage	115*	**	115	70	**	25	120	**	65	165	**	60
	A.M.	229	98	29	22	112	1	**180**	198	0	52	211	51
	P.M.	152	107	45	28	79	0	**159**	281	0	87	180	48
Clovis / Second	Storage	S	325	S	S	D	S	S	400	S	S	800	S
	A.M.	S	13	S	S	3	S	S	3	S	S	0	S
	P.M.	S	18	S	S	3	S	S	3	S	S	0	S
Clovis / Third	Storage	50	320	S	95	**	55	S	400	S	S	**	S
	A.M.	40	93	S	55	164	56	S	226	S	S	361	S
	P.M.	55	143	S	50	124	55	S	371	S	S	395	S
Veterans / Third	Storage	-	NS	NS	325*	NS	NS	800	-	S	-	-	-
	A.M.	-	NS	NS	8	NS	NS	88	-	S	-	-	-
	P.M.	-	NS	NS	3	NS	NS	18	-	S	-	-	-
Clovis / Fourth	Storage	S	320	S	S	130 D	S	S	400	S	S	400	S
	A.M.	S	36	S	S	39	S	S	176	S	S	210	S
	P.M.	S	61	S	S	35	S	S	203	S	S	228	S
Clovis / Fifth	Storage	80	320	S	150*	350	S	S	**	S	S	410	S
	A.M.	59	267	S	157	315	S	S	236	S	S	258	S
	P.M.	**94**	**333**	S	93	274	S	S	408	S	S	410	S
Veterans / Fifth	Storage	45*	NS	NS	100	NS	NS	S	D	S	S	800	S
	A.M.	8	NS	NS	5	NS	NS	S	303	S	S	145	48
	P.M.	3	NS	NS	3	NS	NS	S	3	S	S	23	10

* Left-turn lane connects to a two-way left-turn lane, additional storage available equal to length of adjacent through lane.
** Greater than 1,000 feet to next signalized or all-way stop controlled intersection.
D = Driveway
S = Shared with through lane.
NS = Not required to stop.

The calculated 95th-percentile queues exceed the storage capacity at the following locations in the 2039 no-Project conditions:

- Clovis Avenue / Sierra Avenue: the calculated northbound left-turn queue exceeds the storage capacity by 60 feet during the a.m. peak hour and 39 feet during the p.m. peak hour;
- Clovis Avenue / Fifth Street: the calculated eastbound left-turn queue exceeds the storage capacity by 14 feet during the p.m. peak hour and the calculated eastbound queue extends beyond Pollasky Avenue.

8 – EXISTING-PLUS-PROJECT CONDITIONS ANALYSES

8.1 – Existing-Plus-Project Lane Configurations and Intersection Control

The existing-plus-Project conditions lane configurations and intersection control are the same as the existing conditions presented in Figure 5-1.

8.2 – Existing-Plus-Project Traffic Volumes

The existing-plus-Project conditions peak-hour traffic volumes are determined by adding the existing traffic volumes and the Project traffic volumes. The existing-plus-Project conditions peak-hour traffic volumes are presented in Figure 8-1, Existing-Plus-Project A.M. and P.M. Peak Hour Traffic Volumes.

8.3 – Existing-Plus-Project Intersection LOS Analysis

The results of the existing-plus-Project conditions intersection LOS analyses are summarized in Table 8.1. Project impacts are identified in bold type. The intersection analysis sheets are presented in Appendix D.

Table 8.1
Peak Hour Intersection Analysis Summary – Existing-Plus-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Clovis/Sierra	Signals	17.6	B	17.3	B
Clovis / Second	One-way stop*	15.3	C**	19.4	C**
Clovis / Third	Signals	19.9	B	28.1	C
Veterans / Third	One-way stop*	21.2	C	21.3	C
Clovis / Fourth	Signals	12.2	B	15.4	B
Clovis / Fifth	Signals	29.0	C	34.2	C
Veterans / Fifth	One-way stop*	**56.3**	**F**	22.7	C

* A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition

** The reported LOS is for the eastbound approach. The westbound approach is a private driveway and experiences a negligible number of peak hour trips.

The Project causes one significant impact based on intersection LOS criteria at the intersection of Veterans Way and Fifth Street during the a.m. peak hour. The Project will exacerbate the existing LOS F by increasing average delays from 50.7 seconds per vehicle to 56.3 seconds per vehicle during the a.m. peak hour. Peak-hour traffic signal warrants are not met; therefore, the installation of traffic signals is not considered a feasible mitigation. The peak-hour warrants analysis sheets are included in Appendix E.

Possible mitigations at the intersection of Veterans Way and Fifth Street include installation of all-way stop control or a roundabout. However, all-way stop control is not warranted for the required eight hours per day as described in the CMUTCD, as evidenced by the fact that the minimum volumes for multi-way stop control are not met during the p.m. peak hour. A single-lane roundabout is expected to result in queues extending into the intersection of Clovis Avenue and Fifth Street, particularly as a result of vehicles dropping off and picking up students adjacent to the intersection. It is common for the parking lot south of the

intersection to become congested, with a very high likelihood that the congestion would back up into a roundabout and cause blockage of all four approaches. Coupled with a high volume of pedestrian traffic, complete breakdown of a roundabout during peak periods is likely at this intersection, and it is important to avoid creating a queue in the eastbound lane that interferes with the operation of the intersection of Clovis Avenue and Fifth Street. Therefore, there is no feasible mitigation.

8.4 – Existing-Plus-Project Conditions Queuing Analysis

The results of the existing-plus-Project conditions queuing analyses are summarized in Table 8.2. Calculated 95th-percentile queues exceeding the available storage capacity are identified in bold type. The queue analysis sheets are presented in Appendix D.

The results of the existing-plus-Project conditions analyses are very similar to the existing conditions. The calculated 95th-percentile queues do not exceed the existing storage capacity at the study intersections, with the exception that the calculated queue is longer than the left-turn lane on the eastbound approach to the intersection of Clovis Avenue and Fifth Street. The Project causes the calculated 95th-percentile queue to increase by eight feet at this location, which is not considered a substantial difference from the existing conditions.

Table 8.2
Queuing Analysis Summary – Existing-Plus-Project Conditions

Intersection		Storage and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Clovis / Sierra	Storage	115*	**	115	70	**	25	120	**	65	165	**	60
	A.M.	170	86	8	21	92	0	80	137	0	45	143	31
	P.M.	134	82	33	26	63	0	83	222	0	69	147	36
Clovis / Second	Storage	S	325	S	S	D	S	S	400	S	S	800	S
	A.M.	S	5	S	S	0	S	S	3	S	S	0	S
	P.M.	S	8	S	S	3	S	S	3	S	S	0	S
Clovis / Third	Storage	50	320	S	95	**	55	S	400	S	S	**	S
	A.M.	22	79	S	55	131	42	S	159	S	S	195	S
	P.M.	44	104	S	89	106	53	S	262	S	S	238	S
Veterans / Third	Storage	180	NS	NS	325*	NS	NS	S	800	S	S	D	S
	A.M.	3	NS	NS	5	NS	NS	S	70	S	S	5	S
	P.M.	5	NS	NS	3	NS	NS	S	38	S	S	33	S
Clovis / Fourth	Storage	S	320	S	S	130 D	S	S	400	S	S	400	S
	A.M.	S	32	S	S	34	S	S	132	S	S	130	S
	P.M.	S	53	S	S	30	S	S	166	S	S	166	S
Clovis / Fifth	Storage	80	320	S	150*	350	S	S	**	S	S	410	S
	A.M.	45	197	S	127	255	S	S	189	S	S	156	S
	P.M.	**90**	267	S	103	213	S	S	318	S	S	288	S
Veterans / Fifth	Storage	45*	NS	NS	100	NS	NS	S	D	S	S	800	S
	A.M.	8	NS	NS	3	NS	NS	S	108	S	S	55	30
	P.M.	3	NS	NS	3	NS	NS	S	3	S	S	23	10

* Left-turn lane connects to a two-way left-turn lane, additional storage available equal to length of adjacent through lane.
** Greater than 1,000 feet to next signalized or all-way stop controlled intersection.
D = Driveway
S = Shared with through lane.
NS = Not required to stop.

8.5 – Transit, Bicycle, and Pedestrian Facilities

Although the Project is expected to enhance the transit experience in Clovis and provide connectivity between bicycle, pedestrian, vehicle, and transit modes of travel, the Project may potentially disrupt pedestrian and bicycle facilities by generating new trips across the Dry Creek Trail.

The Clovis Old Town Trail crosses Third Street immediately west of the proposed Project driveway. Since the Project would likely generate new pedestrian and bicycle trips across Third Street, the existing signage and markings should be reviewed for conformance with the most recent version of the CMUTCD and enhanced if not in conformance.

8.6 – Existing-Plus-Project Conditions - Impacts and Mitigation Measures

The existing-plus-Project conditions analyses are based on conditions expected to occur if the Project were to be constructed immediately without the development of any of the pending projects. The significant traffic impact identified in the Existing-Plus-Project conditions analyses is stated below, followed by the recommended mitigation or action.

Impact TRANS-1

At the intersection of Veterans Way and Fifth Street, the Project will exacerbate the existing LOS F during the a.m. peak hour by increasing average delays from 50.7 seconds per vehicle to 56.3 seconds per vehicle.

Mitigation Measure TRANS-1

There is no feasible mitigation.

Impact TRANS-2

The Project will generate new vehicle trips across the Clovis Old Town Trail at Third Street, and will likely generate new pedestrian and bicycle trips on the trail.

Mitigation Measure TRANS-2

The appropriate signage and pavement markings should be installed at the Clovis Old Town Trail at Third Street in accordance with the most recent version of the CMUTCD.

9 – NEAR-TERM WITH-PROJECT CONDITIONS ANALYSES

9.1 – Near-Term With-Project Lane Configurations and Intersection Control

The near-term with-Project conditions lane configurations and intersection control are the same as the existing conditions presented in Figure 5-1.

9.2 – Near-Term With-Project Traffic Volumes

The near-term with-Project conditions peak-hour traffic volumes are determined by adding the near-term baseline traffic volumes and the Project traffic volumes. The near-term with-Project conditions peak-hour traffic volumes are presented in Figure 9-1, Near-Term With-Project A.M. and P.M. Peak Hour Traffic Volumes.

9.3 – Near-Term With-Project Intersection LOS Analysis

The results of the near-term with-Project conditions intersection LOS analyses are summarized in Table 9.1. Cumulative impacts (Project plus other approved and pending projects) are identified in bold type. The intersection analysis sheets are presented in Appendix D.

Table 9.1
Peak Hour Intersection Analysis Summary – Near-Term With-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Clovis/Sierra	Signals	17.7	B	17.7	B
Clovis / Second	One-way stop*	15.5	C**	21.0	C**
Clovis / Third	Signals	20.1	C	30.4	C
Veterans / Third	One-way stop*	21.2	C	21.6	C
Clovis / Fourth	Signals	12.2	B	16.0	B
Clovis / Fifth	Signals	29.6	C	36.7	D
Veterans / Fifth	One-way stop*	**56.3**	**F**	23.1	C

* A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition

** The reported LOS is for the eastbound approach. The westbound approach is a private driveway and experiences a negligible number of peak hour trips.

The Project contributes to cumulative significant impacts based on intersection LOS criteria at the intersection of Veterans Way and Fifth Street. The cumulative projects plus the Project will exacerbate the existing LOS F by increasing average delays from 50.7 seconds per vehicle to 56.3 seconds per vehicle during the a.m. peak hour. This impact is identical to Impact Trans-1 in the existing-plus-Project scenario. Peak-hour traffic signal warrants are not met. The peak-hour warrants analysis sheets are included in Appendix E.

Possible mitigations at the intersection of Veterans Way and Fifth Street include installation of all-way stop control or a roundabout. However, all-way stop control is not warranted for the required eight hours per day as described in the CMUTCD, as evidenced by the fact that the minimum volumes for multi-way stop control are not met during the p.m. peak hour. A single-lane roundabout is expected to result in queues extending into the intersection of Clovis Avenue and Fifth Street, particularly as a result of vehicles dropping off and picking

up students adjacent to the intersection. It is common for the parking lot south of the intersection to become congested, with a very high likelihood that the congestion would back up into a roundabout and cause blockage of all four approaches. Coupled with a high volume of pedestrian traffic, complete breakdown of a roundabout during peak periods is likely at this intersection, and it is important to avoid creating a queue in the eastbound lane that interferes with the operation of the intersection of Clovis Avenue and Fifth Street. Therefore, there is no feasible mitigation.

9.4 – Near-Term With-Project Conditions Queuing Analysis

The results of the near-term with-Project conditions queuing analyses are summarized in Table 9.2. Calculated 95th-percentile queues exceeding the available storage capacity are identified in bold type. The queue analysis sheets are presented in Appendix D.

Table 9.2
Queuing Analysis Summary – Near-Term With-Project Conditions

Intersection		Storage and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Clovis / Sierra	Storage	115*	**	115	70	**	25	120	**	65	165	**	60
	A.M.	171	86	8	21	92	0	80	142	0	45	144	31
	P.M.	145	85	34	26	65	0	85	240	0	74	157	37
Clovis / Second	Storage	S	325	S	S	D	S	S	400	S	S	800	S
	A.M.	S	5	S	S	0	S	S	3	S	S	0	S
	P.M.	S	10	S	S	3	S	S	3	S	S	0	S
Clovis / Third	Storage	50	320	S	95	**	55	S	400	S	S	**	S
	A.M.	22	79	S	55	131	42	S	165	S	S	196	S
	P.M.	44	104	S	89	106	53	S	288	S	S	254	S
Veterans / Third	Storage	180	NS	NS	325*	NS	NS	S	800	S	S	D	S
	A.M.	3	NS	NS	5	NS	NS	S	70	S	S	5	S
	P.M.	5	NS	NS	3	NS	NS	S	38	S	S	33	S
Clovis / Fourth	Storage	S	320	S	S	130 D	S	S	400	S	S	400	S
	A.M.	S	32	S	S	34	S	S	136	S	S	131	S
	P.M.	S	55	S	S	30	S	S	179	S	S	185	S
Clovis / Fifth	Storage	80	320	S	150*	350	S	S	**	S	S	410	S
	A.M.	46	197	S	127	257	S	S	194	S	S	158	S
	P.M.	**100**	267	S	103	217	S	S	348	S	S	317	S
Veterans / Fifth	Storage	45*	NS	NS	100	NS	NS	S	D	S	S	800	S
	A.M.	8	NS	NS	3	NS	NS	S	110	S	S	55	30
	P.M.	3	NS	NS	3	NS	NS	S	3	S	S	23	10

* Left-turn lane connects to a two-way left-turn lane, additional storage available equal to length of adjacent through lane.
** Greater than 1,000 feet to next signalized or all-way stop controlled intersection.
D = Driveway
S = Shared with through lane.
NS = Not required to stop.

The results of the near-term with-Project conditions analyses are very similar to the existing conditions. The calculated 95th-percentile queues do not exceed the existing storage capacity at the study intersections, with the exception that the calculated queue is longer than the left-turn lane on the eastbound approach to the intersection of Clovis Avenue and Fifth Street. The cumulative projects plus the Project cause the calculated 95th-percentile queue to increase by 18 feet at this location, which is not considered a substantial difference from the existing conditions.

9.5 – Near-Term With-Project Conditions - Impacts and Mitigation Measures

The near-term with-Project conditions analyses are based on conditions expected to occur after construction of the pending projects and the proposed Project. Cumulative traffic impacts identified in the Near-Term With-Project conditions analyses are stated below, followed by the recommended mitigation or action.

Impact TRANS-3

At the intersection of Veterans Way and Fifth Street, the cumulative projects plus the Project will exacerbate the existing LOS F by increasing average delays from 50.7 seconds per vehicle to 56.3 seconds per vehicle during the a.m. peak hour. This impact is identical to Impact Trans-1 in the existing-plus-Project scenario.

Mitigation Measure TRANS-3

There is no feasible mitigation.

10 – YEAR 2039 WITH-PROJECT CONDITIONS ANALYSES

10.1 – Year 2039 With-Project Lane Configurations and Intersection Control

The year 2039 with-Project conditions lane configurations and intersection control are assumed to be the same as the existing conditions presented in Figure 5-1.

10.2 – Year 2039 With-Project Traffic Volumes

The year 2039 with-Project conditions peak-hour traffic volumes are determined by adding the 2039 baseline traffic volumes and the Project traffic volumes. The year 2039 with-Project conditions peak-hour traffic volumes are presented in Figure 10-1, Year 2039 With-Project A.M. and P.M. Peak Hour Traffic Volumes.

10.3 – Year 2039 With-Project Intersection LOS Analysis

The results of the year 2039 with-Project conditions intersection LOS analyses are summarized in Table 10.1. Cumulative impacts are identified in bold type. The intersection analysis sheets are presented in Appendix D.

Table 10.1
Peak Hour Intersection Analysis Summary – 2039 With-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Clovis/Sierra	Signals	28.5	C	22.1	C
Clovis / Second	One-way stop*	27.0	D**	**35.9**	**E****
Clovis / Third	Signals	32.9	C	52.2	D
Veterans / Third	One-way stop*	**63.2**	**F**	**38.6**	**E**
Clovis / Fourth	Signals	14.8	B	19.9	B
Clovis / Fifth	Signals	52.4	D	**57.0**	**E**
Veterans / Fifth	One-way stop*	**307.7**	**F**	**36.7**	**E**

* A driveway exists as the fourth leg of the intersection and essentially creates a two-way stop control condition

** The reported LOS is for the eastbound approach. LOS E occurs on the westbound approach (which is a private driveway) for both peak hours, but experiences a negligible number of peak hour trips.

The cumulative projects, including 20 years of regional growth, are expected to cause significant impacts based on intersection LOS criteria at the following intersections:

- Clovis Avenue / Second Street;
- Veterans Way / Third Street;
- Clovis Avenue / Fifth Street;
- Veterans Way / Fifth Street.

At the intersection of Clovis Avenue and Second Street, the LOS on the eastbound approach drops from the existing LOS C during the a.m. and p.m. peak hours to LOS D (acceptable) during the a.m. peak hour and LOS E during the p.m. peak hour. Vehicles on Clovis Avenue are not required to stop and experience little to no delay. Peak-hour traffic signal warrants are not met. The peak-hour warrants analysis sheets are included in Appendix E.

Possible mitigations at the intersection of Clovis Avenue and Second Street include installation of all-way stop control or a roundabout. All-way stop control would operate below the target LOS during peak hours and is not warranted for the required eight hours per day as described in the CMUTCD, as evidenced by the fact that the minimum volumes for multi-way stop control are not met during the a.m. and p.m. peak hours. A single-lane roundabout may not be geometrically feasible as a result of the required lane drop on the northbound approach, and would likely result in queues in the northbound lane that would extend near the intersection of Clovis Avenue and Third Street during peak periods when platoons of northbound vehicles are released from the traffic signal at Clovis Avenue and Third Street. Construction of a two-lane roundabout would be restricted by physical constraints (existing buildings, building setback requirements) and right-of-way constraints. Policy 2.1 of the City of Clovis General Plan allows exceptions to the minimum LOS D requirement on a case-by-case basis where right-of-way constraints would make capacity expansion infeasible. Therefore, there is no feasible mitigation.

Although there is no feasible physical mitigation at the intersection of Clovis Avenue and Second Street, the road network in the vicinity of the intersection allows for alternate turning movements and routes. For example, if a driver experiences difficulty turning left to northbound Clovis Avenue from the eastbound approach, the alternative is to utilize Pollasky Avenue or other streets to the desired destination to the north. Therefore, drivers are likely to avoid delays by using alternate routes or varying their schedule slightly.

At the intersection of Veterans Way and Third Street, the LOS drops from the existing LOS C during the a.m. peak hour and LOS B during the p.m. peak hour to LOS F during the a.m. peak hour and LOS E during the p.m. peak hour. Peak-hour traffic signal warrants are not met. The peak-hour warrants analysis sheets are included in Appendix E.

Possible mitigations at the intersection of Veterans Way and Third Street include installation of all-way stop control or a roundabout. All-way stop control is not warranted for the required eight hours per day as described in the CMUTCD, as evidenced by the fact that the minimum volumes for multi-way stop control are not met during the a.m. peak hour. A single-lane roundabout is potentially feasible from a geometric standpoint and is expected to operate at acceptable levels of service during the peak hours. Mitigated intersection analyses for a roundabout are presented in Appendix F.

At the intersection of Clovis Avenue / Fifth Street, the LOS drops from the existing LOS C to LOS E during the p.m. peak hour. The intersection has been constructed to its maximum configuration and there are buildings adjacent to the roadway with no opportunity to widen the intersection. Policy 2.1 of the City of Clovis General Plan allows exceptions to the minimum LOS D requirement on a case-by-case basis where right-of-way constraints would make capacity expansion infeasible. Therefore, there is no feasible mitigation.

At the intersection of Veterans Way and Fifth Street, the existing LOS F during the a.m. peak hour is exacerbated and the existing LOS C drops to LOS E during the p.m. peak hour. Peak-hour traffic signal warrants are not met. The peak-hour warrants analysis sheets are included in Appendix E.

Possible mitigations at the intersection of Veterans Way and Fifth Street include installation of all-way stop control or a roundabout. However, all-way stop control would operate below

the target LOS during peak hours and is not warranted for the required eight hours per day as described in the CMUTCD, as evidenced by the fact that the minimum volumes for multi-way stop control are not met during the p.m. peak hour. A single-lane roundabout is expected to result in queues extending into the intersection of Clovis Avenue and Fifth Street, particularly as a result of vehicles dropping off and picking up students adjacent to the intersection. It is common for the parking lot south of the intersection to become congested, with a very high likelihood that the congestion would back up into a roundabout and cause blockage of all four approaches. Coupled with a high volume of pedestrian traffic, complete breakdown of a roundabout during peak periods is likely at this intersection, and it is important to avoid creating a queue in the eastbound lane that interferes with the operation of the intersection of Clovis Avenue and Fifth Street. Therefore, there is no feasible mitigation.

10.4 – Year 2039 With-Project Conditions Queuing Analysis

The results of the year 2039 with-Project queuing analyses are summarized in Table 10.2. Calculated 95th-percentile queues exceeding the available storage capacity are identified in bold type. The queue analysis sheets are presented in Appendix D.

Table 10.2
Queuing Analysis Summary – 2039 With-Project Conditions

Intersection		Storage and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Clovis / Sierra	Storage	115*	**	115	70	**	25	120	**	65	165	**	60
	A.M.	229	98	29	26	112	1	**186**	201	0	52	219	53
	P.M.	152	107	46	32	79	0	**193**	297	0	87	191	48
Clovis / Second	Storage	S	325	S	S	D	S	S	400	S	S	800	S
	A.M.	S	15	S	S	3	S	S	3	S	S	0	S
	P.M.	S	20	S	S	3	S	S	3	S	S	0	S
Clovis / Third	Storage	50	320	S	95	**	55	S	400	S	S	**	S
	A.M.	41	94	S	68	167	**61**	S	237	S	S	383	S
	P.M.	**62**	158	S	**134**	145	**64**	S	**408**	S	S	433	S
Veterans / Third	Storage	180	NS	NS	325*	NS	NS	S	800	S	S	D	S
	A.M.	0	NS	NS	8	NS	NS	S	208	S	S	10	S
	P.M.	8	NS	NS	3	NS	NS	S	85	S	S	55	S
Clovis / Fourth	Storage	S	320	S	S	130 D	S	S	400	S	S	400	S
	A.M.	S	38	S	S	39	S	S	185	S	S	216	S
	P.M.	S	64	S	S	35	S	S	219	S	S	251	S
Clovis / Fifth	Storage	80	320	S	150*	350	S	S	**	S	S	410	S
	A.M.	65	272	S	161	325	S	S	244	S	S	263	S
	P.M.	**115**	**341**	S	118	302	S	S	434	S	S	**450**	S
Veterans / Fifth	Storage	45*	NS	NS	100	NS	NS	S	D	S	S	800	S
	A.M.	10	NS	NS	5	NS	NS	S	328	S	S	165	53
	P.M.	5	NS	NS	3	NS	NS	S	3	S	S	45	13

* Left-turn lane connects to a two-way left-turn lane, additional storage available equal to length of adjacent through lane.
** Greater than 1,000 feet to next signalized or all-way stop controlled intersection.
D = Driveway
S = Shared with through lane.
NS = Not required to stop.

The calculated 95th-percentile queues exceed the storage capacity at the following locations in the 2039 with-Project conditions:

- Clovis Avenue / Sierra Avenue: the calculated northbound left-turn queue exceeds the storage capacity by 66 feet during the a.m. peak hour and 73 feet during the p.m. peak hour;
- Clovis Avenue / Third Street: the calculated eastbound left-turn queue exceeds the storage capacity by 12 feet during the p.m. peak hour; the westbound left-turn queue exceeds the storage capacity by 39 feet during the p.m. peak hour; the westbound right-turn queue exceeds the storage capacity by six to nine feet during the a.m. and p.m. peak hours; and the northbound queue extends to Fourth Street;
- Clovis Avenue / Fifth Street: the calculated eastbound left-turn queue exceeds the storage capacity by 35 feet during the p.m.; the eastbound through queue extends beyond Pollasky Avenue, and the southbound queue extends beyond Fourth Street.

10.5 – Year 2039 With-Project Conditions - Impacts and Mitigation Measures

Cumulative traffic impacts identified in the year 2039 with-Project conditions analyses are stated below, followed by the recommended mitigation or action.

Impact TRANS-4

At the intersection of Clovis Avenue and Second Street, the cumulative projects, including 20 years of regional growth, are expected to cause the LOS to drop from the existing LOS C to LOS E on the minor street approach during the p.m. peak hour. Vehicles on Clovis Avenue are not required to stop and experience little to no delay.

Mitigation Measure TRANS-4

There is no feasible mitigation, although alternative routes exist for drivers to utilize.

Impact TRANS-5

At the intersection of Veterans Way and Third Street, the cumulative projects, including 20 years of regional growth, are expected to cause the LOS to drop from the existing LOS C during the a.m. peak hour and LOS B during the p.m. peak hour to LOS F during the a.m. peak hour and LOS E during the p.m. peak hour.

Mitigation Measure TRANS-5

The intersection should be modified by the year 2039 to a single-lane modern roundabout designed in accordance with typical industry standards, which currently are primarily based on the TRB NCHRP Report 672: Roundabouts: An Informational Guide, Second Edition, 2010.

Construction of a roundabout at the intersection of Veterans Way and Third Street would create a minimized crosswalk length across Third Street and would be beneficial to the Dry Creek Trail. The roundabout would include narrow roadways and a pedestrian refuge in the splitter island that allows pedestrians and bicycles to cross against only one direction of vehicular travel at a time.

A roundabout may be included with construction of the Project or may be deferred until the significant impact is observed. If deferred, the Project will be required to provide assurance that the mitigation will eventually be constructed. Such assurance may be in the form of adding the cost of the roundabout to the City's development fee program.

Impact TRANS-6

At the intersection of Clovis Avenue and Fifth Street, the cumulative projects, including 20 years of regional growth, are expected to cause the LOS to drop from the existing LOS C to LOS E during the p.m. peak hour.

Mitigation Measure TRANS-6

There is no feasible mitigation.

Impact TRANS-7

At the intersection of Veterans Way and Fifth Street, the cumulative projects, including 20 years of regional growth, are expected to exacerbate the existing LOS F during the a.m. peak hour and will cause the existing LOS C to drop to LOS E during the p.m. peak hour.

Mitigation Measure TRANS-7

There is no feasible mitigation.

11 – SITE ACCESS, CIRCULATION, AND PARKING

11.1 – Site Access and Circulation

The operational analysis of the Veterans Way/Third Street intersection provides analysis of the site access driveway. Secondary access will be provided via an existing north-south alley along the eastern edge of the Project site that currently connects to Third Street at the south end and to the Osmun Circle cul de sac at the north end. It is not anticipated that there will be a high demand for Project trips to utilize Osmun Avenue to access the site from Third Street because the alley provides a more direct secondary access from Third Street. Furthermore, there is not expected to be a high demand for Project trips traveling north of the site to utilize the route between the Osmun Circle cul de sac and Sierra Avenue, particularly because the route is circuitous and the speed humps on Sierra Avenue tend to discourage its use.

A general review of the conceptual site plan was performed. It is recommended that the site plan be modified to ensure that 40-foot buses are accommodated in the design, and that the secondary access points will adequately accommodate vehicles, particularly in the event that the main driveway is blocked. It is recommended that the drive approach at the alley be improved to accommodate the required design vehicle if loading zones are constructed along the alley and require buses or delivery trucks to use the alley for access.

11.2 – Parking

The Project site is expected to have more than 240 parking stalls. For average conditions this number of stalls is expected to be adequate. Other public parking is available for special events, primarily the existing parking lots southeast and southwest of the intersection of Veterans Way and Third Street. The proposed Project will satisfy the City's requirements for parking spaces and, therefore, the Project's parking impacts would be less than significant.

12 – ESTIMATED 24-HOUR TRAFFIC VOLUMES

Daily (24-hour) traffic volumes can be useful in noise analyses or simply for informational purposes. Table 12.1 presents an estimate of the daily volumes (both directions combined) on road segments adjacent to the study intersections. These estimates are based on an assumption that the p.m. peak hour traffic volumes are approximately 10 percent of the daily volumes. These values are not utilized in the traffic analyses.

Table 12.1
Estimated 24-Hour Traffic Volumes

Road	Segment	Existing	Existing Plus Project	Near-Term No Project	Near-Term With Project	2039 No Project	2039 With Project
Clovis Avenue	North of Sierra	14,970	15,540	15,930	16,500	18,402	19,086
	Sierra to Second	12,940	13,860	13,780	14,700	17,713	18,817
	Second to Third	12,830	13,770	13,660	14,600	17,392	18,520
	Third to Fourth	11,030	11,800	11,670	12,540	14,203	15,127
	Fourth to Fifth	11,050	11,740	11,770	12,460	14,058	14,886
	South of Fifth	11,080	11,630	11,660	12,210	13,531	14,191
Sierra Avenue	West of Clovis	5,650	5,930	5,730	6,010	8,135	8,471
	East of Clovis	2,520	2,590	2,560	2,630	3,160	3,244
Second Street	West of Clovis	590	640	590	640	739	799
Third Street	West of Clovis	2,570	2,650	2,590	2,670	3,544	3,640
	Clovis to Veterans	4,650	6,420	4,720	6,490	6,695	8,819
	East of Veterans	4,280	4,620	4,350	4,690	5,371	5,779
Fourth Street	West of Clovis	1,310	1,390	1,330	1,410	1,647	1,743
	East of Clovis	570	570	570	570	711	711
Fifth Street	West of Clovis	6,790	7,050	6,860	7,120	8,369	8,681
	Clovis to Veterans	6,590	6,850	6,670	6,930	8,285	8,597
	East of Veterans	6,480	6,850	6,560	6,930	8,143	8,587
Veterans Way	Third to Fourth	1,150	1,780	1,150	1,780	1,436	2,192
	Fourth to Fifth	1,350	1,840	1,350	1,840	1,697	2,285

The intersection turning movement counts reveal that heavy vehicles (three or more axles) comprise less than one percent of the total volume of traffic at every study intersection during both the a.m. and p.m. peak hours. To be conservative, the intersection operational analyses presented in the report assumed two percent heavy vehicles. However, it is estimated, on a 24-hour basis, that heavy vehicles comprise no more than one percent of the estimated volumes presented in Table 12.1.

13 – CONCLUSIONS AND SUMMARY OF IMPACTS AND MITIGATIONS

Standard traffic engineering principles and methods were employed to establish the existing conditions, to estimate the number of trips expected to be generated by the Project, and to analyze the traffic conditions expected to occur in the future.

The traffic impact study found that the intersection of Veterans Way and Fifth Street is currently operating below the target LOS during the a.m. peak hour, primarily as a result of school traffic. The other study intersections currently operate at LOS C or better and are expected to continue to operate at LOS D or better through the year 2039 without the Project.

The Project is expected to cause or contribute to significant traffic impacts at the following intersections:

- Clovis Avenue / Second Street (year 2039 cumulative impact);
- Veterans Way / Third Street (year 2039 cumulative impact);
- Clovis Avenue / Fifth Street (year 2039 cumulative impact);
- Veterans Way / Fifth Street (Project impact, near-term cumulative impact, and year 2039 cumulative impact).

In general, the study intersections have been constructed to the ultimate configuration. In addition, traffic signal warrants are not expected to be satisfied at the significantly-impacted study locations. Measures intended to solve LOS deficiencies at certain locations (such as all-way stop control or roundabouts at certain locations) are not recommended if traffic volumes do not meet warrants or if there is a high potential for the resulting queues to extend into adjacent signalized intersections. Therefore, with the exception of the intersection of Veterans Way and Third Street, no feasible mitigations have been identified for the significant impacts based on LOS. These impacts would remain significant and unavoidable.

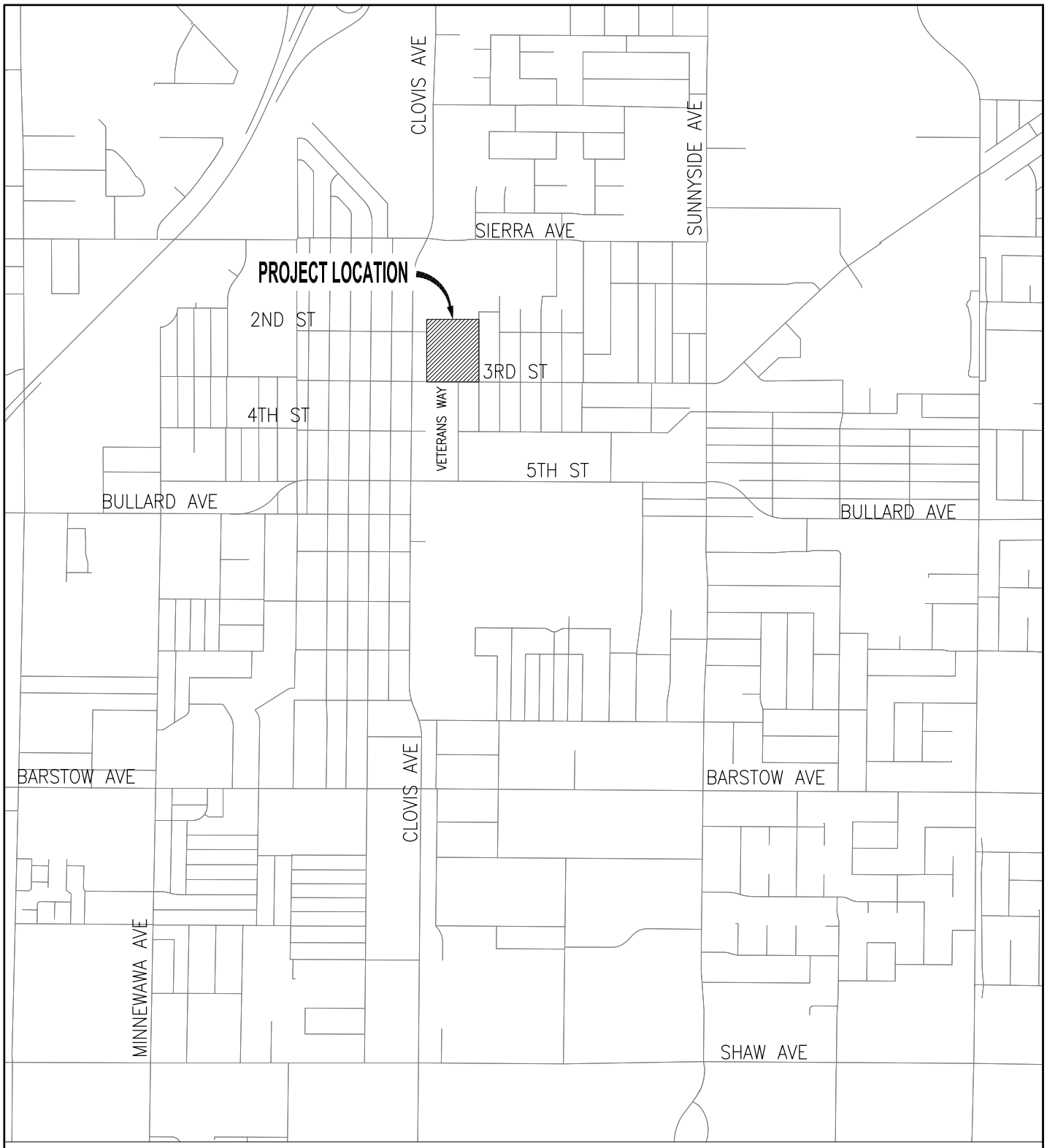
At the intersection of Veterans Way and Third Street, a roundabout should be considered to mitigate the year 2039 significant impacts. A roundabout may be included with construction of the Project or may be deferred until the significant impact is observed. If deferred, the Project will be required to provide assurance that the mitigation will eventually be constructed. Such assurance may be in the form of adding the cost of the roundabout to the City's development fee program.

The Project will generate new vehicle trips across the Clovis Old Town Trail at Third Street, and will likely generate new pedestrian and bicycle trips on the trail. The appropriate signage and pavement markings should be installed in accordance with the most recent version of the CMUTCD. Construction of a roundabout at the intersection of Veterans Way and Third Street would create a minimized crosswalk length across Third Street. The roundabout would include narrow roadways and a pedestrian refuge in the splitter island that allows pedestrians and bicycles to cross against only one direction of vehicular travel at a time.

The average length of trips generated by the Project will be 6.3 miles. For comparison purposes, the average work-based trip length in the Fresno County region is approximately 11 to 12 miles. The Project is expected to contribute to a reduction in the overall number of vehicle miles traveled in the City of Clovis by accommodating automobile, transit,

pedestrian, and bicycle modes of travel (with convenient transfer between modes) near regional destinations such as the library, senior center, civic center, and downtown Clovis.

FIGURES



LEGEND

PROJECT SITE

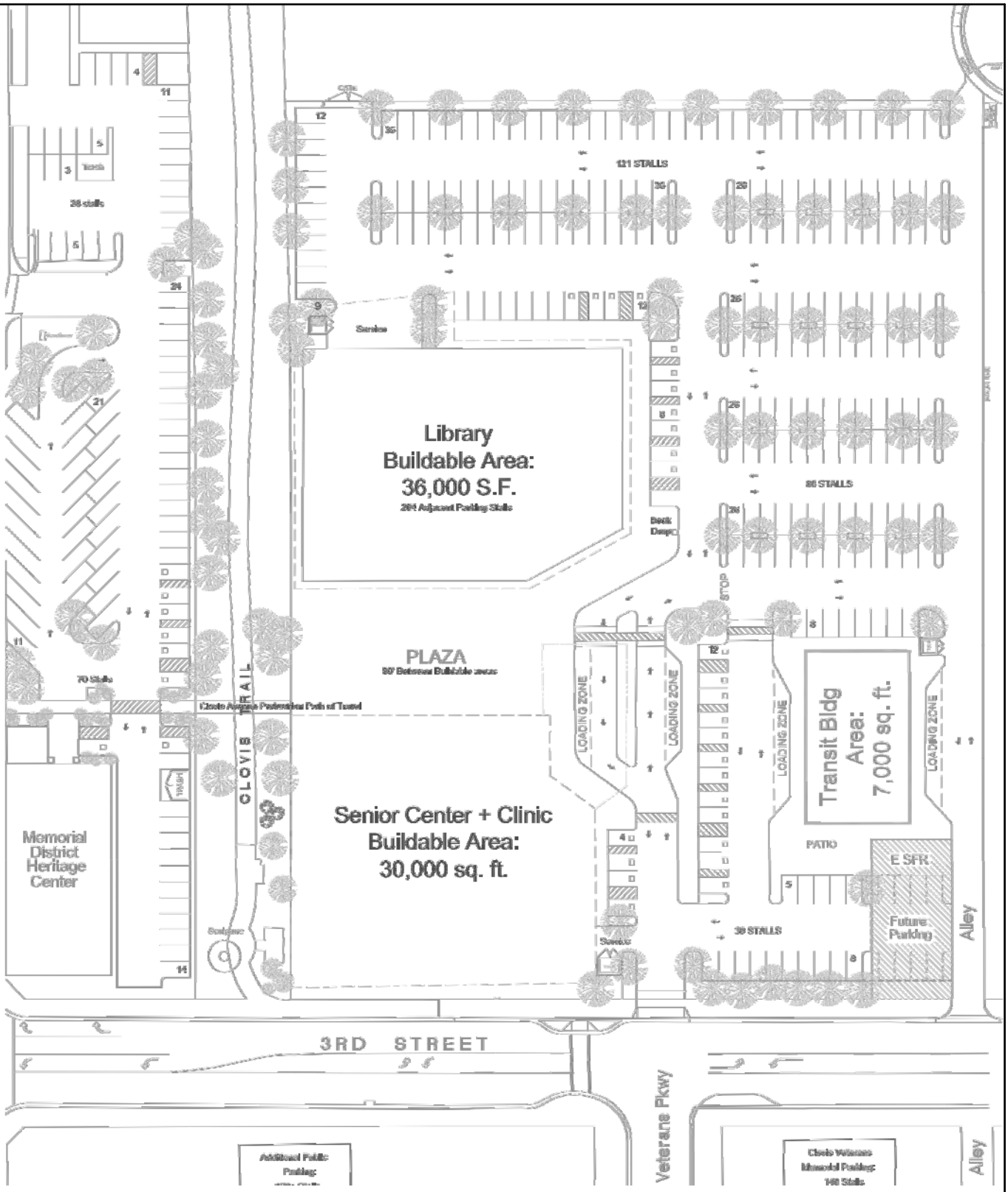
Proposed Clovis Landmark Commons
Clovis, California

VICINITY MAP

Not to Scale

PETERS ENGINEERING GROUP

Figure 1-1



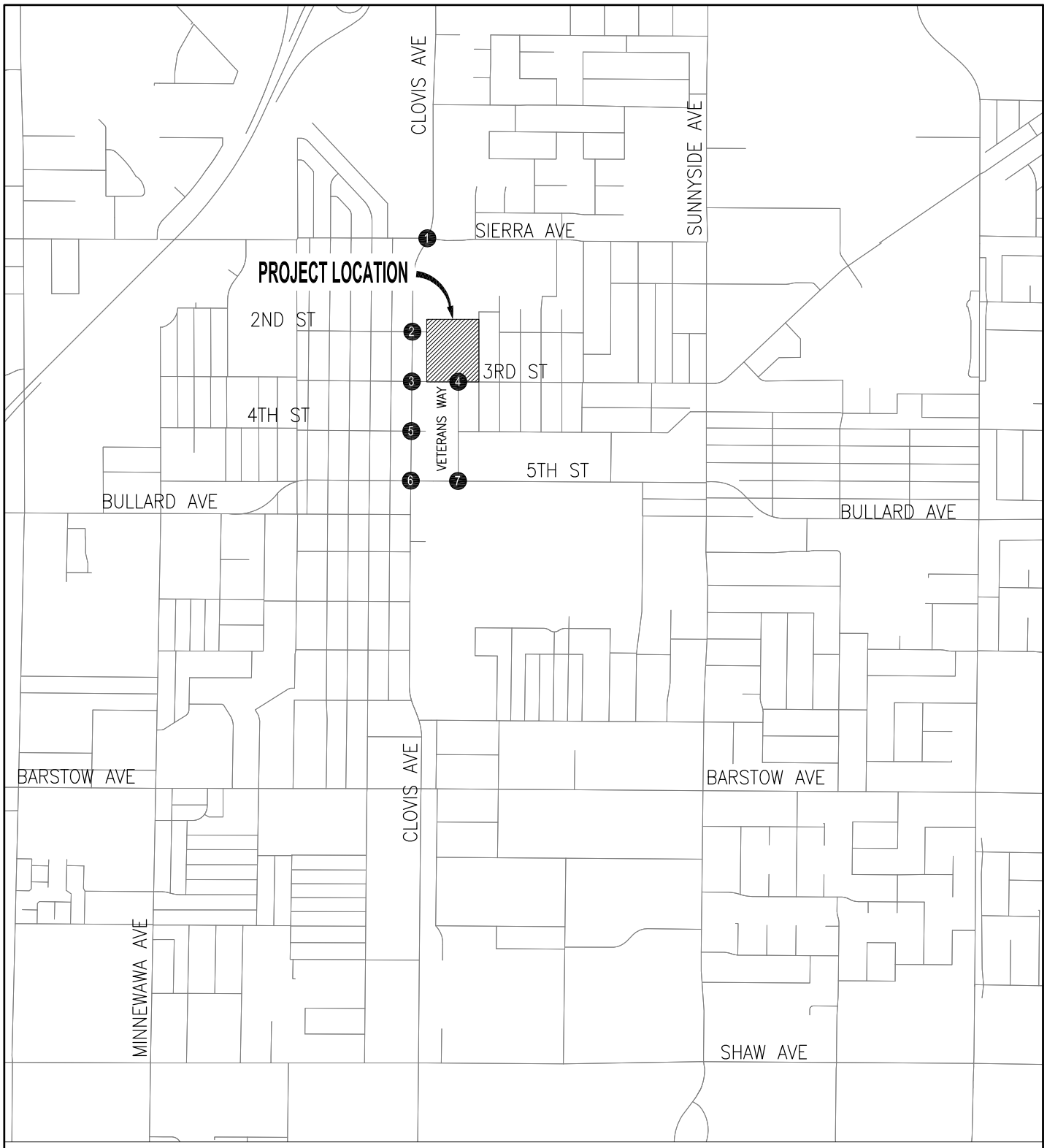
Proposed Clovis Landmark Commons
Clovis, California

SITE PLAN

Not to Scale

PETERS ENGINEERING GROUP

Figure 1-2



LEGEND

PROJECT SITE

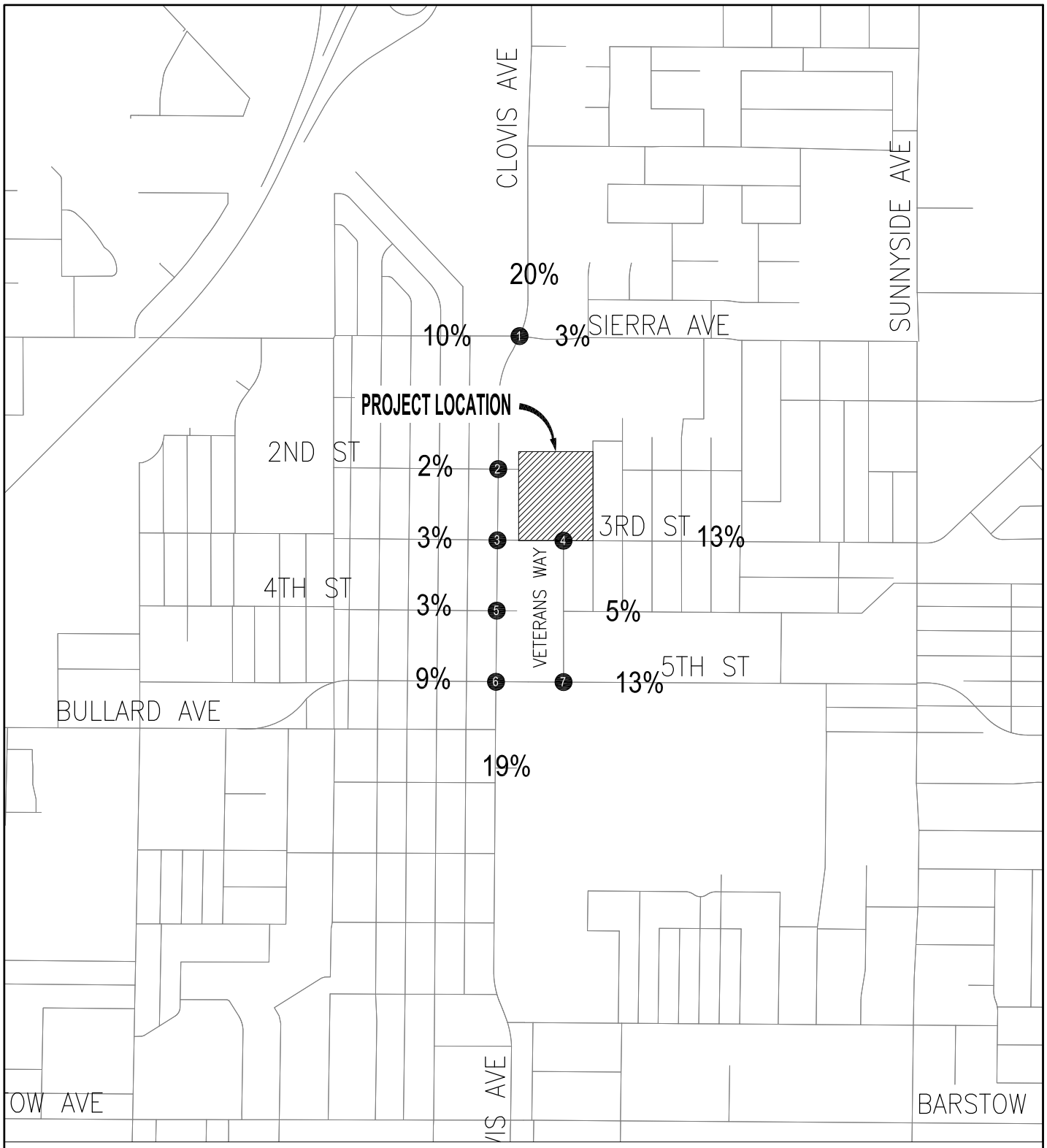
Proposed Clovis Landmark Commons
Clovis, California

STUDY INTERSECTIONS

Not to Scale

PETERS ENGINEERING GROUP

Figure 1-3



LEGEND

PROJECT SITE

XX % PROJECT TRIP PERCENTAGES

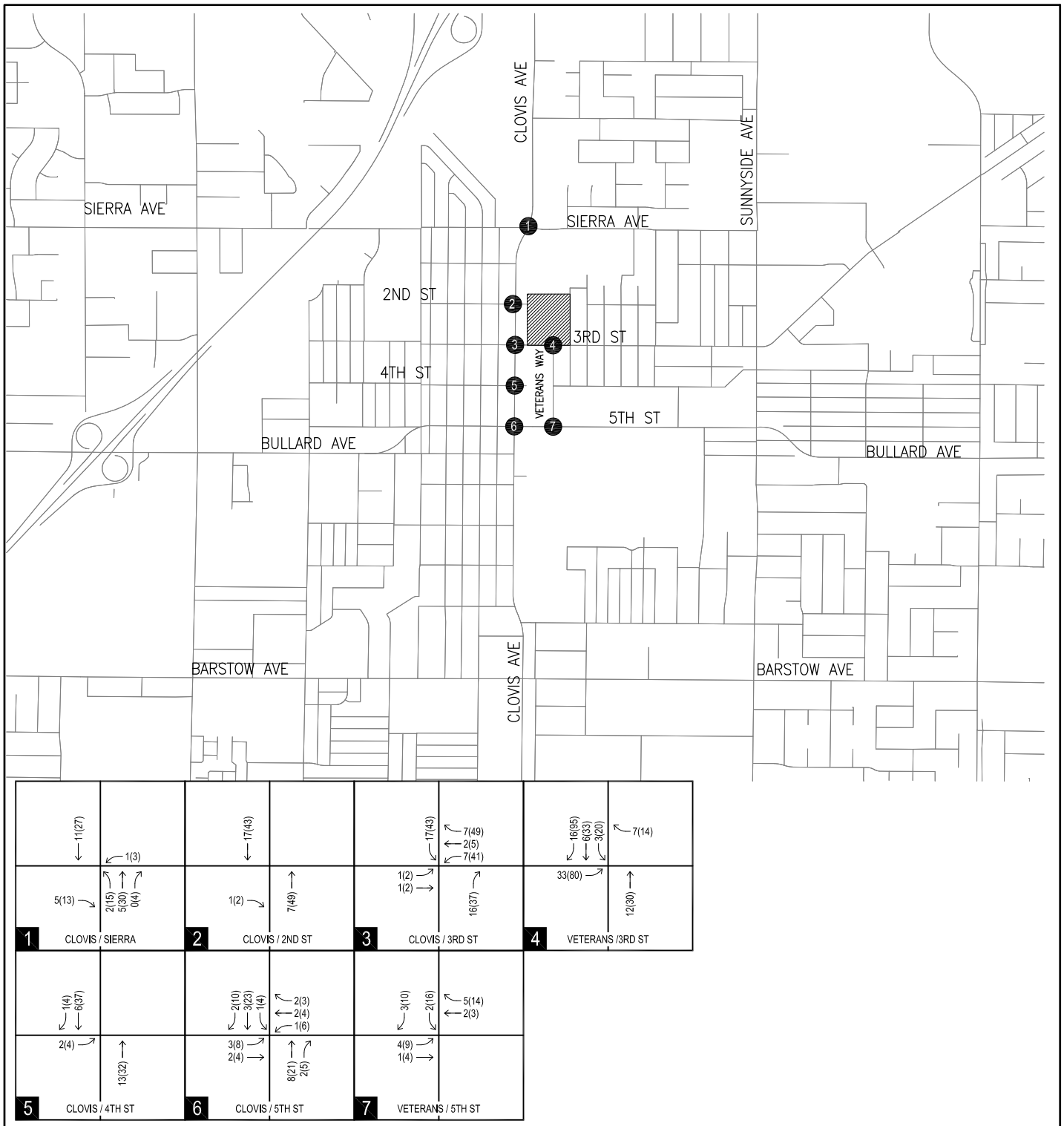
Proposed Clovis Landmark Commons
Clovis, California

PEAK-HOUR PROJECT TRAFFIC DISTRIBUTION PERCENTAGES

Not to Scale

PETERS ENGINEERING GROUP

Figure 4-1



LEGEND

●	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

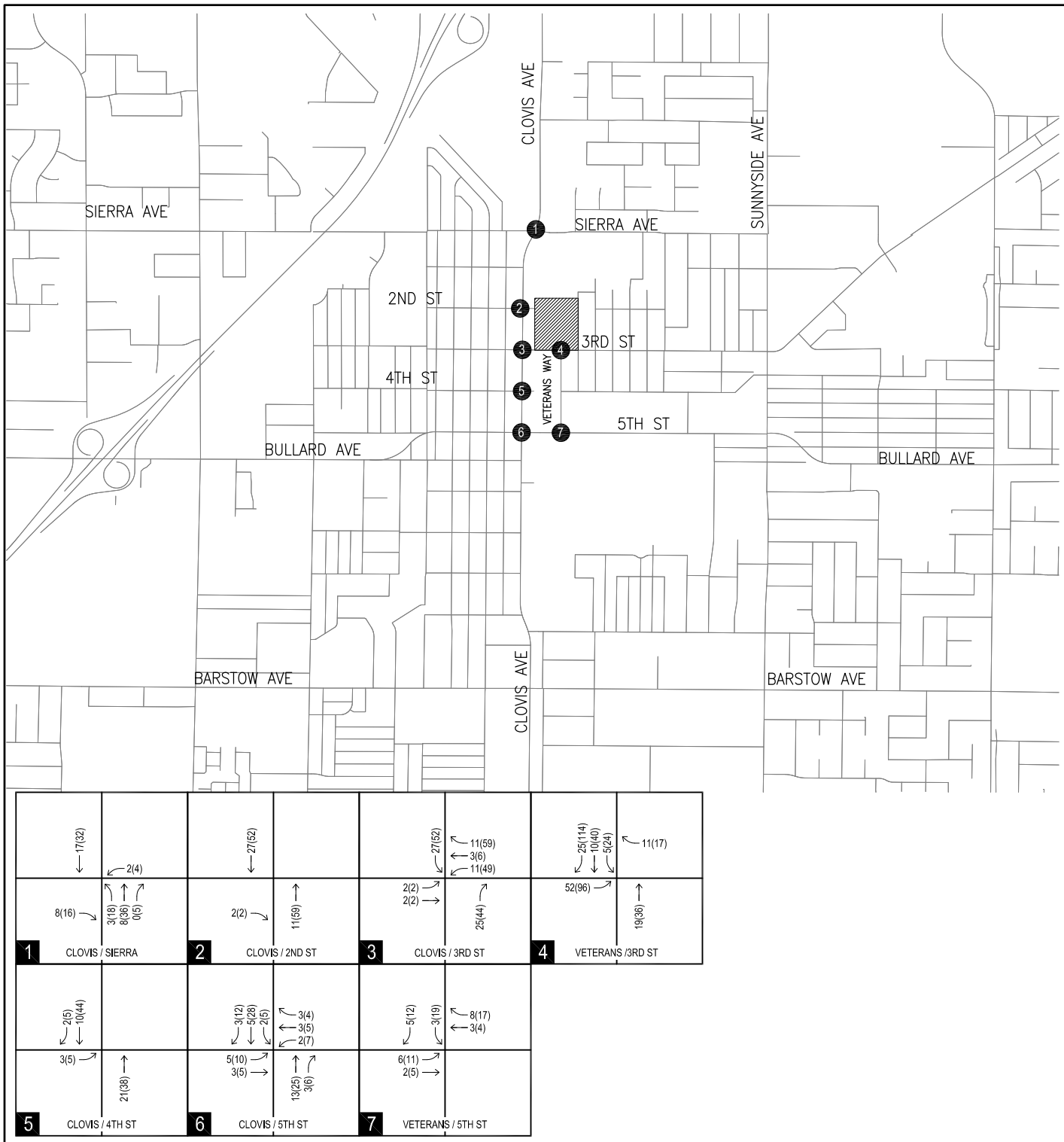
Proposed Clovis Landmark Commons
Clovis, California

NEAR-TERM PEAK-HOUR PROJECT TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 4-2



LEGEND

●	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

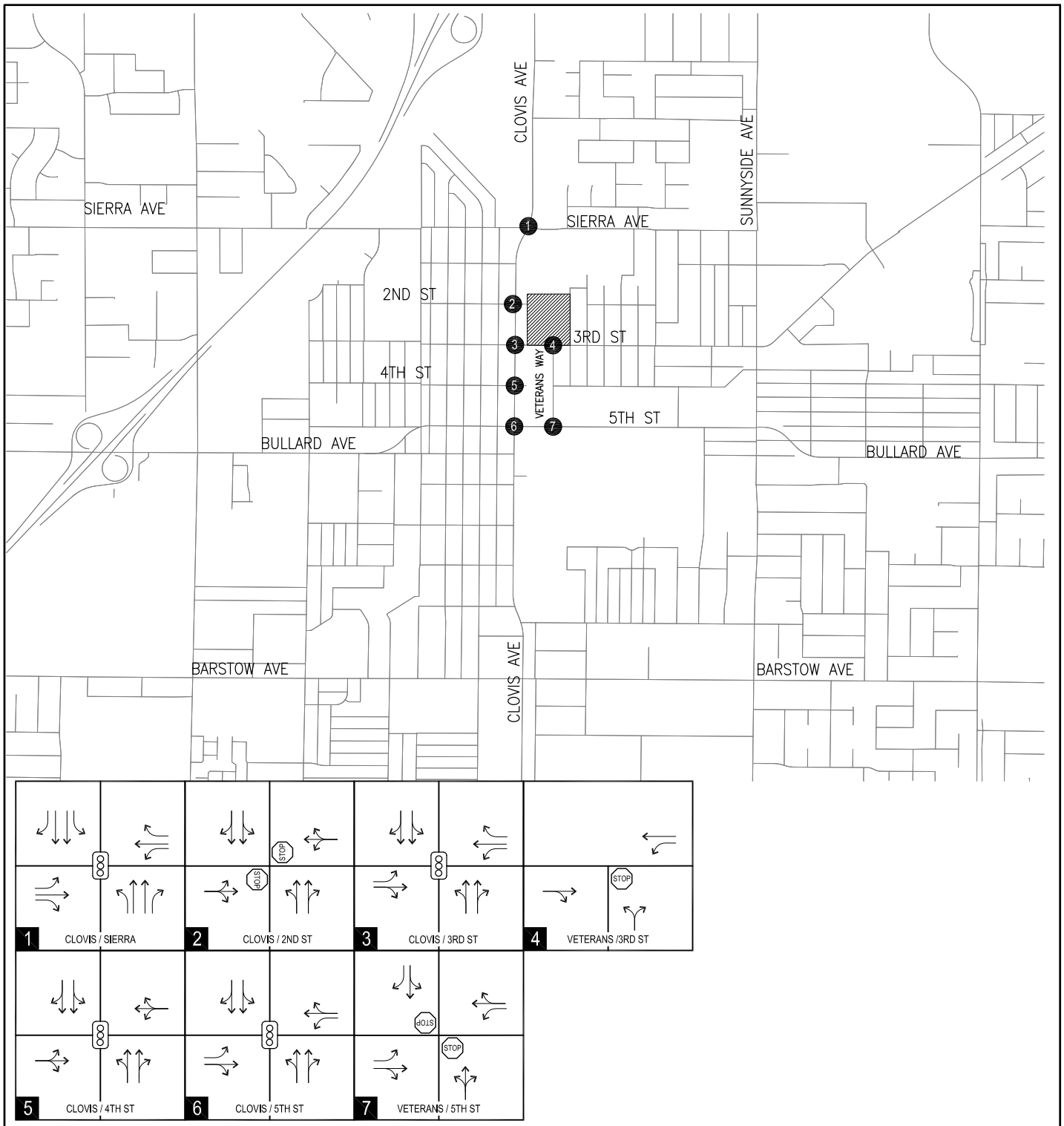
Proposed Clovis Landmark Commons
Clovis, California

FUTURE PEAK-HOUR PROJECT TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 4-3



LEGEND

- XX STUDY AREA INTERSECTIONS
- PROJECT SITE
- SIGNALIZED INTERSECTION
- STOP SIGN
- DIRECTION OF TRAVEL

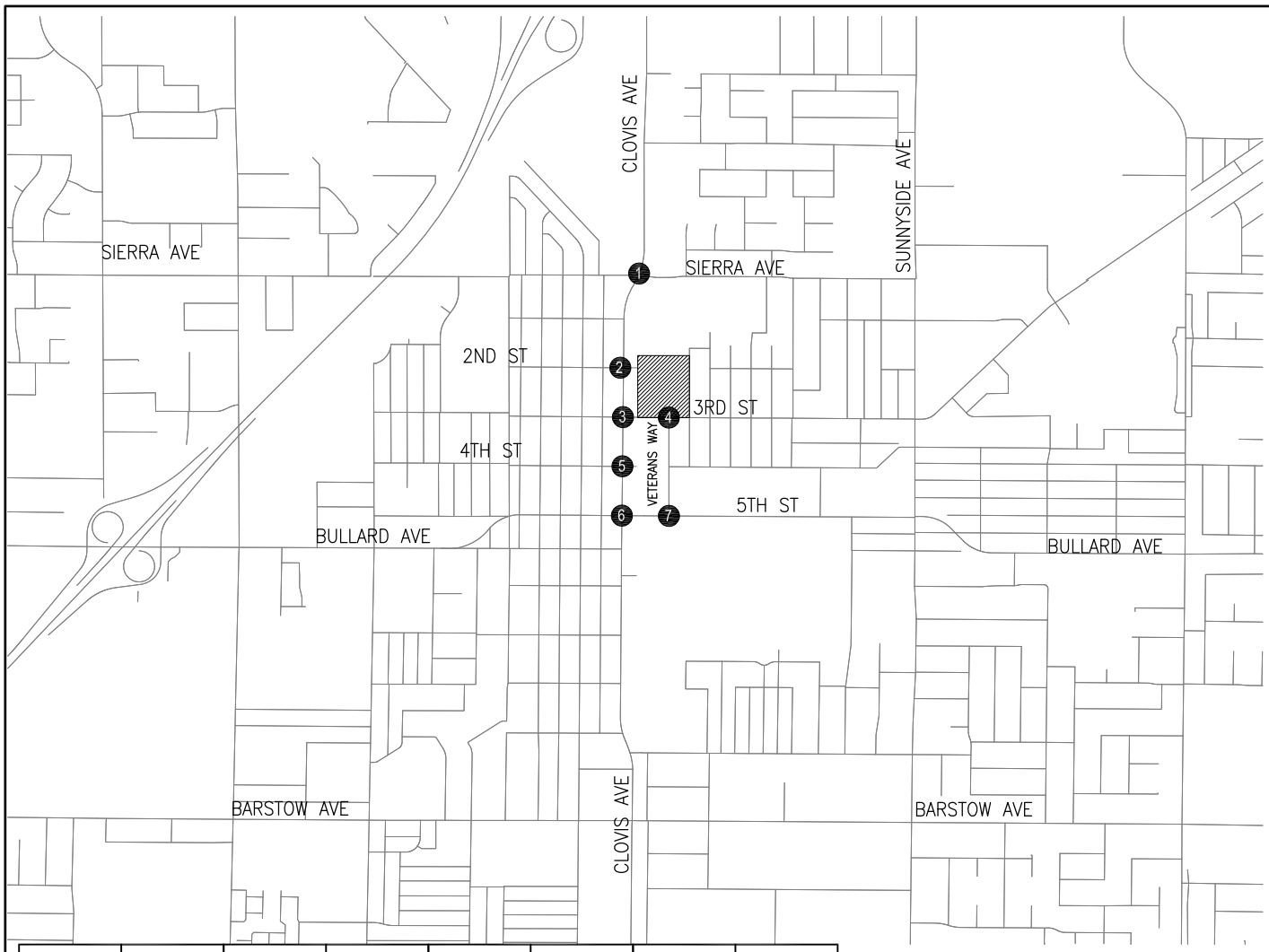
Proposed Clovis Landmark Commons
Clovis, California

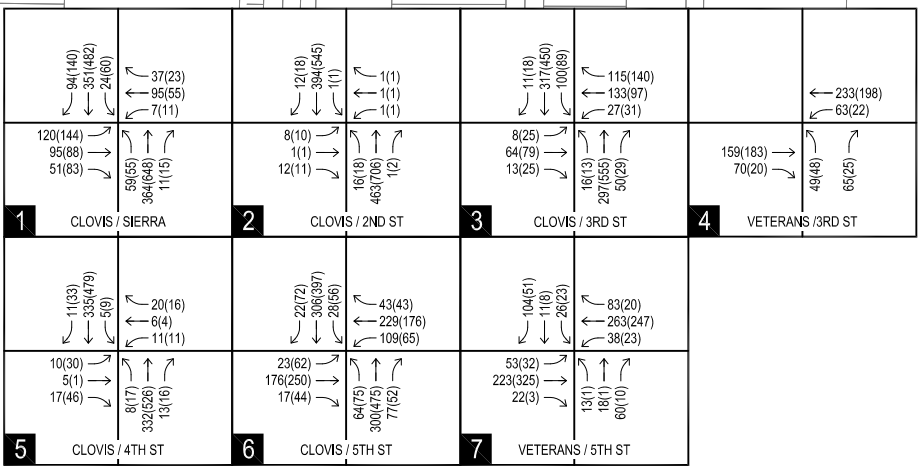
EXISTING LANE CONFIGURATIONS AND INTERSECTION CONTROL

Not to Scale

PETERS ENGINEERING GROUP

Figure 5-1





LEGEND

●	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

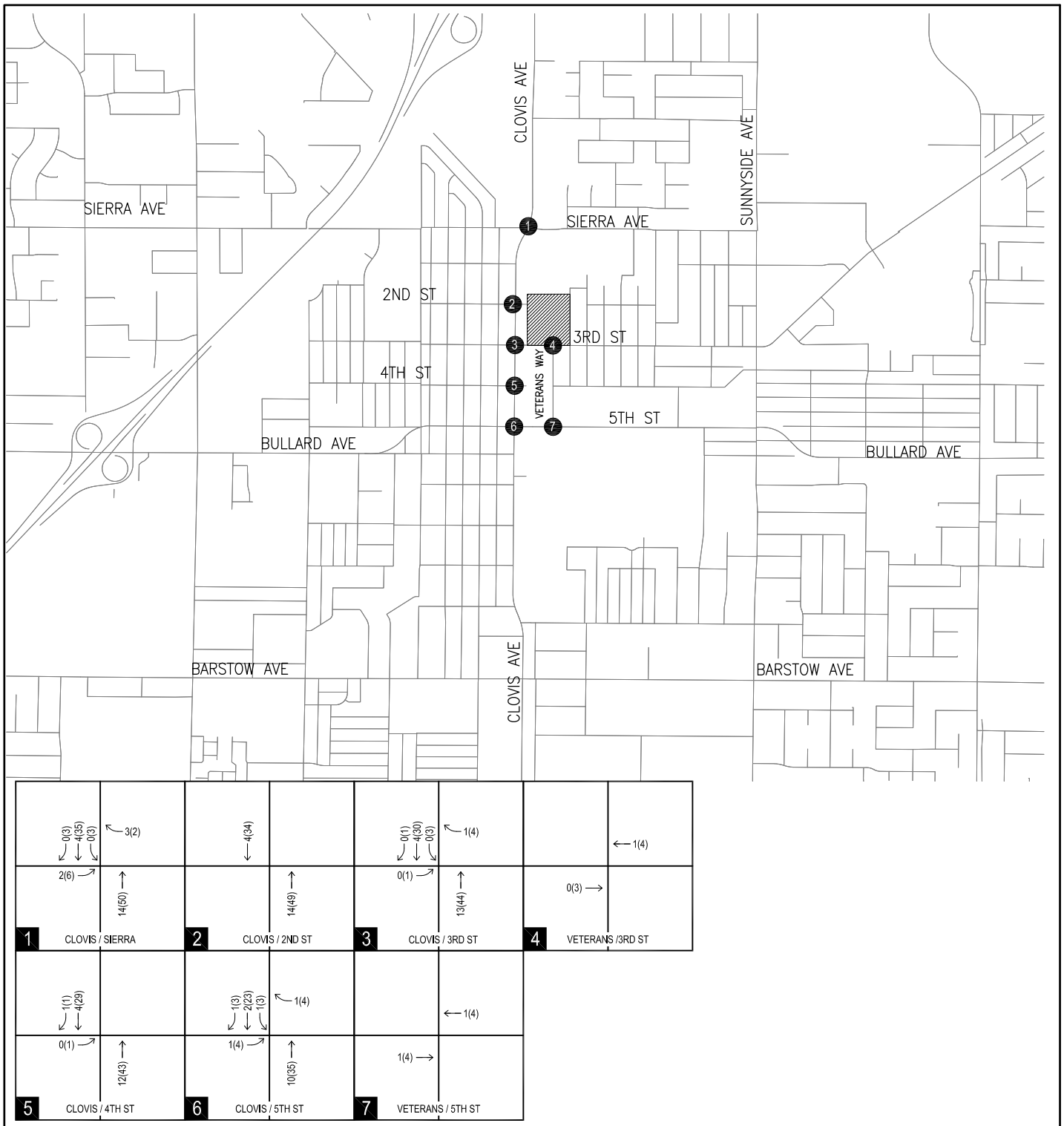
Proposed Clovis Landmark Commons
Clovis, California

EXISTING PEAK-HOUR TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 5-2



LEGEND

●	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

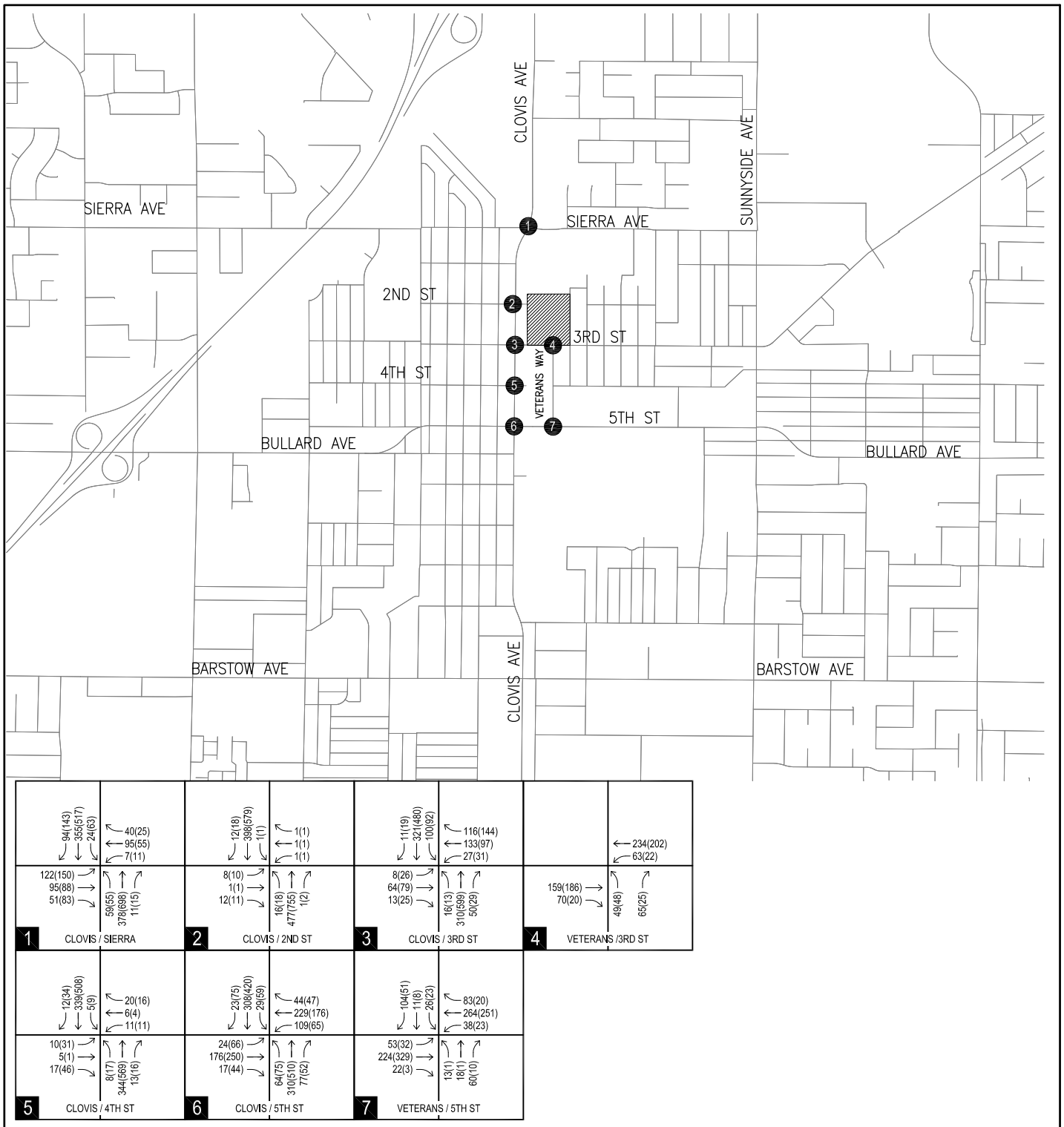
Proposed Clovis Landmark Commons
Clovis, California

PEAK-HOUR PENDING PROJECT TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 6-1



LEGEND

● x	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

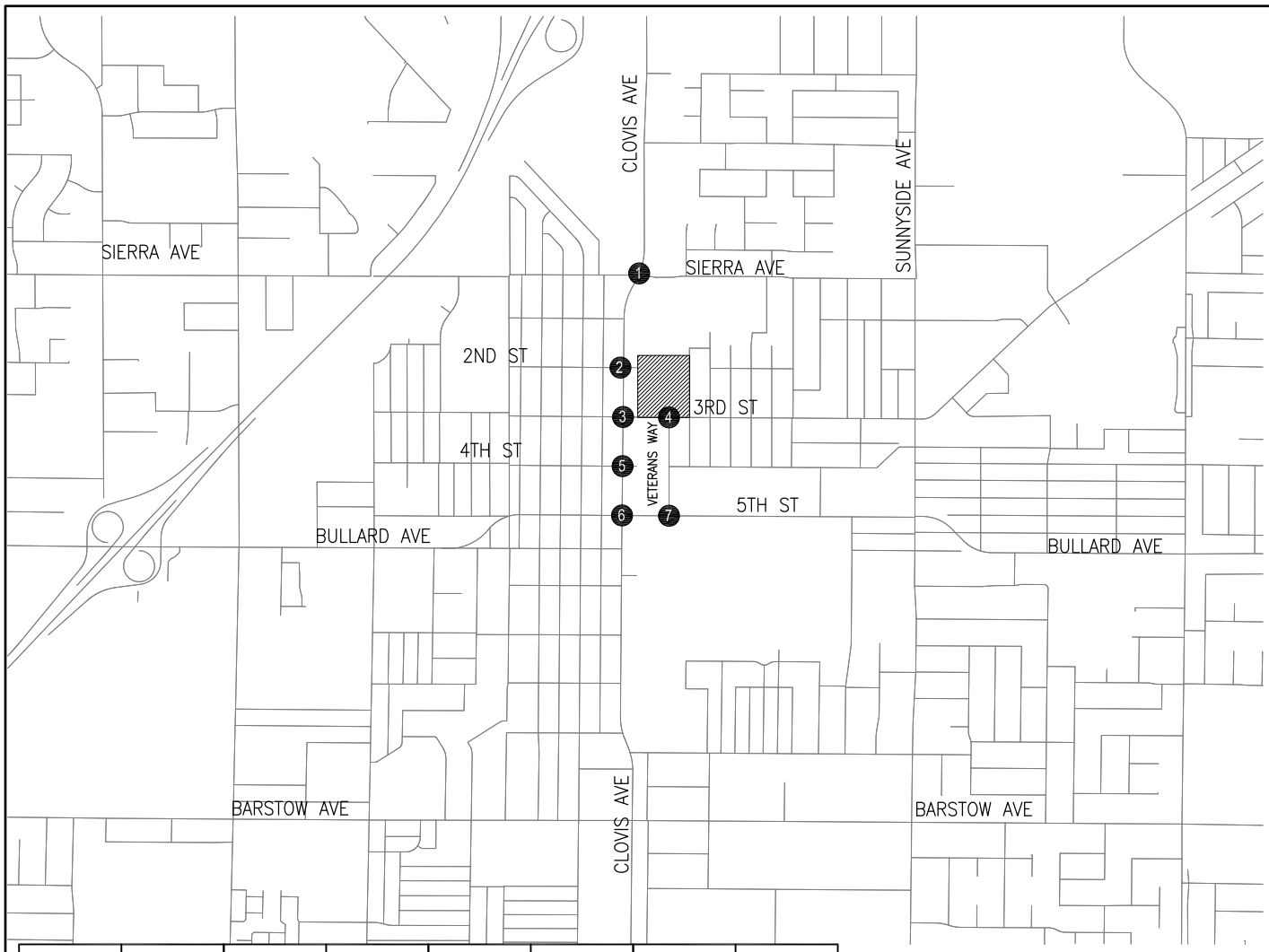
Proposed Clovis Landmark Commons
Clovis, California

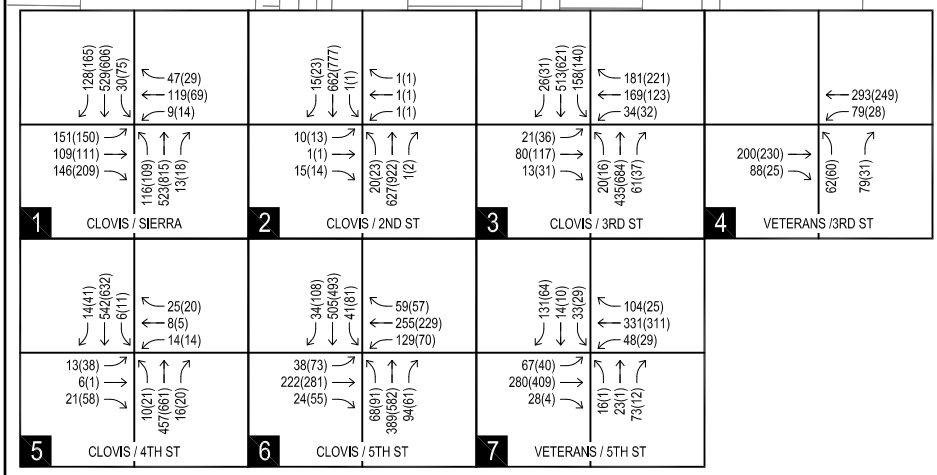
NEAR-TERM NO PROJECT PEAK-HOUR TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 6-2





LEGEND

●	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

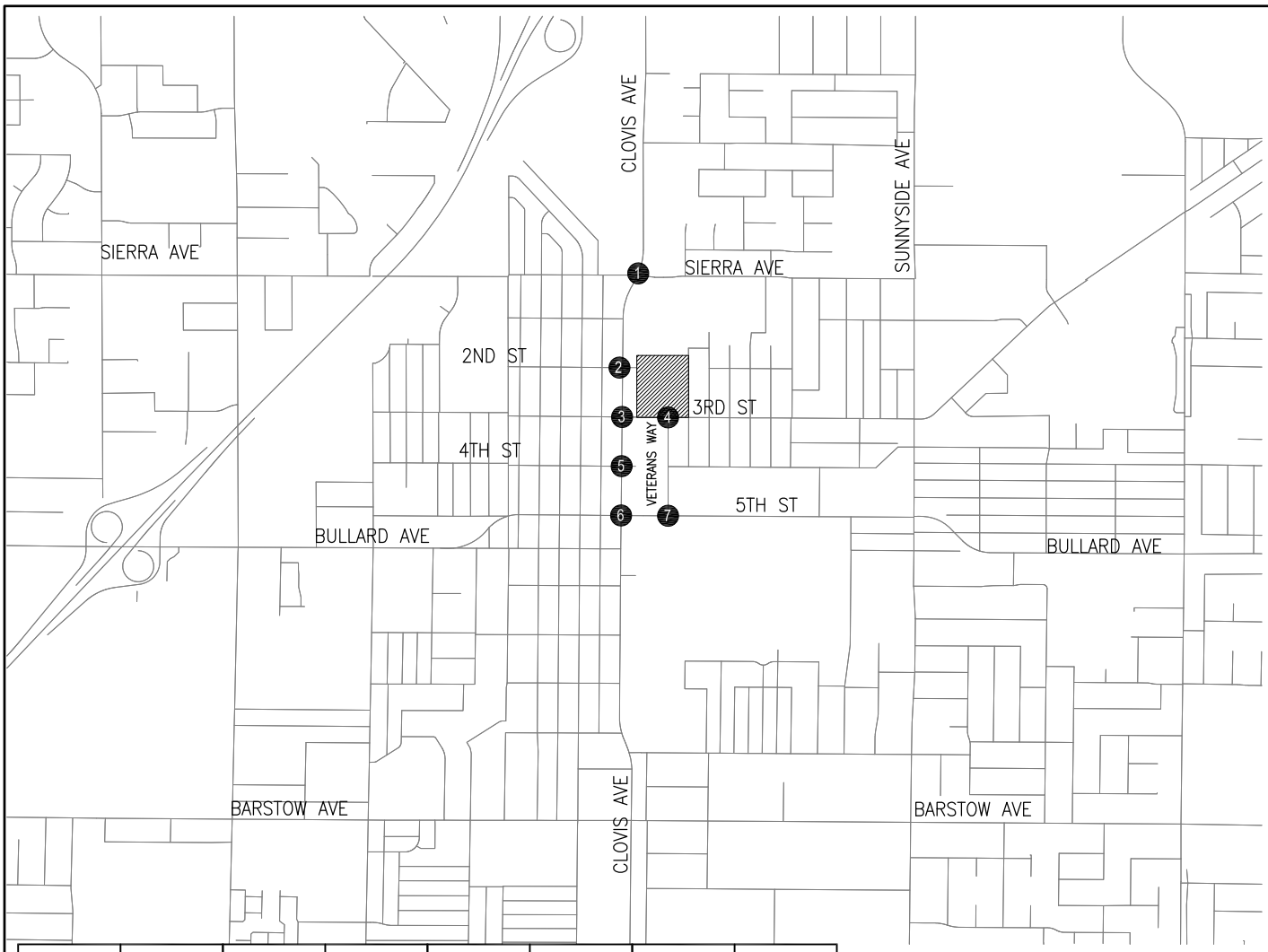
Proposed Clovis Landmark Commons
Clovis, California

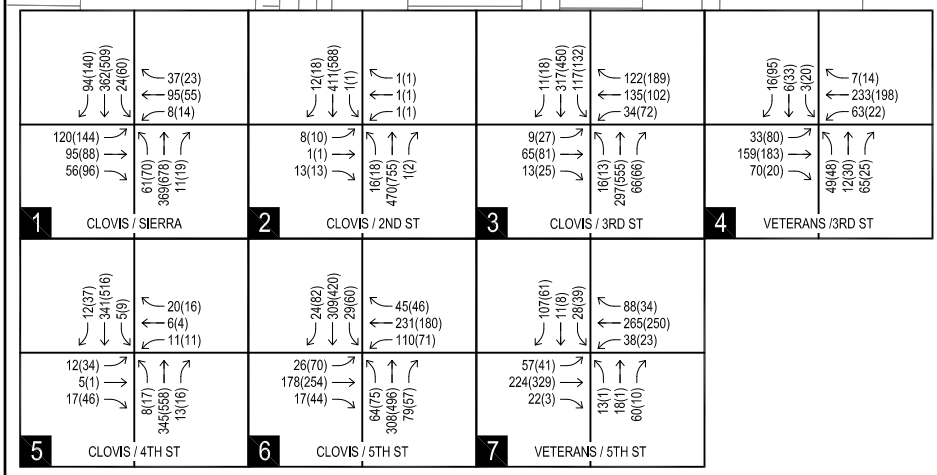
CUMULATIVE 2039 NO PROJECT PEAK-HOUR TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 6-3





LEGEND

●	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

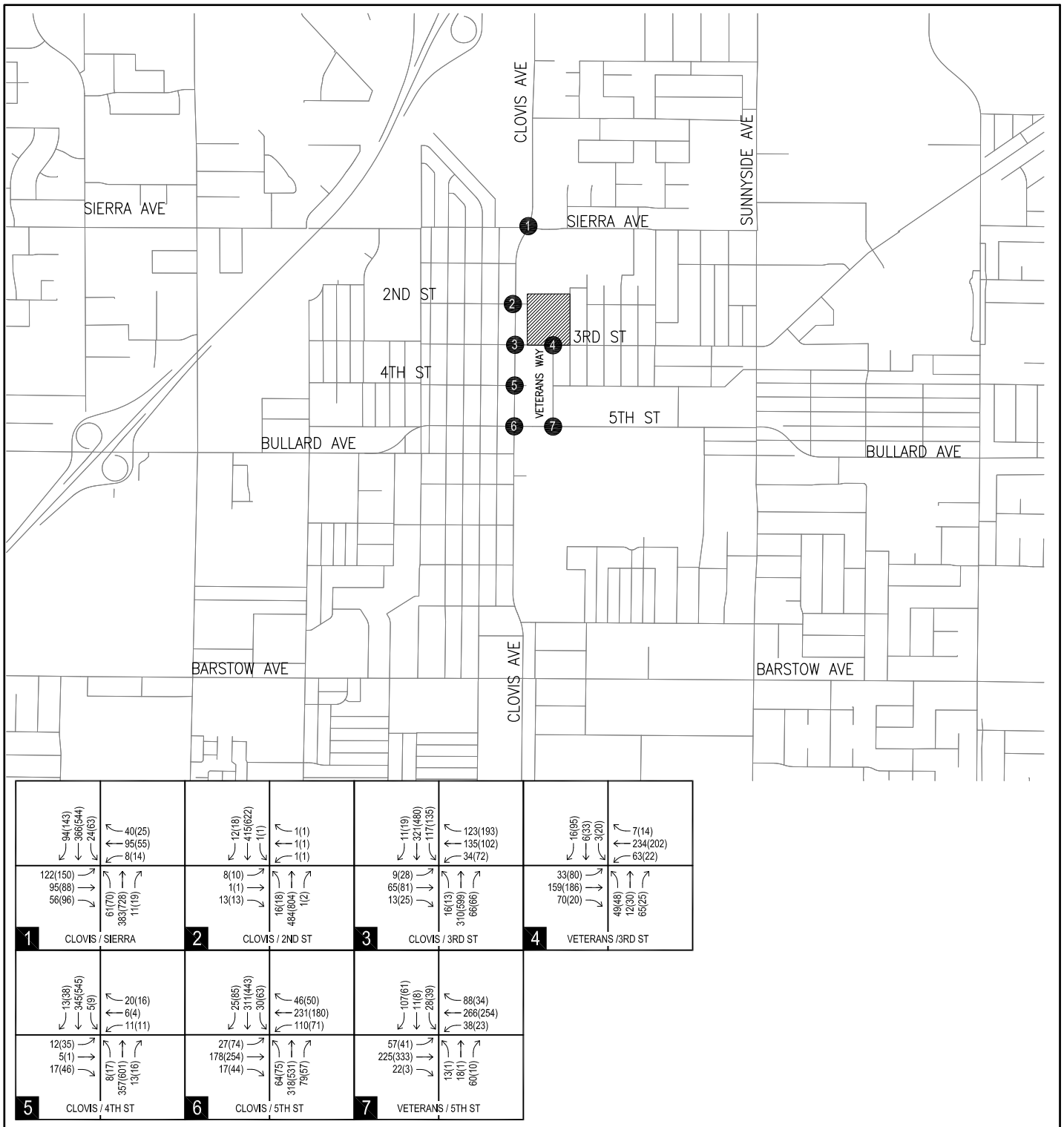
Proposed Clovis Landmark Commons
Clovis, California

EXISTING PLUS PROJECT PEAK-HOUR TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 8-1



LEGEND

● x	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

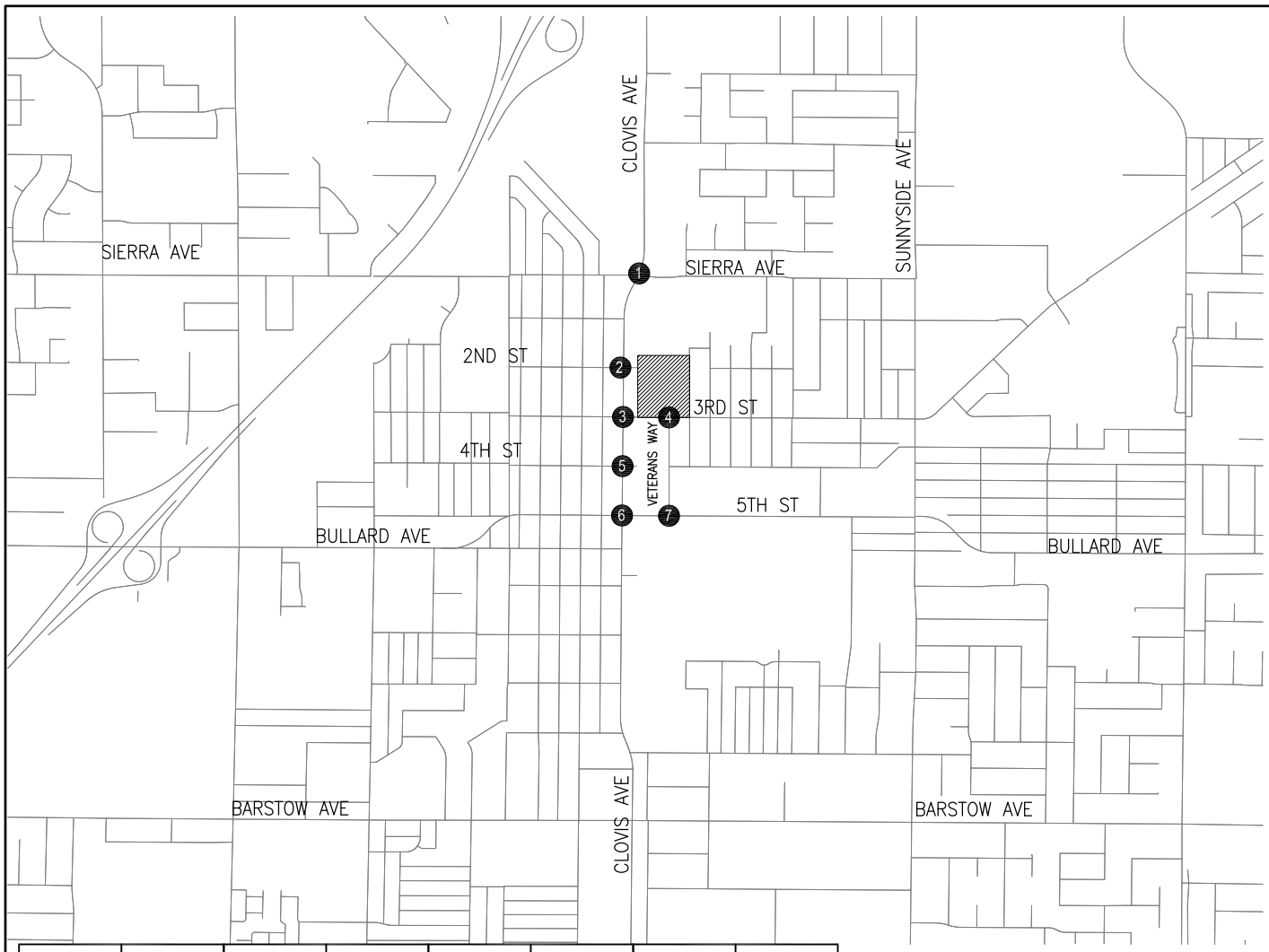
Proposed Clovis Landmark Commons
Clovis, California

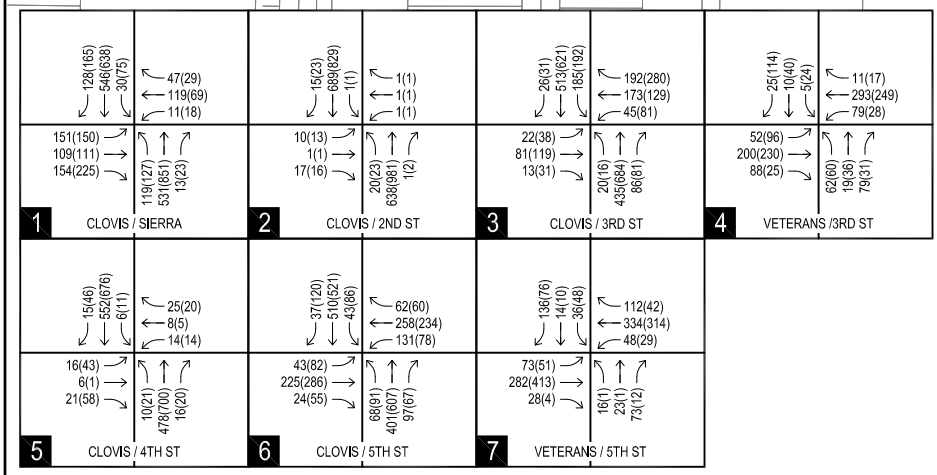
NEAR-TERM WITH PROJECT PEAK-HOUR TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 9-1





LEGEND

●	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) VOLUMES
▨	PROJECT SITE

Proposed Clovis Landmark Commons
Clovis, California

CUMULATIVE 2039 WITH PROJECT PEAK-HOUR TRAFFIC VOLUMES

Not to Scale

PETERS ENGINEERING GROUP

Figure 10-1

APPENDIX A

LOCAL LIBRARY TRIP GENERATION

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8096-001 **Day:** Wednesday

City: Fresno **Date:** 6/8/2016

AM

NS/EW Streets:	Woodward Park Regional Library Dwy			Woodward Park Regional Library Dwy			Perrin Ave			Perrin Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	0	0	2	0	0	2	0	
7:00 AM	0	0	0	1	0	2	0	0	0	0	0	3	6
7:15 AM	0	0	0	1	0	1	1	0	0	0	0	1	4
7:30 AM	0	0	0	0	0	2	1	0	0	0	0	1	4
7:45 AM	0	0	0	2	0	0	1	0	0	0	0	4	7
8:00 AM	0	0	0	0	0	2	3	0	0	0	0	0	5
8:15 AM	0	0	0	1	0	0	1	0	0	0	0	2	4
8:30 AM	0	0	0	0	0	0	5	0	0	0	0	3	8
8:45 AM	0	0	0	0	0	4	8	0	0	0	0	8	20
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	5	0	11	20	0	0	0	0	22	58
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	31.25%	0.00%	68.75%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	0	1	0	6	17	0	0	0	0	13	37
PEAK HR FACTOR :		0.000			0.438			0.531			0.406		0.463

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8096-001 **Day:** Wednesday

City: Fresno **Date:** 6/8/2016

PM

NS/EW Streets:	Woodward Park Regional Library Dwy			Woodward Park Regional Library Dwy			Perrin Ave			Perrin Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	0	0	2	0	0	2	0	
4:00 PM	0	0	0	6	0	5	4	0	0	0	0	8	23
4:15 PM	0	0	0	7	0	9	6	0	0	0	0	16	38
4:30 PM	0	0	0	7	0	14	5	0	0	0	0	12	38
4:45 PM	0	0	0	7	0	6	9	0	0	0	0	20	42
5:00 PM	0	0	0	11	0	19	10	0	0	0	0	11	51
5:15 PM	0	0	0	6	0	6	9	0	0	0	0	2	23
5:30 PM	0	0	0	5	0	7	1	0	0	0	0	8	21
5:45 PM	0	0	0	15	0	9	5	0	0	0	0	5	34
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	64	0	75	49	0	0	0	0	82	270
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	46.04%	0.00%	53.96%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	0	0	32	0	48	30	0	0	0	0	59	169
PEAK HR FACTOR :		0.000			0.667			0.750			0.738		0.828

CONTROL : 1-Way Stop (SB)

APPENDIX B

TRAFFIC COUNT DATA SHEETS

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-001 **Day:** Thursday

TOTALS

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Hughes Ave			Hughes Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	3	0	3	0	0	0	0	25	30	14	42	0	117
7:15 AM	21	0	32	0	0	0	0	41	23	27	52	0	196
7:30 AM	16	0	24	0	0	0	0	51	9	16	74	0	190
7:45 AM	9	0	6	0	0	0	0	42	8	6	65	0	136
8:00 AM	6	0	1	0	0	0	0	29	3	7	42	0	88
8:15 AM	14	0	6	0	0	0	0	22	4	3	43	0	92
8:30 AM	48	0	16	0	0	0	0	24	3	4	65	0	160
8:45 AM	8	0	5	0	0	0	0	27	6	6	34	0	86
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	125	0	93	0	0	0	0	261	86	83	417	0	1065
APPROACH %'s :	57.34%	0.00%	42.66%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	75.22%	24.78%	16.60%	83.40%	0.00%	

PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	49	0	65	0	0	0	0	159	70	63	233	0	639
PEAK HR FACTOR :		0.538			0.000			0.895			0.822		0.815

CONTROL : 1-Way Stop(NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-001 | **Day:** Thursday

TOTALS

City: Clovis | **Date:** 5/19/2016

PM

NS/EW Streets:	Hughes Ave			Hughes Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
4:00 PM	11	0	5	0	0	0	0	44	8	2	44	0	114
4:15 PM	8	0	9	0	0	0	0	39	8	1	49	0	114
4:30 PM	14	0	5	0	0	0	0	52	2	2	58	0	133
4:45 PM	11	0	5	0	0	0	0	39	5	8	41	0	109
5:00 PM	15	0	6	0	0	0	0	49	7	4	48	0	129
5:15 PM	8	0	9	0	0	0	0	43	6	8	51	0	125
5:30 PM	3	0	8	0	0	0	0	33	4	8	35	0	91
5:45 PM	6	0	8	0	0	0	1	43	7	7	33	0	105
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	76	0	55	0	0	0	1	342	47	40	359	0	920
APPROACH %'s :	58.02%	0.00%	41.98%	#DIV/0!	#DIV/0!	#DIV/0!	0.26%	87.69%	12.05%	10.03%	89.97%	0.00%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	48	0	25	0	0	0	0	183	20	22	198	0	496
PEAK HR FACTOR :		0.869			0.000			0.906			0.917		0.932

CONTROL : 1-Way Stop(NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-001 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Hughes Ave			Hughes Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	5	0	0	2	0	7
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	4	0	0	1	0	5
PEAK HR FACTOR :		0.000			0.000			0.500			0.250		0.813

CONTROL : 1-Way Stop(NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-001 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

PM

NS/EW Streets:	Hughes Ave			Hughes Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :		0.000			0.000			0.000			0.000		0.932

CONTROL : 1-Way Stop(NB)

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-8050-001
N/S Street: Hughes Ave
E/W Street: Third St
DATE: 5/19/2016
CITY: Clovis

DAY: Thursday

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	1	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	0	0	2	1
7:45 AM	0	0	1	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	2	0
8:45 AM	0	0	1	1	0	0	3	1
TOTALS	**0**	**0**	**3**	**1**	**0**	**0**	**9**	**8**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	1	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0	1	0	1	0
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0
8:30 AM	1	0	0	0	0	0	0	0	1	0	1	0
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0
TOTALS	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**2**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	3	0	0	3	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**5**	**0**	**0**	**4**	**0**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	1	1	0	0	0
5:00 PM	1	0	0	0	0	0	0	0	1	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	3	0	1	0
5:30 PM	1	0	0	0	0	0	0	2	1	0	0	0
5:45 PM	4	0	0	0	0	0	0	0	1	0	1	0
TOTALS	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**7**	**0**	**2**	**0**

PEAK HOURS
PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	2	0	0	0	4	6	**AM**
5:00 PM	0	0	0	4	0	0	4	0	**PM**

PEAK HOURS
BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:45 AM	3	0	1	0	0	0	0	0	3	0	2	0
5:00 PM	6	0	0	0	0	0	0	2	6	0	2	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-002

Day: Thursday

TOTALS

City: Clovis

Date: 5/19/2016

AM

NS/EW Streets:	Hughes Ave			Hughes Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
7:00 AM	3	3	2	9	2	9	16	42	11	14	59	13	183
7:15 AM	2	6	35	11	1	45	11	86	11	16	60	38	322
7:30 AM	8	8	20	3	8	36	8	55	0	7	84	28	265
7:45 AM	0	1	3	3	0	14	18	40	0	1	60	4	144
8:00 AM	0	0	1	0	1	7	9	33	2	3	58	10	124
8:15 AM	0	1	1	1	0	11	15	45	0	0	48	3	125
8:30 AM	0	0	1	6	1	58	15	34	0	3	67	3	188
8:45 AM	0	0	0	2	0	22	13	36	0	0	42	4	119
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	13	19	63	35	13	202	105	371	24	44	478	103	1470
APPROACH %'s :	13.68%	20.00%	66.32%	14.00%	5.20%	80.80%	21.00%	74.20%	4.80%	7.04%	76.48%	16.48%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	13	18	60	26	11	104	53	223	22	38	263	83	914
PEAK HR FACTOR :		0.529			0.618			0.690			0.807		0.710

CONTROL : 1-Way Stop(SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-002

Day: Thursday

TOTALS

City: Clovis

Date: 5/19/2016

PM

NS/EW Streets:	Hughes Ave			Hughes Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
4:00 PM	1	0	1	2	1	20	10	70	0	0	61	2	168
4:15 PM	0	1	2	5	0	6	12	64	1	0	61	3	155
4:30 PM	0	1	3	2	0	21	14	77	0	4	60	0	182
4:45 PM	0	0	2	3	2	15	10	74	1	0	63	2	172
5:00 PM	0	0	0	5	0	21	11	77	2	5	60	1	182
5:15 PM	1	1	1	4	3	7	5	70	0	8	56	4	160
5:30 PM	0	0	2	8	2	16	9	84	1	7	61	1	191
5:45 PM	0	0	7	6	3	7	7	94	0	3	70	14	211
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	3	18	35	11	113	78	610	5	27	492	27	1421
APPROACH %'s :	8.70%	13.04%	78.26%	22.01%	6.92%	71.07%	11.26%	88.02%	0.72%	4.95%	90.11%	4.95%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	1	10	23	8	51	32	325	3	23	247	20	744
PEAK HR FACTOR :		0.429			0.788			0.891			0.833		0.882

CONTROL : 1-Way Stop(SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-002 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Hughes Ave			Hughes Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	0	1	0	2
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :		0.000			0.000			0.000			0.250		0.709

CONTROL : 1-Way Stop(SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-002 | **Day:** Thursday

3-Axle+ HT

City: Clovis | **Date:** 5/19/2016

PM

NS/EW Streets:	Hughes Ave			Hughes Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	1	0	1	1	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :		0.000			0.000			0.000			0.000		0.882

CONTROL : 1-Way Stop(SB)

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-8050-002
N/S Street: Hughes Ave
E/W Street: Fifth St
DATE: 5/19/2016
CITY: Clovis

DAY: Thursday

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	7	0	6	0	0	0	3	6
7:15 AM	2	1	27	2	0	0	2	49
7:30 AM	2	1	9	0	1	1	0	30
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	10	0	0	0	0	0	3
8:30 AM	1	6	2	0	0	0	3	7
8:45 AM	1	2	0	0	0	0	0	1
TOTALS	**13**	**20**	**44**	**2**	**1**	**1**	**8**	**96**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	1	0	0	0	0
7:45 AM	1	1	0	0	1	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	0	1	1	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0
TOTALS	**1**	**5**	**0**	**0**	**4**	**2**	**0**	**2**	**0**	**0**	**1**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	2	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	2	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	2	0
TOTALS	**3**	**0**	**0**	**2**	**0**	**0**	**3**	**1**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	3	0	0	0	0	0	2	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0	0	1	0
5:15 PM	0	0	0	0	3	2	0	0	0	0	3	0
5:30 PM	0	1	0	0	1	0	0	0	0	1	0	0
5:45 PM	0	1	0	0	1	0	0	0	0	0	1	1
TOTALS	**0**	**7**	**0**	**0**	**7**	**2**	**0**	**2**	**0**	**1**	**6**	**1**

PEAK HOURS
PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	11	2	42	2	1	1	5	85	**AM**
5:00 PM	3	0	0	0	0	0	3	0	**PM**

PEAK HOURS
BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:45 AM	1	3	0	0	2	2	0	1	0	0	0	0
5:00 PM	0	3	0	0	6	2	0	0	0	1	5	1

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-003 **Day:** Thursday

TOTALS

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Sierra Ave			Sierra Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	1	1	1	1	1	
7:00 AM	2	38	1	4	99	11	15	9	8	1	14	8	210
7:15 AM	13	89	2	3	97	13	19	19	21	5	14	10	305
7:30 AM	20	84	1	3	72	22	18	16	25	2	28	9	300
7:45 AM	17	70	2	11	98	31	37	26	12	3	33	8	348
8:00 AM	16	72	0	5	77	31	39	30	16	0	30	8	324
8:15 AM	12	59	5	1	81	22	32	24	16	2	13	7	274
8:30 AM	14	163	4	7	95	10	12	15	7	2	19	14	362
8:45 AM	15	97	3	10	103	14	22	10	10	3	9	8	304
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	109	672	18	44	722	154	194	149	115	18	160	72	2427
APPROACH %'s :	13.64%	84.11%	2.25%	4.78%	78.48%	16.74%	42.36%	32.53%	25.11%	7.20%	64.00%	28.80%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	59	364	11	24	351	94	120	95	51	7	95	37	1308
PEAK HR FACTOR :		0.599			0.838			0.782			0.790		0.903

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-003

Day: Thursday

TOTALS

City: Clovis

Date: 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Sierra Ave			Sierra Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	1	1	1	1	1	
4:00 PM	12	143	3	15	127	31	38	17	16	2	16	7	427
4:15 PM	12	141	3	20	123	37	40	11	13	2	14	9	425
4:30 PM	9	164	2	11	120	32	35	15	17	1	14	8	428
4:45 PM	16	136	2	9	127	34	37	21	22	1	12	1	418
5:00 PM	14	171	2	19	116	42	32	19	22	3	14	7	461
5:15 PM	16	177	9	21	119	32	40	33	22	6	15	7	497
5:30 PM	12	126	1	19	106	42	38	19	20	1	18	11	413
5:45 PM	9	129	5	9	121	34	45	27	24	2	11	6	422
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	100	1187	27	123	959	284	305	162	156	18	114	56	3491
APPROACH %'s :	7.61%	90.33%	2.05%	9.00%	70.20%	20.79%	48.96%	26.00%	25.04%	9.57%	60.64%	29.79%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	55	648	15	60	482	140	144	88	83	11	55	23	1804
PEAK HR FACTOR :		0.889			0.963			0.829			0.795		0.907

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-003 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Sierra Ave			Sierra Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	1	1	1	1	1	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	1	0	0	1	0	3
7:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	2
7:45 AM	0	1	0	0	1	0	0	0	2	0	0	0	4
8:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	4	0	0	5	0	1	2	2	0	1	1	16
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	20.00%	40.00%	40.00%	0.00%	50.00%	50.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	4	0	0	3	0	0	0	2	0	0	1	10
PEAK HR FACTOR :		1.000			0.375			0.250			0.250		0.901

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-003 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Sierra Ave			Sierra Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	1	1	1	1	1	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :		0.000			0.000			0.000			0.000		0.907

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-8050-003
N/S Street: Clovis Ave
E/W Street: Sierra Ave
DATE: 5/19/2016
CITY: Clovis

DAY: Thursday

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	1	0	1	0	0
7:15 AM	0	0	2	0	2	0	0	0
7:30 AM	0	4	0	0	2	1	0	0
7:45 AM	1	0	0	6	0	6	0	0
8:00 AM	2	1	2	0	2	2	1	0
8:15 AM	0	1	4	0	4	0	2	0
8:30 AM	0	2	0	0	2	0	1	2
8:45 AM	0	0	0	2	3	2	0	1
TOTALS	**3**	**8**	**8**	**9**	**15**	**12**	**4**	**3**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0
7:30 AM	1	0	0	0	1	1	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	2	0	1	3	0
8:00 AM	1	1	0	0	1	1	0	3	1	0	1	0
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0
8:30 AM	1	0	0	0	1	0	0	0	1	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	4	0
TOTALS	**3**	**1**	**0**	**0**	**3**	**2**	**0**	**6**	**5**	**1**	**8**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0
5:15 PM	3	0	0	1	0	2	0	0
5:30 PM	0	1	0	0	1	0	0	0
5:45 PM	0	0	1	1	0	0	5	1
TOTALS	**3**	**2**	**1**	**3**	**1**	**2**	**5**	**2**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	1	1	0	0	0	0	0	1	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	1	1	0	0	0
5:00 PM	1	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	0	0	2	0
5:30 PM	2	1	0	0	0	0	0	0	1	0	0	0
5:45 PM	5	0	0	0	0	0	0	0	1	0	1	0
TOTALS	**10**	**2**	**1**	**0**	**1**	**0**	**0**	**3**	**3**	**0**	**4**	**0**

PEAK HOURS
PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
7:45 AM	3	4	6	6	8	8	4	2	**AM**
5:00 PM	3	1	1	3	1	2	5	1	**PM**

PEAK HOURS
BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:45 AM	2	1	0	0	2	1	0	5	3	1	4	0
5:00 PM	8	1	0	0	1	0	0	1	2	0	3	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-004 **Day:** Thursday

TOTALS

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Second St			Second St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
7:00 AM	3	45	0	0	100	1	0	0	2	0	0	0	151
7:15 AM	3	113	0	0	119	1	2	0	6	0	0	0	244
7:30 AM	7	110	0	0	95	3	0	3	4	0	0	0	222
7:45 AM	8	84	0	1	117	0	2	0	8	0	0	1	221
8:00 AM	6	94	0	0	86	2	2	0	7	0	0	0	197
8:15 AM	4	77	0	0	97	3	1	0	1	0	0	0	183
8:30 AM	5	180	0	0	100	2	4	0	2	0	0	0	293
8:45 AM	1	112	0	0	111	5	1	1	2	0	1	0	234
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	37	815	0	1	825	17	12	4	32	0	1	1	1745
APPROACH %'s :	4.34%	95.66%	0.00%	0.12%	97.86%	2.02%	25.00%	8.33%	66.67%	0.00%	50.00%	50.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	16	463	0	0	394	12	8	1	12	0	1	0	907
PEAK HR FACTOR :		0.647			0.875			0.583			0.250		0.774

CONTROL : 1-Way Stop(EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-004

Day: Thursday

TOTALS

City: Clovis

Date: 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Second St			Second St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
4:00 PM	11	162	0	0	142	1	1	0	9	0	0	0	326
4:15 PM	1	164	0	2	133	2	2	0	6	2	0	0	312
4:30 PM	8	164	1	0	138	6	4	0	3	0	0	0	324
4:45 PM	4	163	1	0	139	4	1	0	2	0	1	0	315
5:00 PM	4	194	0	0	140	2	1	0	3	0	0	0	344
5:15 PM	2	185	0	0	128	6	4	0	3	1	0	0	329
5:30 PM	2	146	0	0	132	2	3	0	2	0	0	0	287
5:45 PM	3	131	1	1	146	2	2	0	6	0	0	0	292
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	35	1309	3	3	1098	25	18	0	34	3	1	0	2529
APPROACH %'s :	2.60%	97.18%	0.22%	0.27%	97.51%	2.22%	34.62%	0.00%	65.38%	75.00%	25.00%	0.00%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	18	706	2	0	545	18	10	0	11	1	1	0	1312
PEAK HR FACTOR :		0.917			0.977			0.750			0.500		0.953

CONTROL : 1-Way Stop(EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-004 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Second St			Second St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
8:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	4	0	0	6	1	0	0	0	0	0	0	11
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	85.71%	14.29%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	3	0	0	2	0	0	0	0	0	0	0	5
PEAK HR FACTOR :		0.750			0.250			0.000			0.000		0.772

CONTROL : 1-Way Stop(EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-004 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Second St			Second St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000			0.000			0.000			0.000			0.953

CONTROL : 1-Way Stop(EB)

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-8050-004
N/S Street: Clovis Ave
E/W Street: Second St
DATE: 5/19/2016
CITY: Clovis

DAY: Thursday

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	1	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	2	0
8:30 AM	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	3
TOTALS	**0**	**1**	**0**	**0**	**1**	**0**	**4**	**7**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	4	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	2	0	0	0	0	0	1	0
5:00 PM	0	1	0	0	0	0	1	0
5:15 PM	0	0	0	0	0	0	2	0
5:30 PM	0	0	0	0	2	0	1	0
5:45 PM	1	0	0	0	1	1	0	1
TOTALS	**3**	**1**	**0**	**0**	**3**	**5**	**5**	**1**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	3	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

PEAK HOURS
PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
8:15 AM	0	1	0	0	1	0	2	5	**AM**
5:00 PM	1	1	0	0	3	1	4	1	**PM**

PEAK HOURS
BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
8:15 AM	1	0	0	0	1	0	0	0	0	0	0	0
4:45 PM	0	3	0	0	1	0	0	0	0	0	0	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-005 **Day:** Thursday

TOTALS

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	1	
7:00 AM	0	31	6	38	59	4	1	14	0	4	21	19	197
7:15 AM	2	88	19	30	88	1	1	14	2	5	34	28	312
7:30 AM	4	72	17	23	74	0	2	16	2	6	34	38	288
7:45 AM	3	64	8	32	91	7	1	20	3	11	40	28	308
8:00 AM	7	73	6	15	64	3	4	14	6	5	25	21	243
8:15 AM	2	56	2	18	75	4	3	9	4	11	18	24	226
8:30 AM	1	105	7	9	82	4	3	9	3	16	25	78	342
8:45 AM	2	85	9	21	91	6	0	4	0	4	16	24	262
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	21	574	74	186	624	29	15	100	20	62	213	260	2178
APPROACH %'s :	3.14%	85.80%	11.06%	22.17%	74.37%	3.46%	11.11%	74.07%	14.81%	11.59%	39.81%	48.60%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	16	297	50	100	317	11	8	64	13	27	133	115	1151
PEAK HR FACTOR :		0.833			0.823			0.885			0.870		0.922

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-005 **Day:** Thursday

TOTALS

City: Clovis **Date:** 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	1	
4:00 PM	0	131	8	22	123	5	9	23	6	7	18	32	384
4:15 PM	3	132	12	14	122	8	9	22	4	13	21	27	387
4:30 PM	1	126	9	18	114	4	4	24	5	6	30	41	382
4:45 PM	5	133	4	20	111	6	10	20	8	7	21	28	373
5:00 PM	2	143	7	24	106	5	7	18	5	9	22	41	389
5:15 PM	5	153	9	27	119	3	4	17	7	9	24	30	407
5:30 PM	6	122	2	15	111	8	9	23	10	5	18	18	347
5:45 PM	1	108	7	18	121	3	8	23	5	8	22	17	341
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	23	1048	58	158	927	42	60	170	50	64	176	234	3010
APPROACH %'s :	2.04%	92.83%	5.14%	14.02%	82.25%	3.73%	21.43%	60.71%	17.86%	13.50%	37.13%	49.37%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	13	555	29	89	450	18	25	79	25	31	97	140	1551
PEAK HR FACTOR :		0.894			0.935			0.849			0.870		0.953

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-005 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	1	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	1	0	0	0	0	0	1	0	3
7:45 AM	0	0	0	2	1	0	0	0	0	0	0	0	3
8:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2	1	2	4	0	1	1	0	0	1	1	13
APPROACH %'s :	0.00%	66.67%	33.33%	33.33%	66.67%	0.00%	50.00%	50.00%	0.00%	0.00%	50.00%	50.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	2	1	2	4	0	0	0	0	0	1	0	10
PEAK HR FACTOR :		0.750			0.500			0.000			0.250		0.917

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-005 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Third St			Third St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	1	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000			0.000			0.000			0.000			0.953

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-8050-005
N/S Street: Clovis Ave
E/W Street: Third St
DATE: 5/19/2016
CITY: Clovis

DAY: Thursday

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	2	2	2	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1
8:30 AM	0	0	1	0	0	1	1	0
8:45 AM	1	0	2	0	0	0	1	2
TOTALS	**3**	**2**	**5**	**0**	**0**	**1**	**3**	**8**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	1	4	0	4	1	0
4:15 PM	0	0	0	1	0	0	0	0
4:30 PM	0	0	1	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0
5:30 PM	0	0	0	1	2	0	0	0
5:45 PM	0	0	0	0	0	0	0	1
TOTALS	**0**	**0**	**2**	**7**	**2**	**4**	**4**	**1**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	1	0	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	1	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM	0	2	0	0	0	0	0	2	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0
TOTALS	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**1**	**2**	**0**

PEAK HOURS
PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
7:30 AM	2	2	2	0	0	0	0	6	**AM**
4:00 PM	0	0	2	6	0	4	2	0	**PM**

PEAK HOURS
BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
8:15 AM	0	1	0	0	1	0	0	1	0	0	1	0
4:45 PM	0	2	0	0	1	0	0	3	0	0	1	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-006

Day: Thursday

TOTALS

City: Clovis

Date: 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fourth St			Fourth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
7:00 AM	0	37	0	2	62	3	0	1	1	0	0	0	106
7:15 AM	5	108	2	0	90	2	2	6	1	2	3	4	225
7:30 AM	1	86	1	3	77	0	0	1	1	4	4	2	180
7:45 AM	1	72	2	4	99	2	0	1	5	1	1	3	191
8:00 AM	2	83	4	1	72	0	0	4	2	1	1	3	173
8:15 AM	1	61	0	1	83	5	0	0	3	3	1	4	162
8:30 AM	2	101	7	1	91	3	6	1	5	7	4	10	238
8:45 AM	3	87	2	2	89	3	4	0	7	0	0	3	200
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	15	635	18	14	663	18	12	14	25	18	14	29	1475
APPROACH %'s :	2.25%	95.06%	2.69%	2.01%	95.40%	2.59%	23.53%	27.45%	49.02%	29.51%	22.95%	47.54%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	8	332	13	5	335	11	10	5	17	11	6	20	773
PEAK HR FACTOR :		0.802			0.924			0.667			0.440		0.812

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-006

Day: Thursday

TOTALS

City: Clovis

Date: 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fourth St			Fourth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
4:00 PM	6	132	5	2	123	6	8	1	13	3	0	2	301
4:15 PM	3	135	4	3	131	10	11	0	9	4	0	2	312
4:30 PM	2	122	2	4	112	9	8	0	13	1	4	4	281
4:45 PM	6	137	5	0	113	8	3	0	11	3	0	8	294
5:00 PM	6	136	3	3	108	9	7	2	5	1	5	3	288
5:15 PM	4	159	2	0	115	7	7	3	10	3	2	2	314
5:30 PM	7	122	4	0	126	7	1	6	8	2	3	5	291
5:45 PM	6	113	6	2	124	6	4	2	20	3	0	0	286
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	40	1056	31	14	952	62	49	14	89	20	14	26	2367
APPROACH %'s :	3.55%	93.70%	2.75%	1.36%	92.61%	6.03%	32.24%	9.21%	58.55%	33.33%	23.33%	43.33%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	17	526	16	9	479	33	30	1	46	11	4	16	1188
PEAK HR FACTOR :		0.944			0.905			0.875			0.705		0.952

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-006 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fourth St			Fourth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3	0	0	4	0	0	0	1	0	0	0	8
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	1	0	0	2	0	0	0	1	0	0	0	4
PEAK HR FACTOR :		0.250			0.250			0.250			0.000		0.811

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-006

Day: Thursday

3-Axle+ HT

City: Clovis

Date: 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fourth St			Fourth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	0	1	0	0	1	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000			0.000			0.000			0.000			0.952

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-8050-006
N/S Street: Clovis Ave
E/W Street: Fourth St
DATE: 5/19/2016
CITY: Clovis

DAY: Thursday

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	1	0	0	0	1	1	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	1	0	0	0	2
8:00 AM	0	0	0	0	1	0	0	0
8:15 AM	0	1	1	0	0	0	0	0
8:30 AM	0	0	0	4	0	1	0	1
8:45 AM	0	0	1	0	0	0	1	0
TOTALS	**0**	**2**	**2**	**5**	**1**	**3**	**2**	**4**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	1	0	0	0	0	3
4:15 PM	0	0	6	2	4	0	0	0
4:30 PM	0	0	0	4	0	0	0	0
4:45 PM	0	1	0	0	1	0	3	1
5:00 PM	0	0	1	1	0	0	0	0
5:15 PM	0	0	0	2	0	1	2	0
5:30 PM	0	0	3	13	2	0	0	0
5:45 PM	1	0	1	5	0	0	0	1
TOTALS	**1**	**1**	**12**	**27**	**7**	**1**	**5**	**5**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	2	0	0	2	0	0	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**3**	**0**	**0**	**3**	**1**	**0**	**1**	**0**	**0**	**0**	**0**

PEAK HOURS
PEDESTRIANS

	TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
		EB	WB	EB	WB	NB	SB	NB	SB
AM	7:45 AM	0	1	1	5	1	1	0	3
PM	5:00 PM	1	0	5	21	2	1	2	1

PEAK HOURS
BIKES

	TIME	NB			SB			EB			WB		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
AM	7:30 AM	0	0	0	0	2	0	0	1	0	0	0	0
PM	4:45 PM	0	2	0	0	3	0	0	1	0	0	0	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-007 **Day:** Thursday

TOTALS

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	0	
7:00 AM	7	35	23	8	49	5	3	40	2	6	50	3	231
7:15 AM	25	92	48	18	72	5	2	59	3	41	53	20	438
7:30 AM	18	66	11	2	77	2	5	44	5	38	78	16	362
7:45 AM	10	62	13	3	86	10	11	38	4	13	58	3	311
8:00 AM	11	80	5	5	71	5	5	35	5	17	40	4	283
8:15 AM	22	66	14	2	75	11	2	48	3	15	37	3	298
8:30 AM	9	81	14	6	86	8	9	28	3	41	72	12	369
8:45 AM	9	76	13	3	86	9	8	35	11	14	49	7	320
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	111	558	141	47	602	55	45	327	36	185	437	68	2612
APPROACH %'s :	13.70%	68.89%	17.41%	6.68%	85.51%	7.81%	11.03%	80.15%	8.82%	26.81%	63.33%	9.86%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	64	300	77	28	306	22	23	176	17	109	229	43	1394
PEAK HR FACTOR :		0.668			0.899			0.844			0.722		0.796

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-007

Day: Thursday

TOTALS

City: Clovis

Date: 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	0	
4:00 PM	18	112	13	8	110	13	20	57	9	26	39	12	437
4:15 PM	13	116	12	11	120	18	18	51	14	11	50	4	438
4:30 PM	20	118	16	16	98	11	10	60	17	20	51	7	444
4:45 PM	14	114	17	13	102	8	19	56	15	17	55	7	437
5:00 PM	19	115	13	13	94	9	17	65	6	20	51	13	435
5:15 PM	20	142	5	12	96	17	15	63	12	10	37	14	443
5:30 PM	17	118	17	14	100	18	15	57	15	13	50	3	437
5:45 PM	19	100	17	17	107	28	15	65	11	22	38	13	452
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	140	935	110	104	827	122	129	474	99	139	371	73	3523
APPROACH %'s :	11.81%	78.90%	9.28%	9.88%	78.54%	11.59%	18.38%	67.52%	14.10%	23.84%	63.64%	12.52%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	75	475	52	56	397	72	62	250	44	65	176	43	1767
PEAK HR FACTOR :		0.901			0.863			0.978			0.845		0.977

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-007 **Day:** Thursday

3-Axle+ HT

City: Clovis **Date:** 5/19/2016

AM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	0	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00 AM	0	1	0	0	2	0	0	1	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2	0	0	5	0	0	1	0	0	1	1	10
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	1	0	0	4	0	0	1	0	0	0	1	7
PEAK HR FACTOR :		0.250			0.500			0.250			0.250		0.792

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-8050-007

Day: Thursday

3-Axle+ HT

City: Clovis

Date: 5/19/2016

PM

NS/EW Streets:	Clovis Ave			Clovis Ave			Fifth St			Fifth St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	1	0	1	1	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.250			0.000			0.000			0.000			0.977

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 16-8050-007
N/S Street: Clovis Ave
E/W Street: Fifth St
DATE: 5/19/2016
CITY: Clovis

DAY: Thursday

A M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	7	0	0	0	1	0
7:15 AM	1	1	8	0	0	0	1	1
7:30 AM	2	1	1	0	0	1	0	1
7:45 AM	0	0	1	2	0	2	0	2
8:00 AM	0	0	2	2	2	1	1	0
8:15 AM	0	4	0	0	0	0	0	2
8:30 AM	1	1	0	0	0	1	0	0
8:45 AM	1	2	0	0	0	0	1	0
TOTALS	**5**	**9**	**19**	**4**	**2**	**5**	**4**	**6**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	2	0	1	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	1
TOTALS	**0**	**1**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**

P M

PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	1	2	0	1	0	0	3	2
4:15 PM	0	0	1	0	0	0	7	3
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	2	3	0	3	0	1	2
5:00 PM	3	0	1	1	0	0	0	0
5:15 PM	1	2	0	0	2	0	2	0
5:30 PM	0	2	1	0	0	0	0	1
5:45 PM	0	3	0	0	0	0	0	3
TOTALS	**5**	**11**	**6**	**2**	**5**	**0**	**13**	**11**

BIKES

TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	2	0
5:30 PM	0	2	0	0	0	0	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**2**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**4**	**0**

PEAK HOURS
PEDESTRIANS

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
7:15 AM	3	2	12	4	2	4	2	4	**AM**
4:00 PM	1	4	4	1	3	0	11	7	**PM**

PEAK HOURS
BIKES

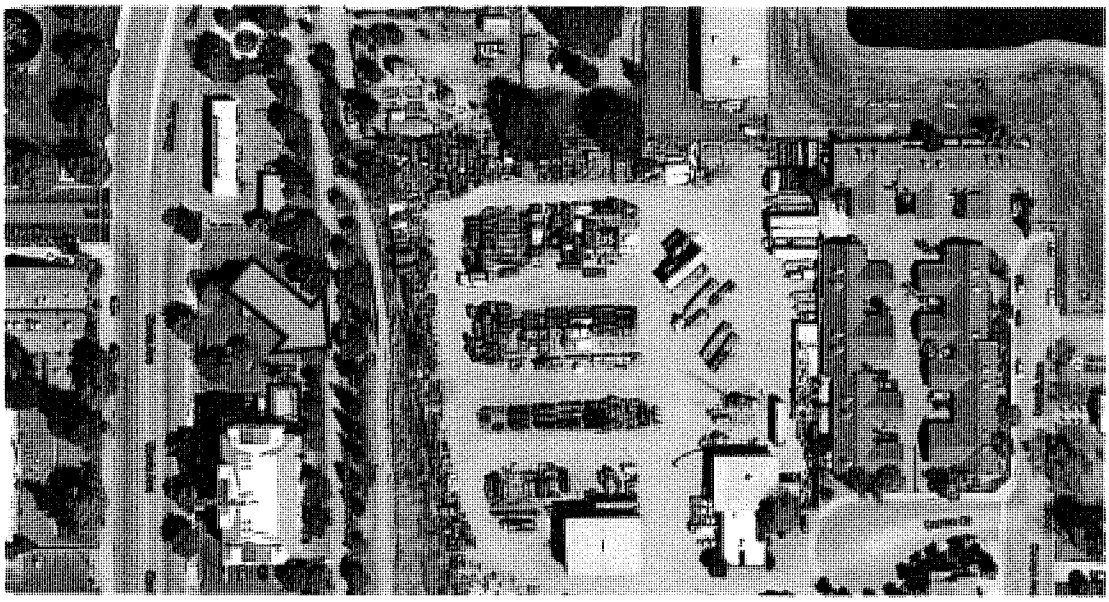
TIME	NB			SB			EB			WB		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:30 AM	0	1	2	0	2	0	0	0	0	0	0	0
4:45 PM	0	2	1	0	1	0	0	0	0	0	4	0

Clovis Old Town Trail - N Sierra, behind Fairfield -
Comparison of manual and remote count

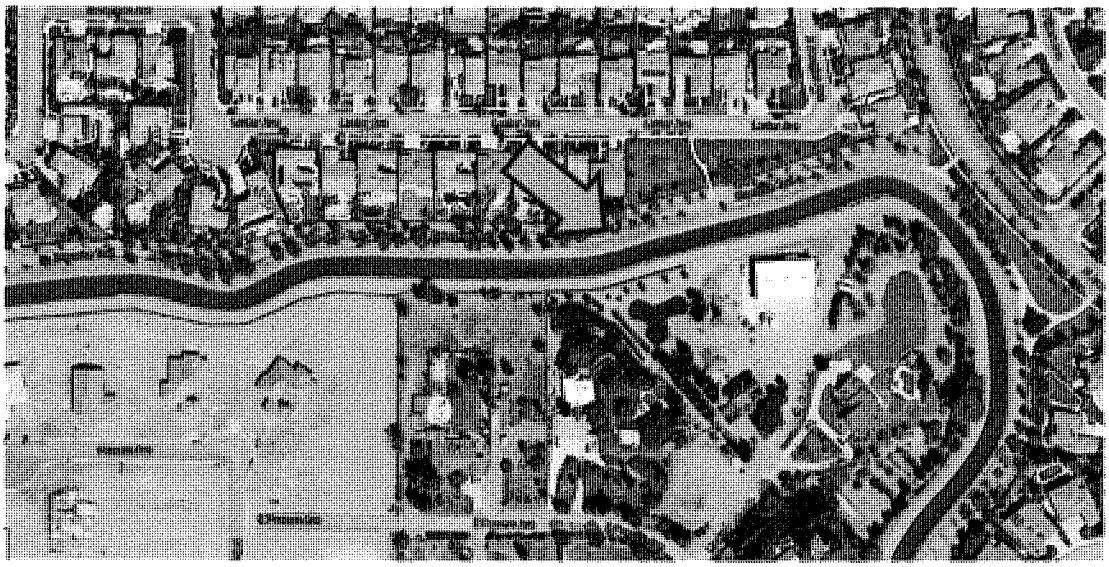
	Daily total counted remotely	Daily total counted manually	Percentage error of manual vs. remote	TUBE Counter B	Video Count of Bikes/ Others	Percentage error of manual vs. remote
Tuesday, February 02, 2016	178	194	-8.25%	62	59	5.08%
Wednesday, February 03, 2016	175	201	-12.94%	94	90	4.44%

	Peak hours total counted remotely	Peak hours total counted manually	Percentage error of manual vs. remote	Peak hours tube counter B	Peak hours manually counted of bikes/others	Percentage error of manual vs. remote
Saturday, February 06, 2016 7-10 am and 4-7 pm	169	201	-15.92%	59	58	1.72%

Factors affecting accuracy of remote count: Trail users stopping in front of pyro counter, multiple trail users crossing the counters simultaneously, groups of trail users, strollers, and bike trailers.



OLD TOWN TRAIL – Near Second Street (just east of Clovis Avenue)
Counts taken on August 3 to August 12, 2016
COG Counters – Pyro Box A and Tube 1



ENTERPRISE TRIAL – At the North Gate Entrance to the Ponding Basin
Counts taken on August 3 to August 12, 2016
COG Counters – Pyro Box B and Tube 2

2016 Eco-Counter Systems in Clovis, California (08/03/2016-08/12/2016)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Wed, Aug 3, 2016	339	104	177	19	271	51
Thu, Aug 4, 2016	246	169	166	85	230	117
Fri, Aug 5, 2016	263	180	176	77	222	77
Sat, Aug 6, 2016	237	159	266	137	317	124
Sun, Aug 7, 2016	249	187	212	130	284	135
Mon, Aug 8, 2016	268	170	212	116	269	115
Tue, Aug 9, 2016	233	146	176	106	297	136
Wed, Aug 10, 2016	238	150	220	121	287	137
Thu, Aug 11, 2016	170	105	328	206	227	111
Fri, Aug 12, 2016	155	72	212	68	176	50

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Wed, Aug 3, 2016 08:00 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 08:15 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 08:30 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 08:45 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 09:00 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 09:15 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 09:30 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 09:45 AM	2	1	0	0	3	2
Wed, Aug 3, 2016 10:00 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 10:15 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 10:30 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 10:45 AM	72	0	0	0	0	0
Wed, Aug 3, 2016 11:00 AM	44	1	0	0	0	0
Wed, Aug 3, 2016 11:15 AM	7	2	0	0	0	0
Wed, Aug 3, 2016 11:30 AM	2	0	0	0	1	0
Wed, Aug 3, 2016 11:45 AM	0	0	0	0	0	0
Wed, Aug 3, 2016 12:00 PM	1	1	0	0	0	0
Wed, Aug 3, 2016 12:15 PM	0	0	0	0	0	0
Wed, Aug 3, 2016 12:30 PM	3	3	0	0	0	0
Wed, Aug 3, 2016 12:45 PM	3	2	0	0	0	0
Wed, Aug 3, 2016 01:00 PM	1	1	0	0	0	0
Wed, Aug 3, 2016 01:15 PM	0	0	0	0	2	1
Wed, Aug 3, 2016 01:30 PM	3	3	0	0	22	0
Wed, Aug 3, 2016 01:45 PM	0	0	0	0	140	0
Wed, Aug 3, 2016 02:00 PM	4	3	16	0	30	18
Wed, Aug 3, 2016 02:15 PM	3	3	75	3	2	0
Wed, Aug 3, 2016 02:30 PM	0	0	25	1	0	0
Wed, Aug 3, 2016 02:45 PM	0	0	0	0	0	0
Wed, Aug 3, 2016 03:00 PM	4	2	1	0	0	0
Wed, Aug 3, 2016 03:15 PM	4	3	2	2	0	0
Wed, Aug 3, 2016 03:30 PM	4	5	0	0	0	0
Wed, Aug 3, 2016 03:45 PM	2	2	0	0	1	0
Wed, Aug 3, 2016 04:00 PM	5	4	1	1	5	4
Wed, Aug 3, 2016 04:15 PM	5	4	0	0	0	0
Wed, Aug 3, 2016 04:30 PM	2	1	0	0	0	0
Wed, Aug 3, 2016 04:45 PM	2	2	0	0	0	0
Wed, Aug 3, 2016 05:00 PM	72	5	0	0	0	0
Wed, Aug 3, 2016 05:15 PM	5	5	3	2	1	0
Wed, Aug 3, 2016 05:30 PM	1	0	0	0	0	0
Wed, Aug 3, 2016 05:45 PM	1	0	0	0	1	0
Wed, Aug 3, 2016 06:00 PM	1	1	1	1	1	1
Wed, Aug 3, 2016 06:15 PM	2	2	2	1	0	1
Wed, Aug 3, 2016 06:30 PM	6	2	1	1	0	0
Wed, Aug 3, 2016 06:45 PM	2	2	6	2	5	0
Wed, Aug 3, 2016 07:00 PM	6	1	5	3	3	1
Wed, Aug 3, 2016 07:15 PM	2	0	2	2	10	7
Wed, Aug 3, 2016 07:30 PM	3	1	3		3	2
Wed, Aug 3, 2016 07:45 PM	7	2	3		4	2
Wed, Aug 3, 2016 08:00 PM	7	6	5		7	4
Wed, Aug 3, 2016 08:15 PM	1	1	12		11	6
Wed, Aug 3, 2016 08:30 PM	13	10	5		4	0
Wed, Aug 3, 2016 08:45 PM	3	1	6		4	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Wed, Aug 3, 2016 09:00 PM	2	1	1		4	0
Wed, Aug 3, 2016 09:15 PM	4	1	0		4	1
Wed, Aug 3, 2016 09:30 PM	3	2	1		1	1
Wed, Aug 3, 2016 09:45 PM	0	0	0		0	0
Wed, Aug 3, 2016 10:00 PM	4	2	0		0	0
Wed, Aug 3, 2016 10:15 PM	6	5	0		0	0
Wed, Aug 3, 2016 10:30 PM	4	2	0		0	0
Wed, Aug 3, 2016 10:45 PM	1	1	0		0	0
Wed, Aug 3, 2016 11:00 PM	5	4	1		0	0
Wed, Aug 3, 2016 11:15 PM	1	1	0		0	0
Wed, Aug 3, 2016 11:30 PM	1	1	0		0	0
Wed, Aug 3, 2016 11:45 PM	3	2	0		0	0
Thu, Aug 4, 2016 12:00 AM	0	0	0		0	0
Thu, Aug 4, 2016 12:15 AM	0	0	0		0	0
Thu, Aug 4, 2016 12:30 AM	0	0	0		0	0
Thu, Aug 4, 2016 12:45 AM	1	2	0		0	0
Thu, Aug 4, 2016 01:00 AM	0	0	0		0	0
Thu, Aug 4, 2016 01:15 AM	1	0	0		0	0
Thu, Aug 4, 2016 01:30 AM	0	0	0		0	0
Thu, Aug 4, 2016 01:45 AM	0	0	0		0	0
Thu, Aug 4, 2016 02:00 AM	0	0	0		0	0
Thu, Aug 4, 2016 02:15 AM	0	0	0		0	0
Thu, Aug 4, 2016 02:30 AM	0	0	0		0	0
Thu, Aug 4, 2016 02:45 AM	0	0	0		0	0
Thu, Aug 4, 2016 03:00 AM	0	0	0		0	0
Thu, Aug 4, 2016 03:15 AM	1	1	0		0	0
Thu, Aug 4, 2016 03:30 AM	0	0	0		0	0
Thu, Aug 4, 2016 03:45 AM	0	0	0		0	0
Thu, Aug 4, 2016 04:00 AM	0	0	0	0	0	0
Thu, Aug 4, 2016 04:15 AM	1	1	0	0	0	0
Thu, Aug 4, 2016 04:30 AM	0	0	0	0	0	0
Thu, Aug 4, 2016 04:45 AM	1	0	0	0	0	0
Thu, Aug 4, 2016 05:00 AM	0	2	0	0	0	0
Thu, Aug 4, 2016 05:15 AM	1	1	0	0	1	0
Thu, Aug 4, 2016 05:30 AM	5	1	1	0	0	0
Thu, Aug 4, 2016 05:45 AM	0	0	1	0	4	0
Thu, Aug 4, 2016 06:00 AM	1	1	8	3	10	4
Thu, Aug 4, 2016 06:15 AM	2	1	5	1	13	3
Thu, Aug 4, 2016 06:30 AM	4	2	7	3	12	3
Thu, Aug 4, 2016 06:45 AM	2	2	9	7	8	5
Thu, Aug 4, 2016 07:00 AM	4	2	6	4	5	1
Thu, Aug 4, 2016 07:15 AM	1	1	8	6	8	5
Thu, Aug 4, 2016 07:30 AM	8	7	6	1	11	3
Thu, Aug 4, 2016 07:45 AM	12	11	6	3	3	2
Thu, Aug 4, 2016 08:00 AM	3	5	4	4	6	3
Thu, Aug 4, 2016 08:15 AM	5	4	6	3	10	20
Thu, Aug 4, 2016 08:30 AM	8	4	4	4	9	6
Thu, Aug 4, 2016 08:45 AM	4	5	4	1	6	3
Thu, Aug 4, 2016 09:00 AM	2	2	9	5	1	1
Thu, Aug 4, 2016 09:15 AM	2	2	2	1	3	1
Thu, Aug 4, 2016 09:30 AM	1	1	0	0	3	0
Thu, Aug 4, 2016 09:45 AM	3	0	4	1	10	2

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Thu, Aug 4, 2016 10:00 AM	5	2	8	1	8	2
Thu, Aug 4, 2016 10:15 AM	8	7	4	2	3	2
Thu, Aug 4, 2016 10:30 AM	3	3	3	2	6	2
Thu, Aug 4, 2016 10:45 AM	5	4	1	0	0	0
Thu, Aug 4, 2016 11:00 AM	1	1	1	1	0	0
Thu, Aug 4, 2016 11:15 AM	1	1	1	0	0	0
Thu, Aug 4, 2016 11:30 AM	1	1	0	0	1	1
Thu, Aug 4, 2016 11:45 AM	4	3	2	2	1	1
Thu, Aug 4, 2016 12:00 PM	0	0	1	1	1	1
Thu, Aug 4, 2016 12:15 PM	0	0	0	0	3	1
Thu, Aug 4, 2016 12:30 PM	3	4	0	0	1	1
Thu, Aug 4, 2016 12:45 PM	2	1	0	0	0	0
Thu, Aug 4, 2016 01:00 PM	1	2	1	0	0	0
Thu, Aug 4, 2016 01:15 PM	0	0	0	0	1	1
Thu, Aug 4, 2016 01:30 PM	1	0	0	0	0	0
Thu, Aug 4, 2016 01:45 PM	3	3	1	0	2	0
Thu, Aug 4, 2016 02:00 PM	3	1	0	0	0	0
Thu, Aug 4, 2016 02:15 PM	0	0	0	0	0	0
Thu, Aug 4, 2016 02:30 PM	5	2	0	0	0	0
Thu, Aug 4, 2016 02:45 PM	1	1	2	0	2	0
Thu, Aug 4, 2016 03:00 PM	0	0	0	0	0	0
Thu, Aug 4, 2016 03:15 PM	3	2	0	0	0	0
Thu, Aug 4, 2016 03:30 PM	3	2	0	0	1	0
Thu, Aug 4, 2016 03:45 PM	0	0	0	0	2	0
Thu, Aug 4, 2016 04:00 PM	1	1	0	0	0	0
Thu, Aug 4, 2016 04:15 PM	0	0	0	0	0	0
Thu, Aug 4, 2016 04:30 PM	2	2	0	0	0	0
Thu, Aug 4, 2016 04:45 PM	3	2	0	0	0	0
Thu, Aug 4, 2016 05:00 PM	3	2	1	0	2	1
Thu, Aug 4, 2016 05:15 PM	4	3	0	0	0	0
Thu, Aug 4, 2016 05:30 PM	3	3	4	1	1	1
Thu, Aug 4, 2016 05:45 PM	4	3	0	0	0	0
Thu, Aug 4, 2016 06:00 PM	1	1	0	0	2	1
Thu, Aug 4, 2016 06:15 PM	27	4	5	3	2	2
Thu, Aug 4, 2016 06:30 PM	0	0	1	0	0	0
Thu, Aug 4, 2016 06:45 PM	0	0	0	0	0	2
Thu, Aug 4, 2016 07:00 PM	5	3	4	4	1	3
Thu, Aug 4, 2016 07:15 PM	6	4	3	4	2	3
Thu, Aug 4, 2016 07:30 PM	1	1	5	3	7	3
Thu, Aug 4, 2016 07:45 PM	2	1	7	2	11	5
Thu, Aug 4, 2016 08:00 PM	3	2	8	5	25	9
Thu, Aug 4, 2016 08:15 PM	12	10	4	2	19	12
Thu, Aug 4, 2016 08:30 PM	9	7	5	2	2	1
Thu, Aug 4, 2016 08:45 PM	12	9	0	0	0	0
Thu, Aug 4, 2016 09:00 PM	3	1	0	0	0	0
Thu, Aug 4, 2016 09:15 PM	5	4	0	0	0	0
Thu, Aug 4, 2016 09:30 PM	2	0	0	0	0	0
Thu, Aug 4, 2016 09:45 PM	1	1	0	0	0	0
Thu, Aug 4, 2016 10:00 PM	3	2	0	0	0	0
Thu, Aug 4, 2016 10:15 PM	3	1	0	0	0	0
Thu, Aug 4, 2016 10:30 PM	2	2	2	1	0	0
Thu, Aug 4, 2016 10:45 PM	1	1	0	0	0	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Thu, Aug 4, 2016 11:00 PM	1	0	0	0	1	0
Thu, Aug 4, 2016 11:15 PM	0	0	2	2	0	0
Thu, Aug 4, 2016 11:30 PM	1	1	0	0	0	0
Thu, Aug 4, 2016 11:45 PM	0	0	0	0	0	0
Fri, Aug 5, 2016 12:00 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 12:15 AM	2	4	0	0	0	0
Fri, Aug 5, 2016 12:30 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 12:45 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 01:00 AM	2	4	0	0	0	0
Fri, Aug 5, 2016 01:15 AM	1	0	0	0	0	0
Fri, Aug 5, 2016 01:30 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 01:45 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 02:00 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 02:15 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 02:30 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 02:45 AM	4	0	0	0	0	0
Fri, Aug 5, 2016 03:00 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 03:15 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 03:30 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 03:45 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 04:00 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 04:15 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 04:30 AM	1	1	0	0	0	0
Fri, Aug 5, 2016 04:45 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 05:00 AM	1	0	0	0	0	0
Fri, Aug 5, 2016 05:15 AM	5	5	0	0	0	0
Fri, Aug 5, 2016 05:30 AM	0	0	0	0	0	0
Fri, Aug 5, 2016 05:45 AM	1	1	3	0	3	0
Fri, Aug 5, 2016 06:00 AM	0	0	3	2	11	2
Fri, Aug 5, 2016 06:15 AM	2	2	3	1	9	4
Fri, Aug 5, 2016 06:30 AM	3	2	9	2	11	3
Fri, Aug 5, 2016 06:45 AM	2	0	9	6	3	3
Fri, Aug 5, 2016 07:00 AM	3	0	8	4	5	1
Fri, Aug 5, 2016 07:15 AM	1	0	6	4	10	2
Fri, Aug 5, 2016 07:30 AM	4	3	4	1	13	3
Fri, Aug 5, 2016 07:45 AM	8	8	9	2	4	2
Fri, Aug 5, 2016 08:00 AM	5	2	7	3	14	2
Fri, Aug 5, 2016 08:15 AM	6	4	5	4	3	1
Fri, Aug 5, 2016 08:30 AM	3	3	9	2	14	5
Fri, Aug 5, 2016 08:45 AM	3	2	4	1	6	2
Fri, Aug 5, 2016 09:00 AM	2	2	6	3	10	1
Fri, Aug 5, 2016 09:15 AM	4	3	7	4	9	2
Fri, Aug 5, 2016 09:30 AM	5	5	4	4	13	3
Fri, Aug 5, 2016 09:45 AM	6	5	4	4	6	3
Fri, Aug 5, 2016 10:00 AM	9	6	1	1	10	5
Fri, Aug 5, 2016 10:15 AM	12	7	3	2	2	1
Fri, Aug 5, 2016 10:30 AM	12	8	3	0	3	0
Fri, Aug 5, 2016 10:45 AM	2	2	2	1	0	0
Fri, Aug 5, 2016 11:00 AM	1	1	3	1	7	4
Fri, Aug 5, 2016 11:15 AM	4	3	6	0	4	3
Fri, Aug 5, 2016 11:30 AM	1	0	1	1	1	1
Fri, Aug 5, 2016 11:45 AM	0	0	1	0	0	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Fri, Aug 5, 2016 12:00 PM	1	1	0	0	0	0
Fri, Aug 5, 2016 12:15 PM	5	4	1	0	0	0
Fri, Aug 5, 2016 12:30 PM	4	5	1	0	1	0
Fri, Aug 5, 2016 12:45 PM	2	2	1	0	1	0
Fri, Aug 5, 2016 01:00 PM	4	3	1	2	0	0
Fri, Aug 5, 2016 01:15 PM	2	1	0	0	0	0
Fri, Aug 5, 2016 01:30 PM	8	5	0	0	1	1
Fri, Aug 5, 2016 01:45 PM	5	4	2	2	5	5
Fri, Aug 5, 2016 02:00 PM	1	0	0	0	8	3
Fri, Aug 5, 2016 02:15 PM	0	0	3	0	0	0
Fri, Aug 5, 2016 02:30 PM	2	2	1	1	0	0
Fri, Aug 5, 2016 02:45 PM	2	2	0	0	0	0
Fri, Aug 5, 2016 03:00 PM	1	1	0	0	0	0
Fri, Aug 5, 2016 03:15 PM	2	1	1	1	1	1
Fri, Aug 5, 2016 03:30 PM	2	1	0	0	0	0
Fri, Aug 5, 2016 03:45 PM	1	0	1	1	1	1
Fri, Aug 5, 2016 04:00 PM	1	1	2	0	1	0
Fri, Aug 5, 2016 04:15 PM	2	1	2	0	4	0
Fri, Aug 5, 2016 04:30 PM	2	2	1	1	0	0
Fri, Aug 5, 2016 04:45 PM	4	4	2	3	0	0
Fri, Aug 5, 2016 05:00 PM	0	0	2	0	1	0
Fri, Aug 5, 2016 05:15 PM	0	0	1	1	2	0
Fri, Aug 5, 2016 05:30 PM	3	1	1	0	0	0
Fri, Aug 5, 2016 05:45 PM	2	2	8	2	0	0
Fri, Aug 5, 2016 06:00 PM	3	4	0	0	0	0
Fri, Aug 5, 2016 06:15 PM	6	4	1	1	0	0
Fri, Aug 5, 2016 06:30 PM	12	5	3	2	0	0
Fri, Aug 5, 2016 06:45 PM	6	2	0	0	5	2
Fri, Aug 5, 2016 07:00 PM	9	8	2	0	1	0
Fri, Aug 5, 2016 07:15 PM	5	4	2	1	0	1
Fri, Aug 5, 2016 07:30 PM	3	2	2	0	1	0
Fri, Aug 5, 2016 07:45 PM	2	1	1	0	5	2
Fri, Aug 5, 2016 08:00 PM	2	0	4	1	6	4
Fri, Aug 5, 2016 08:15 PM	8	4	5	3	5	2
Fri, Aug 5, 2016 08:30 PM	2	1	1	0	2	2
Fri, Aug 5, 2016 08:45 PM	1	0	2	2	0	0
Fri, Aug 5, 2016 09:00 PM	0	0	0	0	0	0
Fri, Aug 5, 2016 09:15 PM	9	4	0	0	0	0
Fri, Aug 5, 2016 09:30 PM	4	4	0	0	0	0
Fri, Aug 5, 2016 09:45 PM	4	1	1	0	0	0
Fri, Aug 5, 2016 10:00 PM	6	2	0	0	0	0
Fri, Aug 5, 2016 10:15 PM	2	2	1	0	0	0
Fri, Aug 5, 2016 10:30 PM	5	3	0	0	0	0
Fri, Aug 5, 2016 10:45 PM	1	1	0	0	0	0
Fri, Aug 5, 2016 11:00 PM	0	0	0	0	0	0
Fri, Aug 5, 2016 11:15 PM	1	1	0	0	0	0
Fri, Aug 5, 2016 11:30 PM	1	1	0	0	0	0
Fri, Aug 5, 2016 11:45 PM	0	0	0	0	0	0
Sat, Aug 6, 2016 12:00 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 12:15 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 12:30 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 12:45 AM	0	0	0	0	0	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Sat, Aug 6, 2016 01:00 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 01:15 AM	1	1	0	0	0	0
Sat, Aug 6, 2016 01:30 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 01:45 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 02:00 AM	1	1	0	0	0	0
Sat, Aug 6, 2016 02:15 AM	1	1	0	0	0	0
Sat, Aug 6, 2016 02:30 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 02:45 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 03:00 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 03:15 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 03:30 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 03:45 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 04:00 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 04:15 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 04:30 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 04:45 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 05:00 AM	0	0	0	0	0	0
Sat, Aug 6, 2016 05:15 AM	1	0	0	0	0	0
Sat, Aug 6, 2016 05:30 AM	0	0	1	0	1	0
Sat, Aug 6, 2016 05:45 AM	3	0	1	0	1	1
Sat, Aug 6, 2016 06:00 AM	0	0	2	0	0	0
Sat, Aug 6, 2016 06:15 AM	10	7	3	0	5	0
Sat, Aug 6, 2016 06:30 AM	3	2	10	3	10	3
Sat, Aug 6, 2016 06:45 AM	6	5	21	6	15	4
Sat, Aug 6, 2016 07:00 AM	10	4	19	2	32	2
Sat, Aug 6, 2016 07:15 AM	3	1	16	6	12	5
Sat, Aug 6, 2016 07:30 AM	11	6	7	1	9	1
Sat, Aug 6, 2016 07:45 AM	6	2	6	1	15	4
Sat, Aug 6, 2016 08:00 AM	10	4	3	4	7	2
Sat, Aug 6, 2016 08:15 AM	7	5	3	0	19	4
Sat, Aug 6, 2016 08:30 AM	7	3	7	3	7	3
Sat, Aug 6, 2016 08:45 AM	3	1	7	3	5	1
Sat, Aug 6, 2016 09:00 AM	4	5	7	3	5	4
Sat, Aug 6, 2016 09:15 AM	6	5	11	12	18	7
Sat, Aug 6, 2016 09:30 AM	7	5	6	2	13	2
Sat, Aug 6, 2016 09:45 AM	7	7	10	9	1	1
Sat, Aug 6, 2016 10:00 AM	7	7	16	10	20	9
Sat, Aug 6, 2016 10:15 AM	4	4	9	6	0	0
Sat, Aug 6, 2016 10:30 AM	4	6	5	5	7	6
Sat, Aug 6, 2016 10:45 AM	4	3	8	3	17	8
Sat, Aug 6, 2016 11:00 AM	1	1	10	9	9	5
Sat, Aug 6, 2016 11:15 AM	1	1	7	2	8	1
Sat, Aug 6, 2016 11:30 AM	2	3	3	4	5	4
Sat, Aug 6, 2016 11:45 AM	2	2	5	4	8	4
Sat, Aug 6, 2016 12:00 PM	1	1	3	2	5	2
Sat, Aug 6, 2016 12:15 PM	4	4	1	1	3	1
Sat, Aug 6, 2016 12:30 PM	3	0	3	0	3	1
Sat, Aug 6, 2016 12:45 PM	7	5	2	2	0	0
Sat, Aug 6, 2016 01:00 PM	3	3	0	0	0	0
Sat, Aug 6, 2016 01:15 PM	1	1	2	2	3	3
Sat, Aug 6, 2016 01:30 PM	1	0	0	0	0	0
Sat, Aug 6, 2016 01:45 PM	1	1	1	1	1	1

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Sat, Aug 6, 2016 02:00 PM	4	4	0	0	0	0
Sat, Aug 6, 2016 02:15 PM	1	1	4	4	2	0
Sat, Aug 6, 2016 02:30 PM	0	0	0	0	5	1
Sat, Aug 6, 2016 02:45 PM	1	1	0	0	0	0
Sat, Aug 6, 2016 03:00 PM	3	3	2	0	3	0
Sat, Aug 6, 2016 03:15 PM	1	1	0	0	1	1
Sat, Aug 6, 2016 03:30 PM	0	0	0	0	1	0
Sat, Aug 6, 2016 03:45 PM	1	1	0	0	0	0
Sat, Aug 6, 2016 04:00 PM	2	1	0	0	0	0
Sat, Aug 6, 2016 04:15 PM	0	0	0	0	1	1
Sat, Aug 6, 2016 04:30 PM	1	1	0	0	0	0
Sat, Aug 6, 2016 04:45 PM	0	0	0	0	1	1
Sat, Aug 6, 2016 05:00 PM	0	0	0	0	0	0
Sat, Aug 6, 2016 05:15 PM	1	1	0	0	4	3
Sat, Aug 6, 2016 05:30 PM	0	0	4	4	4	3
Sat, Aug 6, 2016 05:45 PM	0	0	0	0	3	3
Sat, Aug 6, 2016 06:00 PM	0	0	1	0	0	0
Sat, Aug 6, 2016 06:15 PM	3	1	2	0	3	2
Sat, Aug 6, 2016 06:30 PM	2	2	4	4	1	2
Sat, Aug 6, 2016 06:45 PM	3	4	1	0	2	4
Sat, Aug 6, 2016 07:00 PM	2	2	3	3	7	6
Sat, Aug 6, 2016 07:15 PM	4	3	2	2	1	2
Sat, Aug 6, 2016 07:30 PM	6	2	3	2	0	1
Sat, Aug 6, 2016 07:45 PM	5	4	5	4	6	4
Sat, Aug 6, 2016 08:00 PM	5	3	8	1	0	0
Sat, Aug 6, 2016 08:15 PM	6	1	5	4	1	0
Sat, Aug 6, 2016 08:30 PM	4	1	2	2	1	0
Sat, Aug 6, 2016 08:45 PM	5	5	0	0	2	0
Sat, Aug 6, 2016 09:00 PM	1	1	0	0	0	0
Sat, Aug 6, 2016 09:15 PM	2	2	0	0	0	0
Sat, Aug 6, 2016 09:30 PM	2	1	0	0	0	0
Sat, Aug 6, 2016 09:45 PM	2	0	1	0	0	0
Sat, Aug 6, 2016 10:00 PM	1	1	1	1	1	0
Sat, Aug 6, 2016 10:15 PM	3	0	2	0	0	0
Sat, Aug 6, 2016 10:30 PM	7	3	1	0	1	0
Sat, Aug 6, 2016 10:45 PM	0	0	0	0	1	1
Sat, Aug 6, 2016 11:00 PM	0	0	0	0	0	0
Sat, Aug 6, 2016 11:15 PM	6	2	0	0	0	0
Sat, Aug 6, 2016 11:30 PM	0	0	0	0	0	0
Sat, Aug 6, 2016 11:45 PM	0	0	0	0	1	0
Sun, Aug 7, 2016 12:00 AM	4	2	0	0	0	0
Sun, Aug 7, 2016 12:15 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 12:30 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 12:45 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 01:00 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 01:15 AM	4	0	0	0	0	0
Sun, Aug 7, 2016 01:30 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 01:45 AM	0	0	0	0	1	0
Sun, Aug 7, 2016 02:00 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 02:15 AM	2	1	0	0	0	0
Sun, Aug 7, 2016 02:30 AM	1	1	0	0	5	3
Sun, Aug 7, 2016 02:45 AM	2	1	0	0	0	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Sun, Aug 7, 2016 03:00 AM	0	0	0	0	3	3
Sun, Aug 7, 2016 03:15 AM	1	1	0	0	2	0
Sun, Aug 7, 2016 03:30 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 03:45 AM	0	0	0	0	2	0
Sun, Aug 7, 2016 04:00 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 04:15 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 04:30 AM	1	1	0	0	0	0
Sun, Aug 7, 2016 04:45 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 05:00 AM	0	0	0	0	1	0
Sun, Aug 7, 2016 05:15 AM	1	1	0	0	2	0
Sun, Aug 7, 2016 05:30 AM	0	0	0	0	0	0
Sun, Aug 7, 2016 05:45 AM	1	0	0	0	0	0
Sun, Aug 7, 2016 06:00 AM	0	0	2	0	3	0
Sun, Aug 7, 2016 06:15 AM	3	2	5	0	6	0
Sun, Aug 7, 2016 06:30 AM	6	4	2	1	3	2
Sun, Aug 7, 2016 06:45 AM	5	3	2	1	2	0
Sun, Aug 7, 2016 07:00 AM	4	2	1	0	2	0
Sun, Aug 7, 2016 07:15 AM	5	4	4	2	10	3
Sun, Aug 7, 2016 07:30 AM	9	7	11	4	5	2
Sun, Aug 7, 2016 07:45 AM	3	2	8	4	18	2
Sun, Aug 7, 2016 08:00 AM	12	6	10	6	12	8
Sun, Aug 7, 2016 08:15 AM	6	3	7	3	3	1
Sun, Aug 7, 2016 08:30 AM	9	11	7	6	10	3
Sun, Aug 7, 2016 08:45 AM	6	4	9	6	5	2
Sun, Aug 7, 2016 09:00 AM	5	7	13	6	8	0
Sun, Aug 7, 2016 09:15 AM	7	8	2	0	4	1
Sun, Aug 7, 2016 09:30 AM	9	8	6	4	12	6
Sun, Aug 7, 2016 09:45 AM	4	4	8	8	14	5
Sun, Aug 7, 2016 10:00 AM	7	6	3	3	9	4
Sun, Aug 7, 2016 10:15 AM	3	3	6	3	4	3
Sun, Aug 7, 2016 10:30 AM	4	2	10	8	5	2
Sun, Aug 7, 2016 10:45 AM	4	4	0	0	3	2
Sun, Aug 7, 2016 11:00 AM	7	7	1	1	11	6
Sun, Aug 7, 2016 11:15 AM	1	1	10	5	15	9
Sun, Aug 7, 2016 11:30 AM	3	4	4	1	2	0
Sun, Aug 7, 2016 11:45 AM	2	2	4	4	7	3
Sun, Aug 7, 2016 12:00 PM	1	0	1	0	6	2
Sun, Aug 7, 2016 12:15 PM	8	5	4	2	3	0
Sun, Aug 7, 2016 12:30 PM	0	0	1	0	0	0
Sun, Aug 7, 2016 12:45 PM	1	1	3	2	2	2
Sun, Aug 7, 2016 01:00 PM	1	1	2	1	5	2
Sun, Aug 7, 2016 01:15 PM	6	5	2	2	8	4
Sun, Aug 7, 2016 01:30 PM	3	2	3	2	0	0
Sun, Aug 7, 2016 01:45 PM	2	2	1	0	1	0
Sun, Aug 7, 2016 02:00 PM	5	4	0	0	2	2
Sun, Aug 7, 2016 02:15 PM	0	0	0	0	0	0
Sun, Aug 7, 2016 02:30 PM	1	1	0	0	0	0
Sun, Aug 7, 2016 02:45 PM	0	0	0	0	0	0
Sun, Aug 7, 2016 03:00 PM	0	0	1	1	3	1
Sun, Aug 7, 2016 03:15 PM	0	0	1	1	2	0
Sun, Aug 7, 2016 03:30 PM	3	2	2	0	0	0
Sun, Aug 7, 2016 03:45 PM	1	0	4	4	2	2

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Sun, Aug 7, 2016 04:00 PM	3	3	2	2	0	0
Sun, Aug 7, 2016 04:15 PM	4	4	4	0	3	3
Sun, Aug 7, 2016 04:30 PM	3	3	2	3	6	4
Sun, Aug 7, 2016 04:45 PM	0	0	2	1	1	1
Sun, Aug 7, 2016 05:00 PM	1	1	0	0	0	0
Sun, Aug 7, 2016 05:15 PM	5	5	0	0	0	0
Sun, Aug 7, 2016 05:30 PM	2	0	2	2	4	3
Sun, Aug 7, 2016 05:45 PM	1	1	6	5	1	2
Sun, Aug 7, 2016 06:00 PM	1	1	0	0	0	0
Sun, Aug 7, 2016 06:15 PM	0	0	3	3	6	7
Sun, Aug 7, 2016 06:30 PM	0	0	1	2	3	2
Sun, Aug 7, 2016 06:45 PM	13	3	5	4	2	1
Sun, Aug 7, 2016 07:00 PM	1	1	2	1	4	4
Sun, Aug 7, 2016 07:15 PM	4	3	6	4	2	1
Sun, Aug 7, 2016 07:30 PM	5	2	4	4	8	7
Sun, Aug 7, 2016 07:45 PM	5	5	5	4	8	5
Sun, Aug 7, 2016 08:00 PM	6	3	5	1	6	5
Sun, Aug 7, 2016 08:15 PM	6	3	1	1	4	4
Sun, Aug 7, 2016 08:30 PM	2	2	2	2	1	1
Sun, Aug 7, 2016 08:45 PM	1	2	0	0	0	0
Sun, Aug 7, 2016 09:00 PM	0	0	0	0	0	0
Sun, Aug 7, 2016 09:15 PM	4	4	0	0	0	0
Sun, Aug 7, 2016 09:30 PM	1	1	0	0	1	0
Sun, Aug 7, 2016 09:45 PM	0	0	0	0	0	0
Sun, Aug 7, 2016 10:00 PM	0	0	0	0	0	0
Sun, Aug 7, 2016 10:15 PM	2	0	0	0	0	0
Sun, Aug 7, 2016 10:30 PM	2	1	0	0	0	0
Sun, Aug 7, 2016 10:45 PM	0	0	0	0	0	0
Sun, Aug 7, 2016 11:00 PM	1	1	0	0	1	0
Sun, Aug 7, 2016 11:15 PM	1	1	0	0	0	0
Sun, Aug 7, 2016 11:30 PM	0	0	0	0	0	0
Sun, Aug 7, 2016 11:45 PM	2	2	0	0	0	0
Mon, Aug 8, 2016 12:00 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 12:15 AM	1	1	0	0	0	0
Mon, Aug 8, 2016 12:30 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 12:45 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 01:00 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 01:15 AM	0	0	1	0	1	0
Mon, Aug 8, 2016 01:30 AM	1	1	1	0	1	0
Mon, Aug 8, 2016 01:45 AM	1	1	0	0	0	0
Mon, Aug 8, 2016 02:00 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 02:15 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 02:30 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 02:45 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 03:00 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 03:15 AM	0	0	1	0	0	0
Mon, Aug 8, 2016 03:30 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 03:45 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 04:00 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 04:15 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 04:30 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 04:45 AM	0	0	0	0	0	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Mon, Aug 8, 2016 05:00 AM	0	0	0	0	0	0
Mon, Aug 8, 2016 05:15 AM	0	0	1	1	2	0
Mon, Aug 8, 2016 05:30 AM	3	1	3	0	1	0
Mon, Aug 8, 2016 05:45 AM	6	5	4	0	4	0
Mon, Aug 8, 2016 06:00 AM	5	4	4	2	9	1
Mon, Aug 8, 2016 06:15 AM	3	3	10	8	15	5
Mon, Aug 8, 2016 06:30 AM	2	1	8	3	5	1
Mon, Aug 8, 2016 06:45 AM	7	5	5	3	8	5
Mon, Aug 8, 2016 07:00 AM	7	3	8	4	6	4
Mon, Aug 8, 2016 07:15 AM	2	1	7	2	5	1
Mon, Aug 8, 2016 07:30 AM	1	1	5	2	8	3
Mon, Aug 8, 2016 07:45 AM	8	4	9	7	11	7
Mon, Aug 8, 2016 08:00 AM	2	2	6	4	9	3
Mon, Aug 8, 2016 08:15 AM	8	1	3	1	8	1
Mon, Aug 8, 2016 08:30 AM	4	3	4	3	11	2
Mon, Aug 8, 2016 08:45 AM	5	2	7	3	2	1
Mon, Aug 8, 2016 09:00 AM	7	3	3	1	8	2
Mon, Aug 8, 2016 09:15 AM	4	3	5	3	5	0
Mon, Aug 8, 2016 09:30 AM	1	1	6	1	5	2
Mon, Aug 8, 2016 09:45 AM	8	3	0	0	4	2
Mon, Aug 8, 2016 10:00 AM	10	5	3	1	9	2
Mon, Aug 8, 2016 10:15 AM	3	1	7	5	8	3
Mon, Aug 8, 2016 10:30 AM	4	3	4	3	9	7
Mon, Aug 8, 2016 10:45 AM	7	4	0	0	7	7
Mon, Aug 8, 2016 11:00 AM	3	3	0	0	2	0
Mon, Aug 8, 2016 11:15 AM	7	5	5	2	5	2
Mon, Aug 8, 2016 11:30 AM	3	3	1	0	5	3
Mon, Aug 8, 2016 11:45 AM	0	0	0	0	5	0
Mon, Aug 8, 2016 12:00 PM	2	2	0	0	0	0
Mon, Aug 8, 2016 12:15 PM	1	1	1	1	9	7
Mon, Aug 8, 2016 12:30 PM	1	1	7	4	0	0
Mon, Aug 8, 2016 12:45 PM	3	1	1	1	1	1
Mon, Aug 8, 2016 01:00 PM	1	1	6	4	0	0
Mon, Aug 8, 2016 01:15 PM	2	1	0	0	0	0
Mon, Aug 8, 2016 01:30 PM	4	3	1	1	1	1
Mon, Aug 8, 2016 01:45 PM	1	1	2	1	0	0
Mon, Aug 8, 2016 02:00 PM	4	3	0	0	0	0
Mon, Aug 8, 2016 02:15 PM	6	6	14	9	0	0
Mon, Aug 8, 2016 02:30 PM	4	4	0	0	0	0
Mon, Aug 8, 2016 02:45 PM	2	2	2	1	0	0
Mon, Aug 8, 2016 03:00 PM	3	1	4	1	0	0
Mon, Aug 8, 2016 03:15 PM	2	0	0	0	0	0
Mon, Aug 8, 2016 03:30 PM	3	3	0	0	6	6
Mon, Aug 8, 2016 03:45 PM	2	0	0	0	4	4
Mon, Aug 8, 2016 04:00 PM	1	1	1	0	2	0
Mon, Aug 8, 2016 04:15 PM	1	1	1	0	0	0
Mon, Aug 8, 2016 04:30 PM	1	1	3	3	3	2
Mon, Aug 8, 2016 04:45 PM	0	0	4	3	2	2
Mon, Aug 8, 2016 05:00 PM	3	2	1	0	0	0
Mon, Aug 8, 2016 05:15 PM	5	4	0	0	1	1
Mon, Aug 8, 2016 05:30 PM	1	1	1	1	2	1
Mon, Aug 8, 2016 05:45 PM	1	1	3	2	1	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Mon, Aug 8, 2016 06:00 PM	1	1	0	0	0	0
Mon, Aug 8, 2016 06:15 PM	2	2	2	0	0	0
Mon, Aug 8, 2016 06:30 PM	0	0	1	1	0	1
Mon, Aug 8, 2016 06:45 PM	0	0	2	3	0	0
Mon, Aug 8, 2016 07:00 PM	5	5	5	5	6	4
Mon, Aug 8, 2016 07:15 PM	6	4	6	6	14	10
Mon, Aug 8, 2016 07:30 PM	8	3	6	4	6	6
Mon, Aug 8, 2016 07:45 PM	11	8	4	1	2	0
Mon, Aug 8, 2016 08:00 PM	9	3	3	1	8	1
Mon, Aug 8, 2016 08:15 PM	5	4	4	2	6	3
Mon, Aug 8, 2016 08:30 PM	3	1	0	0	10	1
Mon, Aug 8, 2016 08:45 PM	11	7	1	1	3	0
Mon, Aug 8, 2016 09:00 PM	2	2	0	0	3	0
Mon, Aug 8, 2016 09:15 PM	3	0	1	0	0	0
Mon, Aug 8, 2016 09:30 PM	3	2	0	0	0	0
Mon, Aug 8, 2016 09:45 PM	3	3	1	0	0	0
Mon, Aug 8, 2016 10:00 PM	12	10	0	0	0	0
Mon, Aug 8, 2016 10:15 PM	0	0	2	1	1	0
Mon, Aug 8, 2016 10:30 PM	1	0	1	0	0	0
Mon, Aug 8, 2016 10:45 PM	3	1	0	0	0	0
Mon, Aug 8, 2016 11:00 PM	3	0	0	0	0	0
Mon, Aug 8, 2016 11:15 PM	0	0	0	0	0	0
Mon, Aug 8, 2016 11:30 PM	0	0	0	0	0	0
Mon, Aug 8, 2016 11:45 PM	0	0	0	0	0	0
Tue, Aug 9, 2016 12:00 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 12:15 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 12:30 AM	1	1	0	0	0	0
Tue, Aug 9, 2016 12:45 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 01:00 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 01:15 AM	1	1	0	0	0	0
Tue, Aug 9, 2016 01:30 AM	2	1	0	0	0	0
Tue, Aug 9, 2016 01:45 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 02:00 AM	1	1	0	0	0	0
Tue, Aug 9, 2016 02:15 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 02:30 AM	0	0	0	0	2	0
Tue, Aug 9, 2016 02:45 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 03:00 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 03:15 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 03:30 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 03:45 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 04:00 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 04:15 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 04:30 AM	0	0	0	0	0	0
Tue, Aug 9, 2016 04:45 AM	1	0	0	0	0	0
Tue, Aug 9, 2016 05:00 AM	0	1	0	0	0	0
Tue, Aug 9, 2016 05:15 AM	1	1	4	2	2	2
Tue, Aug 9, 2016 05:30 AM	1	0	4	2	3	2
Tue, Aug 9, 2016 05:45 AM	3	1	3	0	4	0
Tue, Aug 9, 2016 06:00 AM	1	0	1	0	7	0
Tue, Aug 9, 2016 06:15 AM	3	2	10	6	5	1
Tue, Aug 9, 2016 06:30 AM	2	1	8	3	9	4
Tue, Aug 9, 2016 06:45 AM	1	1	5	1	6	2

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Tue, Aug 9, 2016 07:00 AM	4	1	6	4	6	3
Tue, Aug 9, 2016 07:15 AM	5	3	6	6	3	2
Tue, Aug 9, 2016 07:30 AM	3	3	2	2	8	3
Tue, Aug 9, 2016 07:45 AM	2	2	4	2	14	4
Tue, Aug 9, 2016 08:00 AM	6	4	5	4	9	5
Tue, Aug 9, 2016 08:15 AM	3	1	5	6	9	3
Tue, Aug 9, 2016 08:30 AM	11	5	4	3	3	3
Tue, Aug 9, 2016 08:45 AM	2	1	1	0	3	0
Tue, Aug 9, 2016 09:00 AM	1	0	9	4	11	1
Tue, Aug 9, 2016 09:15 AM	2	0	1	0	6	1
Tue, Aug 9, 2016 09:30 AM	1	2	8	6	5	0
Tue, Aug 9, 2016 09:45 AM	9	2	3	1	6	3
Tue, Aug 9, 2016 10:00 AM	6	1	4	0	2	0
Tue, Aug 9, 2016 10:15 AM	4	0	0	0	0	0
Tue, Aug 9, 2016 10:30 AM	4	0	0	0	1	1
Tue, Aug 9, 2016 10:45 AM	2	1	2	1	2	2
Tue, Aug 9, 2016 11:00 AM	7	3	4	2	4	1
Tue, Aug 9, 2016 11:15 AM	3	3	1	1	0	0
Tue, Aug 9, 2016 11:30 AM	3	1	4	3	3	2
Tue, Aug 9, 2016 11:45 AM	1	1	4	3	3	1
Tue, Aug 9, 2016 12:00 PM	1	1	0	0	3	0
Tue, Aug 9, 2016 12:15 PM	2	1	0	0	1	0
Tue, Aug 9, 2016 12:30 PM	2	1	0	0	3	3
Tue, Aug 9, 2016 12:45 PM	1	1	0	0	0	0
Tue, Aug 9, 2016 01:00 PM	1	1	0	0	0	0
Tue, Aug 9, 2016 01:15 PM	3	3	1	1	3	1
Tue, Aug 9, 2016 01:30 PM	7	4	2	2	67	30
Tue, Aug 9, 2016 01:45 PM	0	0	0	0	0	0
Tue, Aug 9, 2016 02:00 PM	0	0	2	2	2	2
Tue, Aug 9, 2016 02:15 PM	2	1	0	0	0	0
Tue, Aug 9, 2016 02:30 PM	2	2	0	0	0	0
Tue, Aug 9, 2016 02:45 PM	0	0	2	0	0	0
Tue, Aug 9, 2016 03:00 PM	1	1	5	3	0	0
Tue, Aug 9, 2016 03:15 PM	4	4	0	0	1	0
Tue, Aug 9, 2016 03:30 PM	0	0	0	0	0	0
Tue, Aug 9, 2016 03:45 PM	3	2	0	0	2	3
Tue, Aug 9, 2016 04:00 PM	6	6	0	0	0	0
Tue, Aug 9, 2016 04:15 PM	1	0	1	1	3	4
Tue, Aug 9, 2016 04:30 PM	0	0	0	0	2	2
Tue, Aug 9, 2016 04:45 PM	3	3	1	1	0	0
Tue, Aug 9, 2016 05:00 PM	4	3	3	1	7	7
Tue, Aug 9, 2016 05:15 PM	2	2	6	6	9	6
Tue, Aug 9, 2016 05:30 PM	3	2	0	0	0	0
Tue, Aug 9, 2016 05:45 PM	6	5	1	0	2	1
Tue, Aug 9, 2016 06:00 PM	1	0	0	0	0	0
Tue, Aug 9, 2016 06:15 PM	2	2	1	1	1	1
Tue, Aug 9, 2016 06:30 PM	11	10	2	2	4	4
Tue, Aug 9, 2016 06:45 PM	1	1	6	5	0	1
Tue, Aug 9, 2016 07:00 PM	5	6	4	5	9	3
Tue, Aug 9, 2016 07:15 PM	6	4	3	2	7	6
Tue, Aug 9, 2016 07:30 PM	6	2	3	2	6	3
Tue, Aug 9, 2016 07:45 PM	4	3	10	3	6	4

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Tue, Aug 9, 2016 08:00 PM	3	2	0	0	13	5
Tue, Aug 9, 2016 08:15 PM	6	6	5	3	9	4
Tue, Aug 9, 2016 08:30 PM	5	4	3	2	0	0
Tue, Aug 9, 2016 08:45 PM	7	6	0	0	0	0
Tue, Aug 9, 2016 09:00 PM	5	4	3	0	0	0
Tue, Aug 9, 2016 09:15 PM	3	1	0	0	0	0
Tue, Aug 9, 2016 09:30 PM	5	2	0	0	0	0
Tue, Aug 9, 2016 09:45 PM	2	0	2	1	0	0
Tue, Aug 9, 2016 10:00 PM	0	0	1	1	0	0
Tue, Aug 9, 2016 10:15 PM	1	1	0	0	1	0
Tue, Aug 9, 2016 10:30 PM	0	0	1	0	0	0
Tue, Aug 9, 2016 10:45 PM	1	0	0	0	0	0
Tue, Aug 9, 2016 11:00 PM	3	3	0	0	0	0
Tue, Aug 9, 2016 11:15 PM	1	0	0	0	0	0
Tue, Aug 9, 2016 11:30 PM	1	1	0	0	0	0
Tue, Aug 9, 2016 11:45 PM	3	0	0	0	0	0
Wed, Aug 10, 2016 12:00 AM	2	3	0	0	0	0
Wed, Aug 10, 2016 12:15 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 12:30 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 12:45 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 01:00 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 01:15 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 01:30 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 01:45 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 02:00 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 02:15 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 02:30 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 02:45 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 03:00 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 03:15 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 03:30 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 03:45 AM	1	1	0	0	0	0
Wed, Aug 10, 2016 04:00 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 04:15 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 04:30 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 04:45 AM	1	0	0	0	0	0
Wed, Aug 10, 2016 05:00 AM	0	0	0	0	0	0
Wed, Aug 10, 2016 05:15 AM	1	1	2	1	0	0
Wed, Aug 10, 2016 05:30 AM	1	1	1	0	2	0
Wed, Aug 10, 2016 05:45 AM	8	8	8	1	8	1
Wed, Aug 10, 2016 06:00 AM	0	0	9	2	10	4
Wed, Aug 10, 2016 06:15 AM	6	4	10	6	7	0
Wed, Aug 10, 2016 06:30 AM	2	2	8	5	5	3
Wed, Aug 10, 2016 06:45 AM	4	3	4	1	6	2
Wed, Aug 10, 2016 07:00 AM	9	5	3	2	6	3
Wed, Aug 10, 2016 07:15 AM	6	2	5	0	8	0
Wed, Aug 10, 2016 07:30 AM	2	2	8	2	8	1
Wed, Aug 10, 2016 07:45 AM	5	4	6	2	6	3
Wed, Aug 10, 2016 08:00 AM	11	0	7	3	5	1
Wed, Aug 10, 2016 08:15 AM	2	1	4	3	6	4
Wed, Aug 10, 2016 08:30 AM	14	2	7	6	11	6
Wed, Aug 10, 2016 08:45 AM	5	3	7	3	13	3

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Wed, Aug 10, 2016 09:00 AM	3	3	4	3	8	3
Wed, Aug 10, 2016 09:15 AM	3	2	5	2	5	0
Wed, Aug 10, 2016 09:30 AM	2	1	4	0	2	1
Wed, Aug 10, 2016 09:45 AM	1	1	4	2	9	4
Wed, Aug 10, 2016 10:00 AM	4	1	8	7	15	7
Wed, Aug 10, 2016 10:15 AM	8	3	4	5	8	5
Wed, Aug 10, 2016 10:30 AM	1	1	3	2	10	9
Wed, Aug 10, 2016 10:45 AM	4	2	9	9	3	1
Wed, Aug 10, 2016 11:00 AM	1	1	2	4	3	3
Wed, Aug 10, 2016 11:15 AM	4	2	4	4	1	1
Wed, Aug 10, 2016 11:30 AM	2	2	4	3	2	2
Wed, Aug 10, 2016 11:45 AM	0	0	4	3	3	1
Wed, Aug 10, 2016 12:00 PM	3	2	2	1	1	1
Wed, Aug 10, 2016 12:15 PM	2	2	1	1	0	0
Wed, Aug 10, 2016 12:30 PM	1	1	2	0	0	0
Wed, Aug 10, 2016 12:45 PM	3	1	0	0	1	0
Wed, Aug 10, 2016 01:00 PM	2	3	0	0	0	0
Wed, Aug 10, 2016 01:15 PM	1	1	3	0	1	1
Wed, Aug 10, 2016 01:30 PM	2	2	1	0	5	1
Wed, Aug 10, 2016 01:45 PM	1	1	1	0	6	1
Wed, Aug 10, 2016 02:00 PM	0	0	1	0	0	0
Wed, Aug 10, 2016 02:15 PM	0	0	1	0	0	0
Wed, Aug 10, 2016 02:30 PM	2	1	4	3	3	0
Wed, Aug 10, 2016 02:45 PM	5	1	1	0	0	0
Wed, Aug 10, 2016 03:00 PM	6	4	0	0	0	0
Wed, Aug 10, 2016 03:15 PM	9	5	1	0	0	0
Wed, Aug 10, 2016 03:30 PM	3	1	1	1	3	3
Wed, Aug 10, 2016 03:45 PM	7	2	0	0	2	2
Wed, Aug 10, 2016 04:00 PM	5	5	0	0	0	0
Wed, Aug 10, 2016 04:15 PM	6	6	0	0	0	0
Wed, Aug 10, 2016 04:30 PM	0	0	0	0	0	0
Wed, Aug 10, 2016 04:45 PM	1	1	0	0	0	0
Wed, Aug 10, 2016 05:00 PM	1	1	2	1	16	9
Wed, Aug 10, 2016 05:15 PM	5	5	2	0	5	4
Wed, Aug 10, 2016 05:30 PM	2	2	3	1	5	6
Wed, Aug 10, 2016 05:45 PM	2	2	4	0	6	3
Wed, Aug 10, 2016 06:00 PM	2	3	2	2	12	10
Wed, Aug 10, 2016 06:15 PM	3	3	1	1	2	1
Wed, Aug 10, 2016 06:30 PM	1	1	4	2	1	1
Wed, Aug 10, 2016 06:45 PM	0	0	1	0	1	0
Wed, Aug 10, 2016 07:00 PM	3	2	2	3	4	5
Wed, Aug 10, 2016 07:15 PM	2	2	3	4	7	6
Wed, Aug 10, 2016 07:30 PM	10	5	13	9	6	5
Wed, Aug 10, 2016 07:45 PM	4	2	8	3	9	2
Wed, Aug 10, 2016 08:00 PM	5	2	4	1	7	3
Wed, Aug 10, 2016 08:15 PM	4	3	1	2	2	0
Wed, Aug 10, 2016 08:30 PM	3	2	2	2	4	2
Wed, Aug 10, 2016 08:45 PM	3	3	0	0	1	0
Wed, Aug 10, 2016 09:00 PM	2	1	1	1	2	1
Wed, Aug 10, 2016 09:15 PM	6	4	1	2	2	2
Wed, Aug 10, 2016 09:30 PM	1	1	0	0	0	0
Wed, Aug 10, 2016 09:45 PM	0	0	0	0	0	0

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Wed, Aug 10, 2016 10:00 PM	0	0	1	0	3	0
Wed, Aug 10, 2016 10:15 PM	5	4	2	0	0	0
Wed, Aug 10, 2016 10:30 PM	1	1	0	0	0	0
Wed, Aug 10, 2016 10:45 PM	0	0	0	0	0	0
Wed, Aug 10, 2016 11:00 PM	1	1	0	0	0	0
Wed, Aug 10, 2016 11:15 PM	0	0	0	0	0	0
Wed, Aug 10, 2016 11:30 PM	0	0	0	0	0	0
Wed, Aug 10, 2016 11:45 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 12:00 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 12:15 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 12:30 AM	2	0	0	0	0	0
Thu, Aug 11, 2016 12:45 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 01:00 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 01:15 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 01:30 AM	1	0	0	0	0	0
Thu, Aug 11, 2016 01:45 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 02:00 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 02:15 AM	1	1	0	0	0	0
Thu, Aug 11, 2016 02:30 AM	4	0	0	0	0	0
Thu, Aug 11, 2016 02:45 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 03:00 AM	1	1	0	0	0	0
Thu, Aug 11, 2016 03:15 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 03:30 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 03:45 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 04:00 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 04:15 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 04:30 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 04:45 AM	1	1	0	0	0	0
Thu, Aug 11, 2016 05:00 AM	0	0	0	0	0	0
Thu, Aug 11, 2016 05:15 AM	1	1	4	2	1	2
Thu, Aug 11, 2016 05:30 AM	3	0	2	2	2	2
Thu, Aug 11, 2016 05:45 AM	6	1	3	0	3	0
Thu, Aug 11, 2016 06:00 AM	2	0	6	3	5	2
Thu, Aug 11, 2016 06:15 AM	3	3	7	4	6	1
Thu, Aug 11, 2016 06:30 AM	2	1	6	3	7	3
Thu, Aug 11, 2016 06:45 AM	2	2	4	1	8	2
Thu, Aug 11, 2016 07:00 AM	1	0	10	5	8	3
Thu, Aug 11, 2016 07:15 AM	7	3	5	2	2	0
Thu, Aug 11, 2016 07:30 AM	2	2	4	2	5	2
Thu, Aug 11, 2016 07:45 AM	1	0	10	2	16	6
Thu, Aug 11, 2016 08:00 AM	3	1	4	2	5	2
Thu, Aug 11, 2016 08:15 AM	3	3	6	6	7	4
Thu, Aug 11, 2016 08:30 AM	6	5	7	7	3	2
Thu, Aug 11, 2016 08:45 AM	4	3	4	2	13	6
Thu, Aug 11, 2016 09:00 AM	3	2	7	2	11	6
Thu, Aug 11, 2016 09:15 AM	2	2	3	2	8	0
Thu, Aug 11, 2016 09:30 AM	0	1	1	1	9	1
Thu, Aug 11, 2016 09:45 AM	2	0	5	5	4	3
Thu, Aug 11, 2016 10:00 AM	1	0	6	2	4	4
Thu, Aug 11, 2016 10:15 AM	4	1	0	0	1	0
Thu, Aug 11, 2016 10:30 AM	3	3	5	1	3	1
Thu, Aug 11, 2016 10:45 AM	4	2	1	0	6	4

2016 Eco-Counter Systems in Clovis, California (08/03/16 to 08/12/16)

Date	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Counter C
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
Thu, Aug 11, 2016 11:00 AM	2	1	1	1	1	1
Thu, Aug 11, 2016 11:15 AM	4	3	1	1	2	1
Thu, Aug 11, 2016 11:30 AM	2	2	2	0	1	1
Thu, Aug 11, 2016 11:45 AM	0	0	1	1	1	1
Thu, Aug 11, 2016 12:00 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 12:15 PM	0	0	1	1	2	1
Thu, Aug 11, 2016 12:30 PM	0	0	2	1	3	0
Thu, Aug 11, 2016 12:45 PM	0	0	6	2	1	0
Thu, Aug 11, 2016 01:00 PM	0	0	4	1	2	1
Thu, Aug 11, 2016 01:15 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 01:30 PM	0	0	1	0	2	0
Thu, Aug 11, 2016 01:45 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 02:00 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 02:15 PM	2	1	0	0	5	5
Thu, Aug 11, 2016 02:30 PM	0	0	0	0	8	7
Thu, Aug 11, 2016 02:45 PM	2	1	0	0	0	0
Thu, Aug 11, 2016 03:00 PM	1	0	0	0	8	6
Thu, Aug 11, 2016 03:15 PM	3	3	0	0	1	1
Thu, Aug 11, 2016 03:30 PM	2	2	0	0	0	0
Thu, Aug 11, 2016 03:45 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 04:00 PM	2	2	0	0	0	0
Thu, Aug 11, 2016 04:15 PM	2	2	2	0	0	0
Thu, Aug 11, 2016 04:30 PM	0	0	55	36	3	0
Thu, Aug 11, 2016 04:45 PM	10	4	54	37	1	0
Thu, Aug 11, 2016 05:00 PM	3	3	0	0	2	0
Thu, Aug 11, 2016 05:15 PM	1	1	1	0	0	0
Thu, Aug 11, 2016 05:30 PM	2	2	1	1	1	0
Thu, Aug 11, 2016 05:45 PM	1	1	15	4	1	2
Thu, Aug 11, 2016 06:00 PM	0	0	2	0	0	0
Thu, Aug 11, 2016 06:15 PM	2	2	2	1	1	0
Thu, Aug 11, 2016 06:30 PM	0	0	1	1	1	1
Thu, Aug 11, 2016 06:45 PM	4	4	26	16	1	1
Thu, Aug 11, 2016 07:00 PM	3	1	19	33	0	1
Thu, Aug 11, 2016 07:15 PM	0	0	1	3	4	1
Thu, Aug 11, 2016 07:30 PM	4	3	7	4	5	3
Thu, Aug 11, 2016 07:45 PM	10	7	6	2	14	9
Thu, Aug 11, 2016 08:00 PM	6	4	1	1	9	7
Thu, Aug 11, 2016 08:15 PM	3	2	1	1	5	2
Thu, Aug 11, 2016 08:30 PM	5	6	2	0	2	1
Thu, Aug 11, 2016 08:45 PM	9	6	0	0	0	0
Thu, Aug 11, 2016 09:00 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 09:15 PM	4	0	0	0	1	0
Thu, Aug 11, 2016 09:30 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 09:45 PM	0	0	1	0	0	0
Thu, Aug 11, 2016 10:00 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 10:15 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 10:30 PM	3	2	2	2	2	2
Thu, Aug 11, 2016 10:45 PM	1	0	0	0	0	0
Thu, Aug 11, 2016 11:00 PM	1	0	0	0	0	0
Thu, Aug 11, 2016 11:15 PM	0	0	0	0	0	0
Thu, Aug 11, 2016 11:30 PM	1	1	0	0	0	0
Thu, Aug 11, 2016 11:45 PM	0	0	0	0	0	0

er Systems in Clovis, California (08/03/16 to 08/12/16)

	PYRO-Box 1	TUBE Counter A	PYRO-Box 2	TUBE Counter B	PYRO-Box 3	TUBE Co
	Clovis and Sierra - Old Town Trail		Deauville Circle - Enterprise Canal		N. Gate of Basin - Enterprise Canal	
12, 2016 12:00 AM	3	1	0	0	0	0
, Aug 12, 2016 12:15 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 12:30 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 12:45 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 01:00 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 01:15 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 01:30 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 01:45 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 02:00 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 02:15 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 02:30 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 02:45 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 03:00 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 03:15 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 03:30 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 03:45 AM	0	0	2	1	0	0
Fri, Aug 12, 2016 04:00 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 04:15 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 04:30 AM	1	0	0	0	0	0
Fri, Aug 12, 2016 04:45 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 05:00 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 05:15 AM	0	0	0	0	0	0
Fri, Aug 12, 2016 05:30 AM	1	1	2	1	0	0
Fri, Aug 12, 2016 05:45 AM	1	2	0	0	0	0
Fri, Aug 12, 2016 06:00 AM	3	1	0	0	1	0
Fri, Aug 12, 2016 06:15 AM	5	3	4	1	9	0
Fri, Aug 12, 2016 06:30 AM	6	5	5	2	4	2
Fri, Aug 12, 2016 06:45 AM	1	0	8	7	3	3
Fri, Aug 12, 2016 07:00 AM	8	4	5	1	4	1
Fri, Aug 12, 2016 07:15 AM	5	3	0	0	2	1
Fri, Aug 12, 2016 07:30 AM	3	1	7	3	5	0
Fri, Aug 12, 2016 07:45 AM	6	5	7	2	8	1
Fri, Aug 12, 2016 08:00 AM	3	2	8	0	2	0
Fri, Aug 12, 2016 08:15 AM	3	1	2	1	5	3
Fri, Aug 12, 2016 08:30 AM	2	1	7	6	2	1
Fri, Aug 12, 2016 08:45 AM	6	5	6	4	3	3
Fri, Aug 12, 2016 09:00 AM	3	2	2	0	3	0
Fri, Aug 12, 2016 09:15 AM	0	1	1	0	11	3
Fri, Aug 12, 2016 09:30 AM	5	3	10	4	2	0
Fri, Aug 12, 2016 09:45 AM	5	4	4	4	8	1
Fri, Aug 12, 2016 10:00 AM	1	1	3	2	7	6
Fri, Aug 12, 2016 10:15 AM	3	1	22	14	10	7
Fri, Aug 12, 2016 10:30 AM	0	0	4	4	1	0
Fri, Aug 12, 2016 10:45 AM	1	1	6	4	1	0
Fri, Aug 12, 2016 11:00 AM	1	1	2	2	4	2
Fri, Aug 12, 2016 11:15 AM	3	3	3	2	3	2
Fri, Aug 12, 2016 11:30 AM	66	10	2	0	0	0
Fri, Aug 12, 2016 11:45 AM	0	1	0	0	0	0
Fri, Aug 12, 2016 12:00 PM	5	0	89	0	73	10
Fri, Aug 12, 2016 12:15 PM	0	0	0	3	0	0
Fri, Aug 12, 2016 12:30 PM	0	0	0	0	0	0

APPENDIX C

BASELINE INTERSECTION ANALYSIS SHEETS

Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	95	51	7	95	37	59	364	11	24	351	94
Future Volume (veh/h)	120	95	51	7	95	37	59	364	11	24	351	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	154	122	65	9	119	46	98	607	18	29	418	112
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.60	0.60	0.60	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	497	415	21	311	255	128	1251	543	58	1112	481
Arrive On Green	0.11	0.27	0.27	0.01	0.17	0.17	0.07	0.35	0.35	0.03	0.31	0.31
Sat Flow, veh/h	1774	1863	1553	1774	1863	1530	1774	3539	1536	1774	3539	1529
Grp Volume(v), veh/h	154	122	65	9	119	46	98	607	18	29	418	112
Grp Sat Flow(s),veh/h/ln	1774	1863	1553	1774	1863	1530	1774	1770	1536	1774	1770	1529
Q Serve(g_s), s	4.5	2.7	1.7	0.3	3.0	1.4	2.9	7.1	0.4	0.9	4.9	2.9
Cycle Q Clear(g_c), s	4.5	2.7	1.7	0.3	3.0	1.4	2.9	7.1	0.4	0.9	4.9	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	497	415	21	311	255	128	1251	543	58	1112	481
V/C Ratio(X)	0.78	0.25	0.16	0.43	0.38	0.18	0.77	0.49	0.03	0.50	0.38	0.23
Avail Cap(c_a), veh/h	367	1227	1023	267	1122	921	267	2412	1047	267	2412	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	15.3	14.9	26.1	19.7	19.0	24.2	13.4	11.2	25.3	14.2	13.5
Incr Delay (d2), s/veh	6.4	0.3	0.2	13.6	0.8	0.3	9.3	0.3	0.0	6.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.4	0.7	0.2	1.6	0.6	1.7	3.5	0.2	0.5	2.4	1.2
LnGrp Delay(d),s/veh	29.3	15.5	15.1	39.7	20.5	19.3	33.5	13.7	11.3	31.7	14.4	13.7
LnGrp LOS	C	B	B	D	C	B	C	B	B	C	B	B
Approach Vol, veh/h		341			174			723			559	
Approach Delay, s/veh		21.7			21.2			16.3			15.1	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	23.7	4.6	19.1	7.8	21.6	9.9	13.8
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	8.0	36.2	8.0	35.0	8.0	36.2	11.0	32.0
Max Q Clear Time (g_c+I1), s	2.9	9.1	2.3	4.7	4.9	6.9	6.5	5.0
Green Ext Time (p_c), s	0.0	8.1	0.0	1.7	0.1	8.3	0.1	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.4
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	122	65	9	119	46	98	607	18	29	418	112
v/c Ratio	0.49	0.18	0.10	0.05	0.33	0.12	0.41	0.44	0.03	0.15	0.39	0.21
Control Delay	37.8	17.5	2.0	37.3	27.7	0.6	39.8	18.9	0.1	36.6	21.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	17.5	2.0	37.3	27.7	0.6	39.8	18.9	0.1	36.6	21.8	5.9
Queue Length 50th (ft)	50	26	0	3	39	0	33	75	0	10	70	0
Queue Length 95th (ft)	#170	86	4	19	92	0	78	135	0	45	138	31
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	347	1150	1001	252	1063	926	252	2230	1005	252	2230	1006
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.11	0.06	0.04	0.11	0.05	0.39	0.27	0.02	0.12	0.19	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	12	1	1	1	16	463	1	1	394	12
Future Vol, veh/h	8	1	12	1	1	1	16	463	1	1	394	12
Conflicting Peds, #/hr	2	0	5	1	0	0	1	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	65	65	65	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	14	1	1	1	25	712	2	1	448	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	866	1221	237	994	1227	359	462	0	0	714	0	0
Stage 1	458	458	-	762	762	-	-	-	-	-	-	-
Stage 2	408	763	-	232	465	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	247	179	764	199	177	638	1095	-	-	882	-	-
Stage 1	552	565	-	363	412	-	-	-	-	-	-	-
Stage 2	591	411	-	750	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	237	172	759	187	170	637	1089	-	-	880	-	-
Mov Cap-2 Maneuver	237	172	-	187	170	-	-	-	-	-	-	-
Stage 1	530	563	-	349	396	-	-	-	-	-	-	-
Stage 2	565	395	-	729	559	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	20.6	0.4	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1089	-	-	379	234	880	-	-
HCM Lane V/C Ratio	0.023	-	-	0.063	0.015	0.001	-	-
HCM Control Delay (s)	8.4	0.1	-	15.1	20.6	9.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	64	13	27	133	115	16	297	50	100	317	11
Future Volume (veh/h)	8	64	13	27	133	115	16	297	50	100	317	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	9	72	15	31	153	132	19	358	60	122	387	13
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.83	0.83	0.83	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	216	45	62	314	263	31	600	105	190	640	22
Arrive On Green	0.01	0.14	0.14	0.04	0.17	0.17	0.20	0.20	0.20	0.23	0.23	0.23
Sat Flow, veh/h	1774	1488	310	1774	1863	1562	151	2944	517	817	2752	96
Grp Volume(v), veh/h	9	0	87	31	153	132	233	0	204	272	0	250
Grp Sat Flow(s),veh/h/ln	1774	0	1798	1774	1863	1562	1855	0	1757	1822	0	1843
Q Serve(g_s), s	0.2	0.0	2.1	0.8	3.6	3.7	5.6	0.0	5.1	6.6	0.0	5.9
Cycle Q Clear(g_c), s	0.2	0.0	2.1	0.8	3.6	3.7	5.6	0.0	5.1	6.6	0.0	5.9
Prop In Lane	1.00		0.17	1.00		1.00	0.08		0.29	0.45		0.05
Lane Grp Cap(c), veh/h	21	0	261	62	314	263	378	0	358	423	0	428
V/C Ratio(X)	0.43	0.00	0.33	0.50	0.49	0.50	0.62	0.00	0.57	0.64	0.00	0.58
Avail Cap(c_a), veh/h	291	0	926	291	959	804	921	0	872	897	0	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	18.7	23.1	18.4	18.4	17.7	0.0	17.5	16.9	0.0	16.6
Incr Delay (d2), s/veh	13.4	0.0	0.7	6.0	1.2	1.5	1.6	0.0	1.4	1.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.1	0.5	2.0	1.7	3.0	0.0	2.6	3.4	0.0	3.1
LnGrp Delay(d),s/veh	37.3	0.0	19.5	29.1	19.5	19.9	19.3	0.0	18.9	18.5	0.0	17.9
LnGrp LOS	D		B	C	B	B	B		B	B		B
Approach Vol, veh/h		96			316			437			522	
Approach Delay, s/veh		21.1			20.6			19.1			18.2	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		14.8	5.7	12.0		16.2	4.6	13.1
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.2	8.0	25.1		24.0	8.0	25.1
Max Q Clear Time (g_c+I1), s		7.6	2.8	4.1		8.6	2.2	5.7
Green Ext Time (p_c), s		2.3	0.0	1.8		2.7	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	9	87	31	153	132	437	522
v/c Ratio	0.05	0.25	0.15	0.37	0.29	0.53	0.58
Control Delay	36.0	25.1	35.3	25.8	7.2	24.9	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	25.1	35.3	25.8	7.2	24.9	25.2
Queue Length 50th (ft)	3	21	9	44	0	61	72
Queue Length 95th (ft)	21	78	46	130	41	154	186
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	254	821	254	840	777	1509	1503
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.11	0.12	0.18	0.17	0.29	0.35

Intersection Summary

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	159	70	63	233	49	65
Future Vol, veh/h	159	70	63	233	49	65
Conflicting Peds, #/hr	0	10	0	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	82	82	54	54
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	177	78	77	284	91	120

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	264	0	666	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1300	-	425	813
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	649	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1300	-	395	804
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	556	-	-	1300	-
HCM Lane V/C Ratio	0.38	-	-	0.059	-
HCM Control Delay (s)	15.4	-	-	7.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.8	-	-	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	5	17	11	6	20	8	332	13	5	335	11
Future Volume (veh/h)	10	5	17	11	6	20	8	332	13	5	335	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	11	6	19	12	7	23	10	415	16	5	364	12
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	29	74	173	29	77	20	846	34	11	804	28
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	417	334	840	395	326	874	80	3472	140	46	3531	122
Grp Volume(v), veh/h	36	0	0	42	0	0	232	0	209	200	0	181
Grp Sat Flow(s),veh/h/ln	1591	0	0	1595	0	0	1859	0	1834	1860	0	1840
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	3.6	0.0	3.2	3.1	0.0	2.8
Cycle Q Clear(g_c), s	0.6	0.0	0.0	0.8	0.0	0.0	3.6	0.0	3.2	3.1	0.0	2.8
Prop In Lane	0.31		0.53	0.29		0.55	0.04		0.08	0.02		0.07
Lane Grp Cap(c), veh/h	281	0	0	279	0	0	453	0	447	424	0	419
V/C Ratio(X)	0.13	0.00	0.00	0.15	0.00	0.00	0.51	0.00	0.47	0.47	0.00	0.43
Avail Cap(c_a), veh/h	1161	0	0	1169	0	0	1509	0	1489	1455	0	1439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	0.0	14.2	0.0	0.0	10.9	0.0	10.8	11.2	0.0	11.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.9	0.0	0.8	0.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.4	0.0	0.0	1.9	0.0	1.7	1.7	0.0	1.5
LnGrp Delay(d),s/veh	14.4	0.0	0.0	14.5	0.0	0.0	11.8	0.0	11.5	12.0	0.0	11.7
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h		36			42			441			381	
Approach Delay, s/veh		14.4			14.5			11.7			11.9	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		13.0		7.8		12.5		7.8
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.1		22.1		26.1		22.1
Max Q Clear Time (g_c+I1), s		5.6		2.6		5.1		2.8
Green Ext Time (p_c), s		2.5		0.3		2.1		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	36	43	441	381
v/c Ratio	0.11	0.13	0.40	0.37
Control Delay	14.7	14.3	15.5	15.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.7	14.3	15.5	15.7
Queue Length 50th (ft)	2	3	25	22
Queue Length 95th (ft)	30	34	127	127
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	979	984	2657	2611
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.17	0.15

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	176	17	109	229	43	64	300	77	28	306	22
Future Volume (veh/h)	23	176	17	109	229	43	64	300	77	28	306	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	27	210	20	151	318	60	96	448	115	31	340	24
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.84	0.84	0.84	0.72	0.72	0.72	0.67	0.67	0.67	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	324	31	191	414	78	127	614	166	47	536	40
Arrive On Green	0.03	0.19	0.19	0.11	0.27	0.27	0.26	0.26	0.26	0.17	0.17	0.17
Sat Flow, veh/h	1774	1674	159	1774	1523	287	496	2405	649	275	3153	233
Grp Volume(v), veh/h	27	0	230	151	0	378	356	0	303	208	0	187
Grp Sat Flow(s),veh/h/ln	1774	0	1833	1774	0	1811	1838	0	1712	1849	0	1812
Q Serve(g_s), s	1.0	0.0	7.9	5.7	0.0	13.1	12.2	0.0	11.0	7.2	0.0	6.5
Cycle Q Clear(g_c), s	1.0	0.0	7.9	5.7	0.0	13.1	12.2	0.0	11.0	7.2	0.0	6.5
Prop In Lane	1.00		0.09	1.00		0.16	0.27		0.38	0.15		0.13
Lane Grp Cap(c), veh/h	52	0	355	191	0	492	469	0	437	314	0	308
V/C Ratio(X)	0.52	0.00	0.65	0.79	0.00	0.77	0.76	0.00	0.69	0.66	0.00	0.61
Avail Cap(c_a), veh/h	208	0	539	311	0	638	624	0	581	703	0	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	25.4	29.7	0.0	22.9	23.5	0.0	23.0	26.5	0.0	26.3
Incr Delay (d2), s/veh	7.8	0.0	2.0	7.1	0.0	4.2	3.8	0.0	2.3	2.4	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.2	3.1	0.0	7.1	6.6	0.0	5.4	3.9	0.0	3.4
LnGrp Delay(d),s/veh	40.5	0.0	27.4	36.8	0.0	27.1	27.3	0.0	25.4	28.9	0.0	28.2
LnGrp LOS	D		C	D		C	C		C	C		C
Approach Vol, veh/h		257			529			659			395	
Approach Delay, s/veh		28.8			29.9			26.4			28.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.4	11.4	18.1		16.5	6.0	23.5
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	12.0	20.1		26.0	8.0	24.1
Max Q Clear Time (g_c+I1), s		14.2	7.7	9.9		9.2	3.0	15.1
Green Ext Time (p_c), s		2.7	0.1	2.8		2.0	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	28.2
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	27	230	151	378	659	395
v/c Ratio	0.18	0.66	0.63	0.64	0.76	0.59
Control Delay	43.0	42.1	50.0	32.6	35.5	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	42.1	50.0	32.6	35.5	34.2
Queue Length 50th (ft)	14	111	75	149	158	100
Queue Length 95th (ft)	41	195	126	251	184	154
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	179	471	269	610	1018	1155
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.49	0.56	0.62	0.65	0.34

Intersection Summary

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	223	22	38	263	83	13	18	60	26	11	104
Future Vol, veh/h	53	223	22	38	263	83	13	18	60	26	11	104
Conflicting Peds, #/hr	5	0	85	1	0	1	42	0	2	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	81	81	81	53	53	53	62	62	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	323	32	47	325	102	25	34	113	42	18	168

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	432	0	0	440	0	0	1099	1104	435	1052	1069	423
Stage 1	-	-	-	-	-	-	578	578	-	475	475	-
Stage 2	-	-	-	-	-	-	521	526	-	577	594	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1128	-	-	1120	-	-	190	211	621	204	221	631
Stage 1	-	-	-	-	-	-	501	501	-	570	557	-
Stage 2	-	-	-	-	-	-	539	529	-	502	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1075	-	-	1106	-	-	100	169	555	124	177	598
Mov Cap-2 Maneuver	-	-	-	-	-	-	100	169	-	124	177	-
Stage 1	-	-	-	-	-	-	421	421	-	526	530	-
Stage 2	-	-	-	-	-	-	342	504	-	337	414	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.8	40.9	23.2
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	264	1075	-	-	1106	-	-	136	598
HCM Lane V/C Ratio	0.65	0.071	-	-	0.042	-	-	0.439	0.281
HCM Control Delay (s)	40.9	8.6	-	-	8.4	-	-	50.7	13.4
HCM Lane LOS	E	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	4.1	0.2	-	-	0.1	-	-	1.9	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	88	83	11	55	23	55	648	15	60	482	140
Future Volume (veh/h)	144	88	83	11	55	23	55	648	15	60	482	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	173	106	100	14	69	29	62	728	17	62	502	146
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.80	0.80	0.80	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	416	346	31	214	178	98	1358	588	98	1358	592
Arrive On Green	0.13	0.22	0.22	0.02	0.11	0.11	0.06	0.38	0.38	0.06	0.38	0.38
Sat Flow, veh/h	1774	1863	1549	1774	1863	1547	1774	3539	1532	1774	3539	1544
Grp Volume(v), veh/h	173	106	100	14	69	29	62	728	17	62	502	146
Grp Sat Flow(s),veh/h/ln	1774	1863	1549	1774	1863	1547	1774	1770	1532	1774	1770	1544
Q Serve(g_s), s	5.3	2.6	3.0	0.4	1.9	0.9	1.9	8.9	0.4	1.9	5.7	3.6
Cycle Q Clear(g_c), s	5.3	2.6	3.0	0.4	1.9	0.9	1.9	8.9	0.4	1.9	5.7	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	416	346	31	214	178	98	1358	588	98	1358	592
V/C Ratio(X)	0.77	0.25	0.29	0.45	0.32	0.16	0.63	0.54	0.03	0.63	0.37	0.25
Avail Cap(c_a), veh/h	479	1139	947	255	904	751	255	2304	997	287	2368	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	17.8	17.9	27.1	22.6	22.2	25.7	13.3	10.7	25.7	12.3	11.7
Incr Delay (d2), s/veh	5.7	0.3	0.5	9.9	0.9	0.4	6.5	0.3	0.0	6.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	1.4	1.3	0.3	1.0	0.4	1.1	4.3	0.2	1.1	2.8	1.5
LnGrp Delay(d),s/veh	29.2	18.1	18.4	37.0	23.5	22.6	32.2	13.6	10.7	32.2	12.5	11.9
LnGrp LOS	C	B	B	D	C	C	C	B	B	C	B	B
Approach Vol, veh/h		379			112			807			710	
Approach Delay, s/veh		23.3			24.9			15.0			14.1	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	26.2	5.0	17.3	7.1	26.2	11.0	11.3
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	9.0	36.2	8.0	34.0	8.0	37.2	15.0	27.0
Max Q Clear Time (g_c+I1), s	3.9	10.9	2.4	5.0	3.9	7.7	7.3	3.9
Green Ext Time (p_c), s	0.0	9.9	0.0	1.4	0.0	10.5	0.3	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	106	100	14	69	29	62	728	17	63	502	146
v/c Ratio	0.49	0.18	0.17	0.07	0.27	0.09	0.28	0.55	0.03	0.27	0.38	0.22
Control Delay	31.6	19.6	6.2	33.6	32.2	0.5	34.7	20.2	0.1	33.8	17.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	19.6	6.2	33.6	32.2	0.5	34.7	20.2	0.1	33.8	17.8	4.6
Queue Length 50th (ft)	65	29	0	5	27	0	24	136	0	24	86	0
Queue Length 95th (ft)	132	80	29	22	62	0	68	211	0	68	140	35
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	479	1143	997	255	907	832	255	2266	1030	287	2309	1061
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.09	0.10	0.05	0.08	0.03	0.24	0.32	0.02	0.22	0.22	0.14

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	11	1	1	1	18	706	2	1	545	18
Future Vol, veh/h	10	1	11	1	1	1	18	706	2	1	545	18
Conflicting Peds, #/hr	4	0	1	3	0	1	1	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	92	92	92	92	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	13	1	1	1	20	767	2	1	556	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	995	1378	291	1093	1387	390	575	0	0	771	0	0
Stage 1	568	568	-	809	809	-	-	-	-	-	-	-
Stage 2	427	810	-	284	578	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	199	144	706	169	142	609	994	-	-	840	-	-
Stage 1	475	505	-	340	392	-	-	-	-	-	-	-
Stage 2	576	391	-	699	499	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	191	138	703	160	136	606	991	-	-	836	-	-
Mov Cap-2 Maneuver	191	138	-	160	136	-	-	-	-	-	-	-
Stage 1	458	503	-	328	378	-	-	-	-	-	-	-
Stage 2	551	377	-	681	497	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.4	23.6	0.3	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	991	-	-	293	197	836	-	-
HCM Lane V/C Ratio	0.02	-	-	0.085	0.017	0.001	-	-
HCM Control Delay (s)	8.7	0.1	-	18.4	23.6	9.3	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	79	25	31	97	140	13	555	29	89	450	18
Future Volume (veh/h)	25	79	25	31	97	140	13	555	29	89	450	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	29	93	29	124	111	161	15	624	33	95	479	19
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.85	0.85	0.85	0.25	0.87	0.87	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	182	57	159	359	299	20	882	49	129	686	28
Arrive On Green	0.03	0.13	0.13	0.09	0.19	0.19	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	1774	1355	422	1774	1863	1553	79	3412	190	562	2987	123
Grp Volume(v), veh/h	29	0	122	124	111	161	355	0	317	310	0	283
Grp Sat Flow(s),veh/h/ln	1774	0	1777	1774	1863	1553	1859	0	1821	1835	0	1838
Q Serve(g_s), s	1.0	0.0	4.1	4.4	3.3	6.1	11.4	0.0	10.2	10.2	0.0	9.1
Cycle Q Clear(g_c), s	1.0	0.0	4.1	4.4	3.3	6.1	11.4	0.0	10.2	10.2	0.0	9.1
Prop In Lane	1.00		0.24	1.00		1.00	0.04		0.10	0.31		0.07
Lane Grp Cap(c), veh/h	56	0	239	159	359	299	480	0	471	421	0	422
V/C Ratio(X)	0.52	0.00	0.51	0.78	0.31	0.54	0.74	0.00	0.67	0.74	0.00	0.67
Avail Cap(c_a), veh/h	218	0	629	273	717	597	695	0	681	678	0	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.0	0.0	26.1	28.9	22.5	23.6	22.1	0.0	21.6	23.2	0.0	22.8
Incr Delay (d2), s/veh	7.4	0.0	1.7	7.9	0.5	1.5	2.4	0.0	1.7	2.5	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.1	2.5	1.7	2.7	6.1	0.0	5.3	5.5	0.0	4.9
LnGrp Delay(d),s/veh	38.4	0.0	27.8	36.9	23.0	25.1	24.5	0.0	23.3	25.7	0.0	24.6
LnGrp LOS	D		C	D	C	C	C		C	C		C
Approach Vol, veh/h		151			396			672			593	
Approach Delay, s/veh		29.8			28.2			23.9			25.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.7	9.8	13.6		19.8	6.0	17.4
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.3	10.0	23.0		24.0	8.0	25.0
Max Q Clear Time (g_c+I1), s		13.4	6.4	6.1		12.2	3.0	8.1
Green Ext Time (p_c), s		3.0	0.1	1.8		2.7	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	25.8
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	29	122	124	111	161	672	593
v/c Ratio	0.18	0.47	0.55	0.27	0.34	0.71	0.67
Control Delay	40.1	36.8	46.9	30.4	8.2	31.3	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	36.8	46.9	30.4	8.2	31.3	31.4
Queue Length 50th (ft)	14	51	60	41	0	160	142
Queue Length 95th (ft)	40	103	33	102	47	246	218
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	197	583	246	648	646	1188	1168
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.21	0.50	0.17	0.25	0.57	0.51

Intersection Summary

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	183	20	22	198	48	25
Future Vol, veh/h	183	20	22	198	48	25
Conflicting Peds, #/hr	0	4	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	92	92	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	201	22	24	215	55	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	227	0	479	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	-	-	4.12	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1341	-	497	824
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	742	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1341	-	488	820
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	729	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1341	-
HCM Lane V/C Ratio	0.148	-	-	0.018	-
HCM Control Delay (s)	12.4	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1	46	11	4	16	17	526	16	9	479	33
Future Volume (veh/h)	30	1	46	11	4	16	17	526	16	9	479	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	34	1	52	12	5	18	18	560	17	10	526	36
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	12	92	149	43	85	33	1058	34	16	865	62
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.30	0.30	0.30	0.26	0.26	0.26
Sat Flow, veh/h	492	119	909	376	421	844	107	3475	111	61	3368	242
Grp Volume(v), veh/h	87	0	0	35	0	0	313	0	282	303	0	269
Grp Sat Flow(s),veh/h/ln	1520	0	0	1641	0	0	1857	0	1835	1860	0	1812
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	6.1	0.0	5.5	6.3	0.0	5.6
Cycle Q Clear(g_c), s	2.3	0.0	0.0	0.8	0.0	0.0	6.1	0.0	5.5	6.3	0.0	5.6
Prop In Lane	0.39		0.60	0.34		0.51	0.06		0.06	0.03		0.13
Lane Grp Cap(c), veh/h	269	0	0	277	0	0	565	0	559	478	0	465
V/C Ratio(X)	0.32	0.00	0.00	0.13	0.00	0.00	0.55	0.00	0.50	0.63	0.00	0.58
Avail Cap(c_a), veh/h	1004	0	0	1030	0	0	1161	0	1147	944	0	920
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	0.0	18.0	0.0	0.0	12.7	0.0	12.4	14.4	0.0	14.1
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.2	0.0	0.0	0.8	0.0	0.7	1.4	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.4	0.0	0.0	3.3	0.0	2.9	3.4	0.0	2.9
LnGrp Delay(d),s/veh	19.3	0.0	0.0	18.2	0.0	0.0	13.5	0.0	13.1	15.7	0.0	15.3
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h		87			35			595			572	
Approach Delay, s/veh		19.3			18.2			13.3			15.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		18.1		9.3		16.1		9.3
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.2		26.0		22.1		26.0
Max Q Clear Time (g_c+I1), s		8.1		4.3		8.3		2.8
Green Ext Time (p_c), s		3.3		0.6		2.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	87	36	595	572
v/c Ratio	0.33	0.15	0.55	0.55
Control Delay	16.5	17.7	18.2	18.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.5	17.7	18.2	18.4
Queue Length 50th (ft)	10	5	78	76
Queue Length 95th (ft)	48	29	155	147
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	851	860	2096	1701
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.04	0.28	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	250	44	65	176	43	75	475	52	56	397	72
Future Volume (veh/h)	62	250	44	65	176	43	75	475	52	56	397	72
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	63	255	45	76	207	51	83	528	58	65	462	84
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.85	0.85	0.85	0.90	0.90	0.90	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	340	60	98	327	81	104	693	80	86	635	121
Arrive On Green	0.05	0.22	0.22	0.06	0.23	0.23	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	1774	1538	271	1774	1438	354	431	2871	330	367	2712	518
Grp Volume(v), veh/h	63	0	300	76	0	258	354	0	315	327	0	284
Grp Sat Flow(s),veh/h/ln	1774	0	1810	1774	0	1792	1841	0	1791	1844	0	1753
Q Serve(g_s), s	2.6	0.0	11.7	3.2	0.0	9.8	13.6	0.0	12.2	12.4	0.0	11.2
Cycle Q Clear(g_c), s	2.6	0.0	11.7	3.2	0.0	9.8	13.6	0.0	12.2	12.4	0.0	11.2
Prop In Lane	1.00		0.15	1.00		0.20	0.23		0.18	0.20		0.30
Lane Grp Cap(c), veh/h	86	0	400	98	0	408	445	0	433	432	0	410
V/C Ratio(X)	0.73	0.00	0.75	0.78	0.00	0.63	0.80	0.00	0.73	0.76	0.00	0.69
Avail Cap(c_a), veh/h	188	0	577	188	0	571	567	0	552	639	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	27.4	35.1	0.0	26.2	26.8	0.0	26.3	26.8	0.0	26.4
Incr Delay (d2), s/veh	11.2	0.0	3.2	12.3	0.0	1.6	6.1	0.0	3.5	2.9	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	6.2	1.9	0.0	5.0	7.6	0.0	6.5	6.6	0.0	5.6
LnGrp Delay(d),s/veh	46.5	0.0	30.6	47.4	0.0	27.9	33.0	0.0	29.8	29.8	0.0	28.5
LnGrp LOS	D		C	D		C	C		C	C		C
Approach Vol, veh/h		363			334			669			611	
Approach Delay, s/veh		33.4			32.3			31.5			29.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.1	8.2	21.5		22.5	7.7	22.0
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	8.0	24.0		26.1	8.0	24.0
Max Q Clear Time (g_c+I1), s		15.6	5.2	13.7		14.4	4.6	11.8
Green Ext Time (p_c), s		2.4	0.0	2.6		2.8	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	31.3
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	63	300	76	258	669	611
v/c Ratio	0.42	0.75	0.49	0.64	0.80	0.82
Control Delay	51.9	45.7	54.6	39.6	41.2	41.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	45.7	54.6	39.6	41.2	41.6
Queue Length 50th (ft)	38	170	46	139	201	179
Queue Length 95th (ft)	82	264	89	206	#297	#244
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	170	530	170	529	974	878
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.57	0.45	0.49	0.69	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	325	3	23	247	20	1	1	10	23	8	51
Future Vol, veh/h	32	325	3	23	247	20	1	1	10	23	8	51
Conflicting Peds, #/hr	3	0	0	0	0	0	0	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	83	83	83	88	88	88	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	365	3	28	298	24	1	1	11	29	10	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	325	0	0	369	0	0	809	819	370	816	808	313
Stage 1	-	-	-	-	-	-	439	439	-	368	368	-
Stage 2	-	-	-	-	-	-	370	380	-	448	440	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1235	-	-	1190	-	-	299	310	676	296	315	727
Stage 1	-	-	-	-	-	-	597	578	-	652	621	-
Stage 2	-	-	-	-	-	-	650	614	-	590	578	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1235	-	-	1186	-	-	255	293	674	277	298	725
Mov Cap-2 Maneuver	-	-	-	-	-	-	255	293	-	277	298	-
Stage 1	-	-	-	-	-	-	580	561	-	631	604	-
Stage 2	-	-	-	-	-	-	568	598	-	560	561	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.6	11.8	14
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	541	1235	-	-	1186	-	-	282	725
HCM Lane V/C Ratio	0.025	0.029	-	-	0.023	-	-	0.139	0.089
HCM Control Delay (s)	11.8	8	-	-	8.1	-	-	19.8	10.5
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-	-	0.5	0.3

2039 No-Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	109	146	9	119	47	116	523	13	30	529	128
Future Volume (veh/h)	151	109	146	9	119	47	116	523	13	30	529	128
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	194	140	187	11	149	59	193	872	22	36	630	152
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.60	0.60	0.60	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	534	446	24	314	258	193	1494	650	63	1234	534
Arrive On Green	0.13	0.29	0.29	0.01	0.17	0.17	0.11	0.42	0.42	0.04	0.35	0.35
Sat Flow, veh/h	1774	1863	1554	1774	1863	1530	1774	3539	1539	1774	3539	1532
Grp Volume(v), veh/h	194	140	187	11	149	59	193	872	22	36	630	152
Grp Sat Flow(s),veh/h/ln	1774	1863	1554	1774	1863	1530	1774	1770	1539	1774	1770	1532
Q Serve(g_s), s	7.8	4.3	7.2	0.5	5.3	2.5	8.0	13.9	0.6	1.5	10.4	5.3
Cycle Q Clear(g_c), s	7.8	4.3	7.2	0.5	5.3	2.5	8.0	13.9	0.6	1.5	10.4	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	534	446	24	314	258	193	1494	650	63	1234	534
V/C Ratio(X)	0.83	0.26	0.42	0.45	0.48	0.23	1.00	0.58	0.03	0.57	0.51	0.28
Avail Cap(c_a), veh/h	265	887	740	193	811	666	193	1743	758	193	1743	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	20.2	21.3	36.0	27.6	26.4	32.8	16.3	12.5	34.9	19.0	17.3
Incr Delay (d2), s/veh	17.5	0.3	0.6	12.6	1.1	0.4	64.7	0.4	0.0	8.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	2.2	3.2	0.3	2.8	1.1	7.3	6.9	0.3	0.9	5.1	2.3
LnGrp Delay(d),s/veh	48.6	20.5	21.9	48.6	28.8	26.9	97.5	16.7	12.5	42.9	19.3	17.6
LnGrp LOS	D	C	C	D	C	C	F	B	B	D	B	B
Approach Vol, veh/h		521			219			1087			818	
Approach Delay, s/veh		31.4			29.3			30.9			20.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	35.9	5.0	26.0	12.0	30.5	13.7	17.3
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	8.0	36.2	8.0	35.0	8.0	36.2	11.0	32.0
Max Q Clear Time (g_c+I1), s	3.5	15.9	2.5	9.2	10.0	12.4	9.8	7.3
Green Ext Time (p_c), s	0.0	11.1	0.0	2.5	0.0	12.1	0.1	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	194	140	187	11	149	59	193	872	22	36	630	152
v/c Ratio	0.71	0.20	0.27	0.07	0.44	0.16	0.98	0.64	0.03	0.22	0.59	0.28
Control Delay	51.2	20.0	4.7	40.8	32.2	2.2	99.4	23.5	0.1	41.1	24.7	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	20.0	4.7	40.8	32.2	2.2	99.4	23.5	0.1	41.1	24.7	8.1
Queue Length 50th (ft)	84	42	0	5	62	0	88	175	0	15	118	10
Queue Length 95th (ft)	#229	98	29	22	112	1	#180	198	0	52	211	51
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	272	912	858	197	832	747	197	1789	827	197	1789	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.15	0.22	0.06	0.18	0.08	0.98	0.49	0.03	0.18	0.35	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	15	1	1	1	20	627	1	1	662	15
Future Vol, veh/h	10	1	15	1	1	1	20	627	1	1	662	15
Conflicting Peds, #/hr	2	0	5	1	0	0	1	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	65	65	65	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	17	1	1	1	31	965	2	1	752	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1310	1792	391	1411	1800	485	770	0	0	966	0	0
Stage 1	764	764	-	1027	1027	-	-	-	-	-	-	-
Stage 2	546	1028	-	384	773	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	117	80	608	98	79	528	840	-	-	709	-	-
Stage 1	362	411	-	251	310	-	-	-	-	-	-	-
Stage 2	490	310	-	611	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	108	73	604	88	72	527	835	-	-	707	-	-
Mov Cap-2 Maneuver	108	73	-	88	72	-	-	-	-	-	-	-
Stage 1	333	410	-	231	285	-	-	-	-	-	-	-
Stage 2	447	285	-	588	406	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.3	38.8	0.7	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	835	-	-	198	110	707	-	-
HCM Lane V/C Ratio	0.037	-	-	0.149	0.031	0.002	-	-
HCM Control Delay (s)	9.5	0.4	-	26.3	38.8	10.1	0	-
HCM Lane LOS	A	A	-	D	E	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	80	13	34	169	181	20	435	61	158	513	26
Future Volume (veh/h)	21	80	13	34	169	181	20	435	61	158	513	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	24	90	15	39	194	208	24	524	73	193	626	32
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.83	0.83	0.83	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	281	47	67	358	300	31	708	104	230	790	42
Arrive On Green	0.03	0.18	0.18	0.04	0.19	0.19	0.23	0.23	0.23	0.29	0.29	0.29
Sat Flow, veh/h	1774	1551	259	1774	1863	1563	134	3046	447	792	2720	144
Grp Volume(v), veh/h	24	0	105	39	194	208	331	0	290	444	0	407
Grp Sat Flow(s),veh/h/ln	1774	0	1810	1774	1863	1563	1856	0	1771	1823	0	1833
Q Serve(g_s), s	1.0	0.0	3.6	1.6	6.8	9.0	12.1	0.0	10.8	16.5	0.0	14.6
Cycle Q Clear(g_c), s	1.0	0.0	3.6	1.6	6.8	9.0	12.1	0.0	10.8	16.5	0.0	14.6
Prop In Lane	1.00		0.14	1.00		1.00	0.07		0.25	0.43		0.08
Lane Grp Cap(c), veh/h	47	0	327	67	358	300	431	0	412	530	0	533
V/C Ratio(X)	0.51	0.00	0.32	0.59	0.54	0.69	0.77	0.00	0.70	0.84	0.00	0.76
Avail Cap(c_a), veh/h	196	0	628	196	647	543	621	0	593	605	0	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	25.7	34.2	26.3	27.2	25.9	0.0	25.5	24.1	0.0	23.4
Incr Delay (d2), s/veh	8.4	0.0	0.6	7.9	1.3	2.9	3.6	0.0	2.2	9.2	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.9	0.9	3.6	4.1	6.6	0.0	5.6	9.6	0.0	8.1
LnGrp Delay(d),s/veh	43.1	0.0	26.3	42.1	27.6	30.1	29.5	0.0	27.7	33.2	0.0	28.4
LnGrp LOS	D		C	D	C	C	C		C	C		C
Approach Vol, veh/h		129			441			621			851	
Approach Delay, s/veh		29.4			30.1			28.7			30.9	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		21.7	6.7	18.0		25.9	5.9	18.8
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.2	8.0	25.1		24.0	8.0	25.1
Max Q Clear Time (g_c+I1), s		14.1	3.6	5.6		18.5	3.0	11.0
Green Ext Time (p_c), s		2.7	0.0	2.5		2.4	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	29.9
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	24	105	39	194	208	621	851
v/c Ratio	0.16	0.33	0.25	0.51	0.44	0.73	0.78
Control Delay	42.4	31.4	43.4	34.7	8.9	34.1	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	31.4	43.4	34.7	8.9	34.1	34.2
Queue Length 50th (ft)	11	45	18	79	4	144	203
Queue Length 95th (ft)	40	93	55	164	56	226	#361
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	185	603	185	612	645	1106	1095
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.17	0.21	0.32	0.32	0.56	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	88	79	293	62	79
Future Vol, veh/h	200	88	79	293	62	79
Conflicting Peds, #/hr	0	10	0	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	82	82	54	54
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	222	98	96	357	115	146

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	330	0	833	281
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	552	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1229	-	339	758
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1229	-	308	750
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	531	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	460	-	-	1229	-
HCM Lane V/C Ratio	0.568	-	-	0.078	-
HCM Control Delay (s)	22.6	-	-	8.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.5	-	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	6	21	14	8	25	10	457	16	6	542	14
Future Volume (veh/h)	13	6	21	14	8	25	10	457	16	6	542	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	15	7	24	16	9	28	12	571	20	7	589	15
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	34	76	144	35	77	20	970	36	12	1018	27
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.28	0.28	0.28	0.29	0.29	0.29
Sat Flow, veh/h	388	370	827	366	386	842	70	3497	129	41	3570	95
Grp Volume(v), veh/h	46	0	0	53	0	0	317	0	286	321	0	290
Grp Sat Flow(s),veh/h/ln	1585	0	0	1594	0	0	1859	0	1836	1861	0	1845
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	6.3	0.0	5.7	6.3	0.0	5.7
Cycle Q Clear(g_c), s	1.1	0.0	0.0	1.2	0.0	0.0	6.3	0.0	5.7	6.3	0.0	5.7
Prop In Lane	0.33		0.52	0.30		0.53	0.04		0.07	0.02		0.05
Lane Grp Cap(c), veh/h	257	0	0	256	0	0	516	0	509	531	0	526
V/C Ratio(X)	0.18	0.00	0.00	0.21	0.00	0.00	0.62	0.00	0.56	0.60	0.00	0.55
Avail Cap(c_a), veh/h	909	0	0	918	0	0	1186	0	1171	1143	0	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	0.0	18.1	0.0	0.0	13.4	0.0	13.1	13.1	0.0	12.9
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	1.2	0.0	1.0	1.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.6	0.0	0.0	3.3	0.0	3.0	3.4	0.0	3.0
LnGrp Delay(d),s/veh	18.4	0.0	0.0	18.5	0.0	0.0	14.6	0.0	14.1	14.2	0.0	13.8
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h		46			53			603			611	
Approach Delay, s/veh		18.4			18.5			14.4			14.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		16.7		8.8		17.0		8.8
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.1		22.1		26.1		22.1
Max Q Clear Time (g_c+I1), s		8.3		3.1		8.3		3.2
Green Ext Time (p_c), s		3.4		0.4		3.4		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	46	53	604	611
v/c Ratio	0.17	0.19	0.54	0.55
Control Delay	17.1	16.8	19.3	19.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.1	16.8	19.3	19.4
Queue Length 50th (ft)	6	7	81	82
Queue Length 95th (ft)	36	39	176	210
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	762	774	2164	2086
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.07	0.28	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	222	24	129	255	59	68	389	94	41	505	34
Future Volume (veh/h)	38	222	24	129	255	59	68	389	94	41	505	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	45	264	29	179	354	82	101	581	140	46	561	38
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.84	0.84	0.84	0.72	0.72	0.72	0.67	0.67	0.67	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	313	34	213	398	92	108	643	163	57	721	51
Arrive On Green	0.04	0.19	0.19	0.12	0.27	0.27	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	1774	1648	181	1774	1462	339	418	2502	636	250	3188	226
Grp Volume(v), veh/h	45	0	293	179	0	436	445	0	377	341	0	304
Grp Sat Flow(s),veh/h/ln	1774	0	1829	1774	0	1801	1842	0	1715	1850	0	1814
Q Serve(g_s), s	2.3	0.0	14.0	8.9	0.0	21.0	21.3	0.0	18.9	15.8	0.0	14.1
Cycle Q Clear(g_c), s	2.3	0.0	14.0	8.9	0.0	21.0	21.3	0.0	18.9	15.8	0.0	14.1
Prop In Lane	1.00		0.10	1.00		0.19	0.23		0.37	0.14		0.12
Lane Grp Cap(c), veh/h	66	0	347	213	0	491	473	0	441	418	0	410
V/C Ratio(X)	0.68	0.00	0.84	0.84	0.00	0.89	0.94	0.00	0.86	0.81	0.00	0.74
Avail Cap(c_a), veh/h	157	0	407	236	0	491	473	0	441	533	0	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.9	0.0	35.3	38.9	0.0	31.5	32.8	0.0	32.0	33.1	0.0	32.5
Incr Delay (d2), s/veh	11.4	0.0	13.3	21.3	0.0	17.9	26.9	0.0	15.3	7.5	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	8.3	5.6	0.0	12.8	14.4	0.0	10.8	8.9	0.0	7.5
LnGrp Delay(d),s/veh	54.3	0.0	48.5	60.2	0.0	49.4	59.7	0.0	47.2	40.6	0.0	36.7
LnGrp LOS	D		D	E		D	E		D	D		D
Approach Vol, veh/h		338			615			822			645	
Approach Delay, s/veh		49.3			52.5			54.0			38.8	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		28.1	14.8	22.0		25.3	7.4	29.5
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	12.0	20.1		26.0	8.0	24.1
Max Q Clear Time (g_c+I1), s		23.3	10.9	16.0		17.8	4.3	23.0
Green Ext Time (p_c), s		0.0	0.1	1.1		2.4	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	48.9
HCM 2010 LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	45	293	179	436	822	645
v/c Ratio	0.33	0.83	0.82	0.83	0.95	0.78
Control Delay	50.2	56.5	70.4	48.6	57.5	40.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	56.5	70.4	48.6	57.5	40.9
Queue Length 50th (ft)	27	170	110	262	263	194
Queue Length 95th (ft)	59	#267	#157	#315	236	258
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	151	397	226	525	861	973
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.74	0.79	0.83	0.95	0.66

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	41.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	280	28	48	331	104	16	23	73	33	14	131
Future Vol, veh/h	67	280	28	48	331	104	16	23	73	33	14	131
Conflicting Peds, #/hr	5	0	85	1	0	1	42	0	2	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	81	81	81	53	53	53	62	62	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	406	41	59	409	128	30	43	138	53	23	211

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	531	0	0	1350	1366	522	1318	1322	520
Stage 1	-	-	-	-	-	-	705	705	-	596	596	-
Stage 2	-	-	-	-	-	-	645	661	-	722	726	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1027	-	-	1036	-	-	128	147	555	134	156	556
Stage 1	-	-	-	-	-	-	427	439	-	490	492	-
Stage 2	-	-	-	-	-	-	461	460	-	418	430	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	979	-	-	1023	-	-	50	112	496	59	119	527
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	112	-	59	119	-
Stage 1	-	-	-	-	-	-	348	358	-	439	461	-
Stage 2	-	-	-	-	-	-	236	431	-	236	351	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.9	212.1	75.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	167	979	-	-	1023	-	-	69	527
HCM Lane V/C Ratio	1.265	0.099	-	-	0.058	-	-	1.099	0.401
HCM Control Delay (s)	212.1	9.1	-	-	8.7	-	-	241.5	16.3
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	12.1	0.3	-	-	0.2	-	-	5.8	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	111	209	14	69	29	109	815	18	75	606	165
Future Volume (veh/h)	150	111	209	14	69	29	109	815	18	75	606	165
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	181	134	252	18	86	36	122	916	20	78	631	172
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.80	0.80	0.80	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	434	362	38	235	195	156	1473	638	103	1367	597
Arrive On Green	0.13	0.23	0.23	0.02	0.13	0.13	0.09	0.42	0.42	0.06	0.39	0.39
Sat Flow, veh/h	1774	1863	1550	1774	1863	1549	1774	3539	1533	1774	3539	1544
Grp Volume(v), veh/h	181	134	252	18	86	36	122	916	20	78	631	172
Grp Sat Flow(s),veh/h/ln	1774	1863	1550	1774	1863	1549	1774	1770	1533	1774	1770	1544
Q Serve(g_s), s	6.5	3.9	9.8	0.7	2.8	1.4	4.4	13.4	0.5	2.8	8.7	5.0
Cycle Q Clear(g_c), s	6.5	3.9	9.8	0.7	2.8	1.4	4.4	13.4	0.5	2.8	8.7	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	434	362	38	235	195	156	1473	638	103	1367	597
V/C Ratio(X)	0.79	0.31	0.70	0.48	0.37	0.18	0.78	0.62	0.03	0.76	0.46	0.29
Avail Cap(c_a), veh/h	406	965	803	216	767	637	216	1953	846	243	2007	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	20.8	23.0	31.7	26.3	25.6	29.3	15.1	11.3	30.5	15.0	13.9
Incr Delay (d2), s/veh	6.2	0.4	2.4	9.0	1.0	0.4	11.8	0.4	0.0	10.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.1	4.4	0.4	1.5	0.6	2.7	6.6	0.2	1.7	4.3	2.2
LnGrp Delay(d),s/veh	33.9	21.2	25.5	40.7	27.2	26.1	41.1	15.5	11.3	41.4	15.3	14.2
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		567			140			1058			881	
Approach Delay, s/veh		27.2			28.7			18.4			17.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	32.2	5.4	20.2	9.8	30.2	12.4	13.2
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	9.0	36.2	8.0	34.0	8.0	37.2	15.0	27.0
Max Q Clear Time (g_c+I1), s	4.8	15.4	2.7	11.8	6.4	10.7	8.5	4.8
Green Ext Time (p_c), s	0.0	11.7	0.0	2.2	0.0	13.3	0.3	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.5
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	181	134	252	18	86	36	122	916	20	78	631	172
v/c Ratio	0.57	0.27	0.42	0.11	0.36	0.11	0.57	0.63	0.03	0.38	0.50	0.27
Control Delay	39.3	26.5	6.7	38.1	37.8	0.7	49.1	22.2	0.1	40.9	20.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	26.5	6.7	38.1	37.8	0.7	49.1	22.2	0.1	40.9	20.0	6.0
Queue Length 50th (ft)	80	44	0	8	39	0	58	198	0	35	121	9
Queue Length 95th (ft)	152	107	45	28	79	0	#159	281	0	87	180	48
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	401	958	925	214	761	721	214	1938	902	241	1992	934
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.14	0.27	0.08	0.11	0.05	0.57	0.47	0.02	0.32	0.32	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1	14	1	1	1	23	922	2	1	777	23
Future Vol, veh/h	13	1	14	1	1	1	23	922	2	1	777	23
Conflicting Peds, #/hr	4	0	1	3	0	1	1	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	92	92	92	92	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	1	16	1	1	1	25	1002	2	1	793	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1364	1863	412	1456	1874	507	817	0	0	1005	0	0
Stage 1	808	808	-	1054	1054	-	-	-	-	-	-	-
Stage 2	556	1055	-	402	820	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	106	72	589	91	71	511	807	-	-	685	-	-
Stage 1	341	392	-	242	301	-	-	-	-	-	-	-
Stage 2	483	301	-	596	387	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	98	67	586	82	66	508	804	-	-	682	-	-
Mov Cap-2 Maneuver	98	67	-	82	66	-	-	-	-	-	-	-
Stage 1	317	390	-	225	280	-	-	-	-	-	-	-
Stage 2	445	280	-	575	385	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.2	41.5	0.5	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	804	-	-	164	102	682	-	-
HCM Lane V/C Ratio	0.031	-	-	0.194	0.032	0.002	-	-
HCM Control Delay (s)	9.6	0.3	-	32.2	41.5	10.3	0	-
HCM Lane LOS	A	A	-	D	E	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	117	31	32	123	221	16	684	37	140	621	31
Future Volume (veh/h)	36	117	31	32	123	221	16	684	37	140	621	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	42	138	36	37	141	254	18	769	42	149	661	33
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	300	78	61	389	324	20	911	52	166	777	40
Arrive On Green	0.04	0.21	0.21	0.03	0.21	0.21	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1774	1419	370	1774	1863	1554	76	3407	196	618	2895	151
Grp Volume(v), veh/h	42	0	174	37	141	254	438	0	391	441	0	402
Grp Sat Flow(s),veh/h/ln	1774	0	1789	1774	1863	1554	1859	0	1820	1832	0	1832
Q Serve(g_s), s	2.0	0.0	7.3	1.8	5.5	13.2	19.3	0.0	17.1	19.8	0.0	17.6
Cycle Q Clear(g_c), s	2.0	0.0	7.3	1.8	5.5	13.2	19.3	0.0	17.1	19.8	0.0	17.6
Prop In Lane	1.00		0.21	1.00		1.00	0.04		0.11	0.34		0.08
Lane Grp Cap(c), veh/h	65	0	378	61	389	324	497	0	486	492	0	492
V/C Ratio(X)	0.64	0.00	0.46	0.61	0.36	0.78	0.88	0.00	0.80	0.90	0.00	0.82
Avail Cap(c_a), veh/h	166	0	482	208	545	454	529	0	518	514	0	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	0.0	29.4	40.7	29.0	32.0	30.0	0.0	29.2	30.1	0.0	29.3
Incr Delay (d2), s/veh	10.0	0.0	0.9	9.5	0.6	5.9	15.4	0.0	8.5	17.9	0.0	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	3.7	1.0	2.9	6.2	12.0	0.0	9.7	12.5	0.0	10.1
LnGrp Delay(d),s/veh	50.6	0.0	30.3	50.2	29.5	37.8	45.4	0.0	37.7	48.1	0.0	38.9
LnGrp LOS	D		C	D	C	D	D		D	D		D
Approach Vol, veh/h		216			432			829			843	
Approach Delay, s/veh		34.3			36.2			41.8			43.7	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		27.7	6.9	23.0		27.8	7.2	22.7
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.3	10.0	23.0		24.0	8.0	25.0
Max Q Clear Time (g_c+I1), s		21.3	3.8	9.3		21.8	4.0	15.2
Green Ext Time (p_c), s		1.4	0.0	2.4		1.1	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	40.7
HCM 2010 LOS	D

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	42	174	37	141	254	829	843
v/c Ratio	0.28	0.60	0.24	0.48	0.55	0.82	0.82
Control Delay	44.1	40.6	42.2	38.3	9.3	37.1	37.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	40.6	42.2	38.3	9.3	37.1	37.3
Queue Length 50th (ft)	22	84	19	73	0	225	232
Queue Length 95th (ft)	55	143	50	124	55	#371	#395
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	173	516	217	571	653	1047	1028
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.34	0.17	0.25	0.39	0.79	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	230	25	28	249	60	31
Future Vol, veh/h	230	25	28	249	60	31
Conflicting Peds, #/hr	0	4	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	92	92	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	253	27	30	271	69	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	284	0	602	270
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1278	-	463	769
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1278	-	450	766
Mov Cap-2 Maneuver	-	-	-	-	450	-
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	-	-	1278	-
HCM Lane V/C Ratio	0.2	-	-	0.024	-
HCM Control Delay (s)	13.6	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1	58	14	5	20	21	661	20	11	632	41
Future Volume (veh/h)	38	1	58	14	5	20	21	661	20	11	632	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	1	66	16	6	23	22	703	21	12	695	45
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	16	105	131	52	97	33	1119	35	16	984	67
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.32	0.32	0.32	0.29	0.29	0.29
Sat Flow, veh/h	465	143	911	355	451	842	104	3480	109	56	3388	231
Grp Volume(v), veh/h	110	0	0	45	0	0	393	0	353	398	0	354
Grp Sat Flow(s),veh/h/ln	1518	0	0	1648	0	0	1858	0	1836	1860	0	1815
Q Serve(g_s), s	2.4	0.0	0.0	0.0	0.0	0.0	9.8	0.0	8.7	10.4	0.0	9.3
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.3	0.0	0.0	9.8	0.0	8.7	10.4	0.0	9.3
Prop In Lane	0.39		0.60	0.36		0.51	0.06		0.06	0.03		0.13
Lane Grp Cap(c), veh/h	268	0	0	280	0	0	597	0	591	540	0	527
V/C Ratio(X)	0.41	0.00	0.00	0.16	0.00	0.00	0.66	0.00	0.60	0.74	0.00	0.67
Avail Cap(c_a), veh/h	811	0	0	834	0	0	938	0	928	763	0	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	21.7	0.0	0.0	15.7	0.0	15.3	17.2	0.0	16.8
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.3	0.0	0.0	1.2	0.0	1.0	2.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	0.6	0.0	0.0	5.2	0.0	4.6	5.7	0.0	4.8
LnGrp Delay(d),s/veh	23.7	0.0	0.0	21.9	0.0	0.0	16.9	0.0	16.3	19.5	0.0	18.3
LnGrp LOS	C			C			B		B	B		B
Approach Vol, veh/h		110			45			746			752	
Approach Delay, s/veh		23.7			21.9			16.7			19.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.2		11.1		20.5		11.1
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.2		26.0		22.1		26.0
Max Q Clear Time (g_c+I1), s		11.8		5.6		12.4		3.3
Green Ext Time (p_c), s		4.0		0.8		3.2		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	110	45	746	752
v/c Ratio	0.44	0.20	0.64	0.65
Control Delay	19.7	19.5	21.0	22.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	19.7	19.5	21.0	22.0
Queue Length 50th (ft)	16	8	131	125
Queue Length 95th (ft)	61	35	203	228
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	714	730	1731	1402
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.06	0.43	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	281	55	70	229	57	91	582	61	81	493	108
Future Volume (veh/h)	73	281	55	70	229	57	91	582	61	81	493	108
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	74	287	56	82	269	67	101	647	68	94	573	126
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.85	0.85	0.85	0.90	0.90	0.90	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	340	66	105	331	82	108	725	80	107	676	157
Arrive On Green	0.05	0.23	0.23	0.06	0.23	0.23	0.25	0.25	0.25	0.26	0.26	0.26
Sat Flow, veh/h	1774	1511	295	1774	1434	357	430	2887	318	406	2576	597
Grp Volume(v), veh/h	74	0	343	82	0	336	432	0	384	426	0	367
Grp Sat Flow(s),veh/h/ln	1774	0	1806	1774	0	1791	1841	0	1794	1842	0	1737
Q Serve(g_s), s	3.8	0.0	16.8	4.2	0.0	16.4	21.2	0.0	18.8	20.5	0.0	18.2
Cycle Q Clear(g_c), s	3.8	0.0	16.8	4.2	0.0	16.4	21.2	0.0	18.8	20.5	0.0	18.2
Prop In Lane	1.00		0.16	1.00		0.20	0.23		0.18	0.22		0.34
Lane Grp Cap(c), veh/h	95	0	406	105	0	413	462	0	450	483	0	456
V/C Ratio(X)	0.78	0.00	0.84	0.78	0.00	0.81	0.94	0.00	0.85	0.88	0.00	0.80
Avail Cap(c_a), veh/h	154	0	469	154	0	465	462	0	450	520	0	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	34.3	42.9	0.0	33.7	33.9	0.0	33.0	32.7	0.0	31.9
Incr Delay (d2), s/veh	12.7	0.0	11.9	14.3	0.0	9.6	26.5	0.0	14.5	15.5	0.0	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	9.7	2.5	0.0	9.2	14.2	0.0	11.1	12.5	0.0	9.9
LnGrp Delay(d),s/veh	55.8	0.0	46.1	57.2	0.0	43.3	60.4	0.0	47.5	48.2	0.0	40.8
LnGrp LOS	E		D	E		D	E		D	D		D
Approach Vol, veh/h		417			418			816			793	
Approach Delay, s/veh		47.9			46.0			54.3			44.8	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		28.1	9.5	25.7		29.2	9.0	26.2
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	8.0	24.0		26.1	8.0	24.0
Max Q Clear Time (g_c+I1), s		23.2	6.2	18.8		22.5	5.8	18.4
Green Ext Time (p_c), s		0.0	0.0	2.0		1.6	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	48.7
HCM 2010 LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	74	343	82	336	816	793
v/c Ratio	0.53	0.84	0.58	0.82	0.95	1.12
Control Delay	58.3	53.6	61.3	51.5	57.3	105.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	53.6	61.3	51.5	57.3	105.4
Queue Length 50th (ft)	46	200	51	193	~275	~318
Queue Length 95th (ft)	#94	#333	#99	274	#408	#410
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	150	468	150	468	861	708
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.73	0.55	0.72	0.95	1.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	409	4	29	311	25	1	1	12	29	10	64
Future Vol, veh/h	40	409	4	29	311	25	1	1	12	29	10	64
Conflicting Peds, #/hr	3	0	0	0	0	0	0	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	83	83	83	88	88	88	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	460	4	35	375	30	1	1	14	37	13	81

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	408	0	0	464	0	0	1018	1030	465	1025	1017	393
Stage 1	-	-	-	-	-	-	552	552	-	463	463	-
Stage 2	-	-	-	-	-	-	466	478	-	562	554	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1151	-	-	1097	-	-	216	233	597	213	238	656
Stage 1	-	-	-	-	-	-	518	515	-	579	564	-
Stage 2	-	-	-	-	-	-	577	556	-	512	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1151	-	-	1093	-	-	171	216	595	195	221	654
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	216	-	195	221	-
Stage 1	-	-	-	-	-	-	498	495	-	555	544	-
Stage 2	-	-	-	-	-	-	478	536	-	478	494	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.7	13.2	17.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	457	1151	-	-	1093	-	-	201	654
HCM Lane V/C Ratio	0.035	0.039	-	-	0.032	-	-	0.246	0.124
HCM Control Delay (s)	13.2	8.3	-	-	8.4	-	-	28.6	11.3
HCM Lane LOS	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-	-	0.9	0.4

APPENDIX D

PROJECT INTERSECTION ANALYSIS SHEETS

Existing-Plus-Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	95	56	8	95	37	61	369	11	24	362	94
Future Volume (veh/h)	120	95	56	8	95	37	61	369	11	24	362	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	154	122	72	10	119	46	102	615	18	29	431	112
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.60	0.60	0.60	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	494	412	23	310	254	131	1269	551	58	1123	485
Arrive On Green	0.11	0.27	0.27	0.01	0.17	0.17	0.07	0.36	0.36	0.03	0.32	0.32
Sat Flow, veh/h	1774	1863	1553	1774	1863	1530	1774	3539	1537	1774	3539	1530
Grp Volume(v), veh/h	154	122	72	10	119	46	102	615	18	29	431	112
Grp Sat Flow(s),veh/h/ln	1774	1863	1553	1774	1863	1530	1774	1770	1537	1774	1770	1530
Q Serve(g_s), s	4.5	2.8	1.9	0.3	3.1	1.4	3.0	7.3	0.4	0.9	5.1	2.9
Cycle Q Clear(g_c), s	4.5	2.8	1.9	0.3	3.1	1.4	3.0	7.3	0.4	0.9	5.1	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	494	412	23	310	254	131	1269	551	58	1123	485
V/C Ratio(X)	0.78	0.25	0.17	0.44	0.38	0.18	0.78	0.48	0.03	0.50	0.38	0.23
Avail Cap(c_a), veh/h	362	1211	1010	264	1107	909	264	2379	1033	264	2379	1028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	15.6	15.2	26.4	20.0	19.3	24.5	13.4	11.2	25.6	14.3	13.5
Incr Delay (d2), s/veh	6.4	0.3	0.2	12.6	0.8	0.3	9.4	0.3	0.0	6.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.5	0.8	0.2	1.6	0.6	1.8	3.6	0.2	0.5	2.5	1.2
LnGrp Delay(d),s/veh	29.7	15.8	15.4	39.0	20.8	19.6	33.9	13.7	11.2	32.1	14.5	13.8
LnGrp LOS	C	B	B	D	C	B	C	B	B	C	B	B
Approach Vol, veh/h		348			175			735			572	
Approach Delay, s/veh		21.9			21.5			16.4			15.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	24.2	4.7	19.2	8.0	22.0	10.0	13.9
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	8.0	36.2	8.0	35.0	8.0	36.2	11.0	32.0
Max Q Clear Time (g_c+I1), s	2.9	9.3	2.3	4.8	5.0	7.1	6.5	5.1
Green Ext Time (p_c), s	0.0	8.3	0.0	1.7	0.1	8.5	0.1	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.6
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	122	72	10	119	46	102	615	18	29	431	112
v/c Ratio	0.50	0.19	0.12	0.06	0.34	0.12	0.44	0.43	0.03	0.15	0.47	0.23
Control Delay	38.4	17.6	2.7	37.4	27.9	0.7	40.8	18.7	0.1	36.8	23.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	17.6	2.7	37.4	27.9	0.7	40.8	18.7	0.1	36.8	23.0	6.2
Queue Length 50th (ft)	50	26	0	3	39	0	34	77	0	10	72	0
Queue Length 95th (ft)	#170	86	8	21	92	0	80	137	0	45	143	31
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	334	1120	978	243	1022	894	243	2197	992	243	2197	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.11	0.07	0.04	0.12	0.05	0.42	0.28	0.02	0.12	0.20	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	13	1	1	1	16	470	1	1	411	12
Future Vol, veh/h	8	1	13	1	1	1	16	470	1	1	411	12
Conflicting Peds, #/hr	2	0	5	1	0	0	1	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	65	65	65	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	15	1	1	1	25	723	2	1	467	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	890	1251	246	1014	1257	364	482	0	0	725	0	0
Stage 1	477	477	-	773	773	-	-	-	-	-	-	-
Stage 2	413	774	-	241	484	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	237	171	754	193	170	633	1077	-	-	874	-	-
Stage 1	538	554	-	358	407	-	-	-	-	-	-	-
Stage 2	587	406	-	741	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	227	164	749	181	163	632	1071	-	-	872	-	-
Mov Cap-2 Maneuver	227	164	-	181	163	-	-	-	-	-	-	-
Stage 1	516	552	-	344	391	-	-	-	-	-	-	-
Stage 2	560	390	-	719	548	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	21.1	0.5	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1071	-	-	375	227	872	-	-
HCM Lane V/C Ratio	0.023	-	-	0.067	0.015	0.001	-	-
HCM Control Delay (s)	8.4	0.2	-	15.3	21.1	9.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	65	13	34	135	122	16	297	66	117	317	11
Future Volume (veh/h)	9	65	13	34	135	122	16	297	66	117	317	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	73	15	39	155	140	19	358	80	143	387	13
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.83	0.83	0.83	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	212	44	74	319	267	30	583	137	218	627	22
Arrive On Green	0.01	0.14	0.14	0.04	0.17	0.17	0.21	0.21	0.21	0.24	0.24	0.24
Sat Flow, veh/h	1774	1492	307	1774	1863	1562	144	2793	654	919	2650	92
Grp Volume(v), veh/h	10	0	88	39	155	140	245	0	212	283	0	260
Grp Sat Flow(s),veh/h/ln	1774	0	1799	1774	1863	1562	1856	0	1736	1817	0	1844
Q Serve(g_s), s	0.3	0.0	2.2	1.1	3.8	4.1	6.1	0.0	5.6	7.1	0.0	6.3
Cycle Q Clear(g_c), s	0.3	0.0	2.2	1.1	3.8	4.1	6.1	0.0	5.6	7.1	0.0	6.3
Prop In Lane	1.00		0.17	1.00		1.00	0.08		0.38	0.51		0.05
Lane Grp Cap(c), veh/h	23	0	256	74	319	267	387	0	362	430	0	436
V/C Ratio(X)	0.43	0.00	0.34	0.53	0.49	0.52	0.63	0.00	0.59	0.66	0.00	0.60
Avail Cap(c_a), veh/h	281	0	895	281	926	777	890	0	832	864	0	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	19.5	23.7	18.9	19.0	18.2	0.0	18.0	17.4	0.0	17.1
Incr Delay (d2), s/veh	12.4	0.0	0.8	5.7	1.1	1.6	1.7	0.0	1.5	1.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	0.6	2.0	1.9	3.2	0.0	2.8	3.7	0.0	3.3
LnGrp Delay(d),s/veh	37.1	0.0	20.3	29.4	20.1	20.6	19.9	0.0	19.5	19.1	0.0	18.4
LnGrp LOS	D		C	C	C	C	B		B	B		B
Approach Vol, veh/h		98			334			457			543	
Approach Delay, s/veh		22.0			21.4			19.7			18.8	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.4	6.1	12.1		16.8	4.7	13.5
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.2	8.0	25.1		24.0	8.0	25.1
Max Q Clear Time (g_c+I1), s		8.1	3.1	4.2		9.1	2.3	6.1
Green Ext Time (p_c), s		2.4	0.0	1.9		2.8	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	19.9
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	10	88	39	155	140	457	543
v/c Ratio	0.06	0.27	0.20	0.34	0.29	0.57	0.62
Control Delay	37.3	27.1	37.0	25.1	7.0	26.2	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	27.1	37.0	25.1	7.0	26.2	27.2
Queue Length 50th (ft)	4	28	14	46	0	81	98
Queue Length 95th (ft)	22	79	55	131	42	159	195
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	242	781	242	799	751	1434	1428
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.11	0.16	0.19	0.19	0.32	0.38

Intersection Summary

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	159	70	63	233	7	49	12	65	3	6	16
Future Vol, veh/h	33	159	70	63	233	7	49	12	65	3	6	16
Conflicting Peds, #/hr	0	0	10	0	0	0	2	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	90	90	82	82	92	54	92	54	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	177	78	77	284	8	91	13	120	3	7	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	292	0	0	264	0	0	753	742	226	796	778	290
Stage 1	-	-	-	-	-	-	297	297	-	442	442	-
Stage 2	-	-	-	-	-	-	456	445	-	354	336	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1270	-	-	1300	-	-	326	344	813	305	328	749
Stage 1	-	-	-	-	-	-	712	668	-	594	576	-
Stage 2	-	-	-	-	-	-	584	575	-	663	642	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1267	-	-	1300	-	-	289	311	804	235	296	747
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	311	-	235	296	-
Stage 1	-	-	-	-	-	-	684	642	-	577	542	-
Stage 2	-	-	-	-	-	-	529	541	-	537	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	1.7	21.2	13.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	443	1267	-	-	1300	-	-	459
HCM Lane V/C Ratio	0.506	0.028	-	-	0.059	-	-	0.059
HCM Control Delay (s)	21.2	7.9	-	-	7.9	-	-	13.3
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.8	0.1	-	-	0.2	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	5	17	11	6	20	8	345	13	5	341	12
Future Volume (veh/h)	12	5	17	11	6	20	8	345	13	5	341	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	14	6	19	12	7	23	10	431	16	5	371	13
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	29	69	171	30	78	19	864	34	10	807	30
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	489	321	770	385	337	874	77	3481	135	46	3524	129
Grp Volume(v), veh/h	39	0	0	42	0	0	240	0	217	204	0	185
Grp Sat Flow(s),veh/h/ln	1580	0	0	1596	0	0	1859	0	1835	1860	0	1838
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	3.8	0.0	3.4	3.2	0.0	2.9
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.8	0.0	0.0	3.8	0.0	3.4	3.2	0.0	2.9
Prop In Lane	0.36		0.49	0.29		0.55	0.04		0.07	0.02		0.07
Lane Grp Cap(c), veh/h	286	0	0	279	0	0	461	0	455	426	0	421
V/C Ratio(X)	0.14	0.00	0.00	0.15	0.00	0.00	0.52	0.00	0.48	0.48	0.00	0.44
Avail Cap(c_a), veh/h	1139	0	0	1150	0	0	1485	0	1465	1431	0	1414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	0.0	14.4	0.0	0.0	11.0	0.0	10.9	11.3	0.0	11.2
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.9	0.0	0.8	0.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.4	0.0	0.0	2.1	0.0	1.8	1.7	0.0	1.6
LnGrp Delay(d),s/veh	14.6	0.0	0.0	14.7	0.0	0.0	11.9	0.0	11.6	12.2	0.0	11.9
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h		39			42			457			389	
Approach Delay, s/veh		14.6			14.7			11.8			12.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		13.3		7.9		12.7		7.9
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.1		22.1		26.1		22.1
Max Q Clear Time (g_c+I1), s		5.8		2.7		5.2		2.8
Green Ext Time (p_c), s		2.5		0.3		2.1		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	39	43	457	389
v/c Ratio	0.12	0.13	0.42	0.38
Control Delay	15.1	14.4	15.5	15.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.1	14.4	15.5	15.8
Queue Length 50th (ft)	3	3	26	23
Queue Length 95th (ft)	32	34	132	130
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	957	976	2645	2708
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.17	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	178	17	110	231	45	64	308	79	29	309	24
Future Volume (veh/h)	26	178	17	110	231	45	64	308	79	29	309	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	212	20	153	321	62	96	460	118	32	343	27
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.84	0.84	0.84	0.72	0.72	0.72	0.67	0.67	0.67	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	324	31	193	409	79	125	621	168	48	535	44
Arrive On Green	0.03	0.19	0.19	0.11	0.27	0.27	0.26	0.26	0.26	0.17	0.17	0.17
Sat Flow, veh/h	1774	1676	158	1774	1517	293	485	2414	651	279	3120	257
Grp Volume(v), veh/h	31	0	232	153	0	383	364	0	310	212	0	190
Grp Sat Flow(s),veh/h/ln	1774	0	1834	1774	0	1810	1838	0	1711	1849	0	1806
Q Serve(g_s), s	1.2	0.0	8.1	5.8	0.0	13.6	12.7	0.0	11.4	7.5	0.0	6.8
Cycle Q Clear(g_c), s	1.2	0.0	8.1	5.8	0.0	13.6	12.7	0.0	11.4	7.5	0.0	6.8
Prop In Lane	1.00		0.09	1.00		0.16	0.26		0.38	0.15		0.14
Lane Grp Cap(c), veh/h	57	0	354	193	0	488	473	0	441	317	0	310
V/C Ratio(X)	0.54	0.00	0.65	0.79	0.00	0.78	0.77	0.00	0.70	0.67	0.00	0.61
Avail Cap(c_a), veh/h	204	0	530	306	0	627	614	0	571	692	0	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.1	0.0	25.9	30.2	0.0	23.5	23.9	0.0	23.4	27.0	0.0	26.7
Incr Delay (d2), s/veh	7.6	0.0	2.1	7.1	0.0	5.0	4.4	0.0	2.7	2.4	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	4.3	3.2	0.0	7.5	7.0	0.0	5.7	4.0	0.0	3.5
LnGrp Delay(d),s/veh	40.8	0.0	28.0	37.3	0.0	28.5	28.3	0.0	26.1	29.4	0.0	28.6
LnGrp LOS	D		C	D		C	C		C	C		C
Approach Vol, veh/h		263			536			674			402	
Approach Delay, s/veh		29.5			31.0			27.3			29.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.8	11.6	18.3		16.8	6.3	23.6
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	12.0	20.1		26.0	8.0	24.1
Max Q Clear Time (g_c+I1), s		14.7	7.8	10.1		9.5	3.2	15.6
Green Ext Time (p_c), s		2.6	0.1	2.8		2.0	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	31	232	153	384	674	402
v/c Ratio	0.21	0.65	0.65	0.69	0.78	0.60
Control Delay	43.9	41.2	51.4	36.5	36.8	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	41.2	51.4	36.5	36.8	34.9
Queue Length 50th (ft)	17	114	81	191	173	108
Queue Length 95th (ft)	45	197	127	255	189	156
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	176	463	264	569	1000	1133
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.50	0.58	0.67	0.67	0.35

Intersection Summary

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	224	22	38	265	88	13	18	60	28	11	107
Future Vol, veh/h	57	224	22	38	265	88	13	18	60	28	11	107
Conflicting Peds, #/hr	5	0	85	1	0	1	42	0	2	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	81	81	81	53	53	53	62	62	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	325	32	47	327	109	25	34	113	45	18	173

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	441	0	0	442	0	0	1117	1126	437	1070	1087	428
Stage 1	-	-	-	-	-	-	591	591	-	480	480	-
Stage 2	-	-	-	-	-	-	526	535	-	590	607	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1119	-	-	1118	-	-	185	205	620	199	216	627
Stage 1	-	-	-	-	-	-	493	494	-	567	554	-
Stage 2	-	-	-	-	-	-	535	524	-	494	486	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1067	-	-	1104	-	-	95	163	555	119	172	594
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	163	-	119	172	-
Stage 1	-	-	-	-	-	-	412	413	-	520	527	-
Stage 2	-	-	-	-	-	-	335	499	-	329	406	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.8	43.6	24.9
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	256	1067	-	-	1104	-	-	130	594
HCM Lane V/C Ratio	0.671	0.077	-	-	0.042	-	-	0.484	0.291
HCM Control Delay (s)	43.6	8.7	-	-	8.4	-	-	56.3	13.5
HCM Lane LOS	E	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	4.3	0.3	-	-	0.1	-	-	2.2	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	88	96	14	55	23	70	678	19	60	509	140
Future Volume (veh/h)	144	88	96	14	55	23	70	678	19	60	509	140
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	173	106	116	18	69	29	79	762	21	62	530	146
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.80	0.80	0.80	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	407	338	39	213	177	111	1390	602	97	1363	595
Arrive On Green	0.13	0.22	0.22	0.02	0.11	0.11	0.06	0.39	0.39	0.05	0.39	0.39
Sat Flow, veh/h	1774	1863	1549	1774	1863	1547	1774	3539	1532	1774	3539	1544
Grp Volume(v), veh/h	173	106	116	18	69	29	79	762	21	62	530	146
Grp Sat Flow(s),veh/h/ln	1774	1863	1549	1774	1863	1547	1774	1770	1532	1774	1770	1544
Q Serve(g_s), s	5.4	2.7	3.6	0.6	1.9	1.0	2.5	9.5	0.5	2.0	6.2	3.7
Cycle Q Clear(g_c), s	5.4	2.7	3.6	0.6	1.9	1.0	2.5	9.5	0.5	2.0	6.2	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	407	338	39	213	177	111	1390	602	97	1363	595
V/C Ratio(X)	0.78	0.26	0.34	0.47	0.32	0.16	0.71	0.55	0.03	0.64	0.39	0.25
Avail Cap(c_a), veh/h	467	1111	924	249	882	733	249	2247	973	280	2309	1008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	18.5	18.8	27.6	23.2	22.8	26.2	13.4	10.7	26.4	12.7	11.9
Incr Delay (d2), s/veh	5.8	0.3	0.6	8.5	0.9	0.4	8.1	0.3	0.0	6.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	1.4	1.6	0.4	1.0	0.4	1.5	4.6	0.2	1.1	3.1	1.6
LnGrp Delay(d),s/veh	29.9	18.8	19.4	36.1	24.1	23.2	34.3	13.7	10.7	33.1	12.9	12.1
LnGrp LOS	C	B	B	D	C	C	C	B	B	C	B	B
Approach Vol, veh/h		395			116			862			738	
Approach Delay, s/veh		23.9			25.7			15.5			14.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	27.3	5.2	17.3	7.6	26.9	11.2	11.4
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	9.0	36.2	8.0	34.0	8.0	37.2	15.0	27.0
Max Q Clear Time (g_c+I1), s	4.0	11.5	2.6	5.6	4.5	8.2	7.4	3.9
Green Ext Time (p_c), s	0.0	10.4	0.0	1.5	0.0	11.1	0.3	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.3
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	106	116	18	69	29	79	762	21	63	530	146
v/c Ratio	0.50	0.19	0.21	0.09	0.27	0.09	0.35	0.55	0.03	0.28	0.42	0.23
Control Delay	33.2	20.7	6.4	34.4	33.3	0.5	36.9	19.8	0.1	34.9	19.1	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	20.7	6.4	34.4	33.3	0.5	36.9	19.8	0.1	34.9	19.1	4.7
Queue Length 50th (ft)	67	29	0	7	27	0	31	145	0	25	93	1
Queue Length 95th (ft)	134	82	33	26	63	0	83	222	0	69	147	36
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	466	1096	965	248	884	814	248	2171	993	280	2212	1021
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.10	0.12	0.07	0.08	0.04	0.32	0.35	0.02	0.23	0.24	0.14

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	13	1	1	1	18	755	2	1	588	18
Future Vol, veh/h	10	1	13	1	1	1	18	755	2	1	588	18
Conflicting Peds, #/hr	4	0	1	3	0	1	1	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	92	92	92	92	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	15	1	1	1	20	821	2	1	600	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1066	1475	313	1168	1484	416	619	0	0	824	0	0
Stage 1	612	612	-	862	862	-	-	-	-	-	-	-
Stage 2	454	863	-	306	622	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	177	125	683	149	124	585	957	-	-	802	-	-
Stage 1	447	482	-	316	370	-	-	-	-	-	-	-
Stage 2	555	370	-	679	477	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	169	120	680	140	119	582	954	-	-	798	-	-
Mov Cap-2 Maneuver	169	120	-	140	119	-	-	-	-	-	-	-
Stage 1	429	481	-	303	355	-	-	-	-	-	-	-
Stage 2	528	355	-	659	476	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.4	26.1	0.4	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	954	-	-	278	174	798	-	-
HCM Lane V/C Ratio	0.021	-	-	0.098	0.019	0.001	-	-
HCM Control Delay (s)	8.9	0.2	-	19.4	26.1	9.5	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	81	25	72	102	189	13	555	66	132	450	18
Future Volume (veh/h)	27	81	25	72	102	189	13	555	66	132	450	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	95	29	83	117	217	15	624	74	140	479	19
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	230	70	107	366	305	19	839	105	183	662	27
Arrive On Green	0.03	0.17	0.17	0.06	0.20	0.20	0.26	0.26	0.26	0.24	0.24	0.24
Sat Flow, veh/h	1774	1363	416	1774	1863	1553	73	3172	396	767	2782	115
Grp Volume(v), veh/h	32	0	124	83	117	217	380	0	333	333	0	305
Grp Sat Flow(s),veh/h/ln	1774	0	1780	1774	1863	1553	1859	0	1783	1824	0	1840
Q Serve(g_s), s	1.2	0.0	4.3	3.2	3.8	9.1	13.2	0.0	11.8	11.9	0.0	10.6
Cycle Q Clear(g_c), s	1.2	0.0	4.3	3.2	3.8	9.1	13.2	0.0	11.8	11.9	0.0	10.6
Prop In Lane	1.00		0.23	1.00		1.00	0.04		0.22	0.42		0.06
Lane Grp Cap(c), veh/h	59	0	301	107	366	305	491	0	471	434	0	438
V/C Ratio(X)	0.54	0.00	0.41	0.77	0.32	0.71	0.77	0.00	0.71	0.77	0.00	0.70
Avail Cap(c_a), veh/h	204	0	587	254	668	557	648	0	622	628	0	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	25.9	32.3	24.0	26.2	23.7	0.0	23.2	24.8	0.0	24.3
Incr Delay (d2), s/veh	7.6	0.0	0.9	11.1	0.5	3.1	4.2	0.0	2.4	3.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	2.2	1.9	2.0	4.2	7.3	0.0	6.1	6.3	0.0	5.6
LnGrp Delay(d),s/veh	40.8	0.0	26.8	43.4	24.5	29.2	27.9	0.0	25.6	28.2	0.0	26.3
LnGrp LOS	D		C	D	C	C	C		C	C		C
Approach Vol, veh/h		156			417			713			638	
Approach Delay, s/veh		29.7			30.7			26.9			27.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.3	8.2	16.7		21.5	6.3	18.6
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.3	10.0	23.0		24.0	8.0	25.0
Max Q Clear Time (g_c+I1), s		15.2	5.2	6.3		13.9	3.2	11.1
Green Ext Time (p_c), s		2.9	0.1	2.0		2.7	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	32	124	83	117	217	713	638
v/c Ratio	0.20	0.48	0.42	0.34	0.47	0.73	0.71
Control Delay	41.0	37.8	43.5	34.4	8.7	31.9	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	37.8	43.5	34.4	8.7	31.9	32.7
Queue Length 50th (ft)	16	55	42	57	0	173	162
Queue Length 95th (ft)	44	104	89	106	53	262	238
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	194	575	243	640	676	1167	1151
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.22	0.34	0.18	0.32	0.61	0.55

Intersection Summary

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	183	20	22	198	14	48	30	25	20	33	95
Future Vol, veh/h	80	183	20	22	198	14	48	30	25	20	33	95
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	92	92	92	87	92	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	201	22	24	215	15	55	33	29	22	36	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	230	0	0	227	0	0	730	668	216	688	672	223
Stage 1	-	-	-	-	-	-	390	390	-	271	271	-
Stage 2	-	-	-	-	-	-	340	278	-	417	401	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1338	-	-	1341	-	-	338	379	824	360	377	817
Stage 1	-	-	-	-	-	-	634	608	-	735	685	-
Stage 2	-	-	-	-	-	-	675	680	-	613	601	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1338	-	-	1341	-	-	254	346	820	302	345	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	346	-	302	345	-
Stage 1	-	-	-	-	-	-	590	566	-	687	673	-
Stage 2	-	-	-	-	-	-	548	668	-	521	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.7	21.3	14.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	336	1338	-	-	1341	-	-	532
HCM Lane V/C Ratio	0.347	0.065	-	-	0.018	-	-	0.302
HCM Control Delay (s)	21.3	7.9	-	-	7.7	-	-	14.7
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0.1	-	-	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	1	46	11	4	16	17	558	16	9	516	37
Future Volume (veh/h)	34	1	46	11	4	16	17	558	16	9	516	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		0.94	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	39	1	52	12	5	18	18	594	17	10	567	41
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	11	86	144	43	85	31	1079	32	15	899	68
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.31	0.31	0.31	0.27	0.27	0.27
Sat Flow, veh/h	547	114	859	374	429	849	101	3489	105	57	3358	255
Grp Volume(v), veh/h	92	0	0	35	0	0	331	0	298	327	0	291
Grp Sat Flow(s),veh/h/ln	1520	0	0	1652	0	0	1858	0	1837	1860	0	1810
Q Serve(g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	6.8	0.0	6.1	7.1	0.0	6.4
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.9	0.0	0.0	6.8	0.0	6.1	7.1	0.0	6.4
Prop In Lane	0.42		0.57	0.34		0.51	0.05		0.06	0.03		0.14
Lane Grp Cap(c), veh/h	265	0	0	272	0	0	574	0	568	498	0	484
V/C Ratio(X)	0.35	0.00	0.00	0.13	0.00	0.00	0.58	0.00	0.52	0.66	0.00	0.60
Avail Cap(c_a), veh/h	960	0	0	987	0	0	1110	0	1098	903	0	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	0.0	18.8	0.0	0.0	13.2	0.0	13.0	14.8	0.0	14.5
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.2	0.0	0.0	0.9	0.0	0.8	1.5	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.4	0.0	0.0	3.6	0.0	3.2	3.8	0.0	3.3
LnGrp Delay(d),s/veh	20.3	0.0	0.0	19.0	0.0	0.0	14.1	0.0	13.7	16.3	0.0	15.7
LnGrp LOS	C			B			B		B	B		B
Approach Vol, veh/h		92			35			629			618	
Approach Delay, s/veh		20.3			19.0			13.9			16.0	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		19.0		9.5		17.1		9.5
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.2		26.0		22.1		26.0
Max Q Clear Time (g_c+I1), s		8.8		4.6		9.1		2.9
Green Ext Time (p_c), s		3.5		0.6		3.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	92	36	629	618
v/c Ratio	0.36	0.15	0.57	0.58
Control Delay	17.8	18.2	19.0	19.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.8	18.2	19.0	19.2
Queue Length 50th (ft)	12	5	88	86
Queue Length 95th (ft)	53	30	166	166
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	809	844	2005	1622
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.04	0.31	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	254	44	71	180	46	75	496	57	60	420	82
Future Volume (veh/h)	70	254	44	71	180	46	75	496	57	60	420	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	259	45	84	212	54	83	551	63	70	488	95
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.85	0.85	0.85	0.90	0.90	0.90	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	337	58	108	325	83	101	700	84	89	647	132
Arrive On Green	0.05	0.22	0.22	0.06	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1774	1543	268	1774	1427	363	414	2873	344	369	2674	547
Grp Volume(v), veh/h	71	0	304	84	0	266	370	0	327	350	0	303
Grp Sat Flow(s),veh/h/ln	1774	0	1811	1774	0	1790	1842	0	1788	1844	0	1747
Q Serve(g_s), s	3.1	0.0	12.5	3.7	0.0	10.7	15.1	0.0	13.5	14.1	0.0	12.7
Cycle Q Clear(g_c), s	3.1	0.0	12.5	3.7	0.0	10.7	15.1	0.0	13.5	14.1	0.0	12.7
Prop In Lane	1.00		0.15	1.00		0.20	0.22		0.19	0.20		0.31
Lane Grp Cap(c), veh/h	91	0	395	108	0	408	449	0	436	446	0	422
V/C Ratio(X)	0.78	0.00	0.77	0.78	0.00	0.65	0.82	0.00	0.75	0.78	0.00	0.72
Avail Cap(c_a), veh/h	178	0	547	178	0	540	537	0	522	605	0	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.3	0.0	29.2	36.8	0.0	27.9	28.4	0.0	27.8	28.2	0.0	27.6
Incr Delay (d2), s/veh	13.1	0.0	4.4	11.3	0.0	1.8	8.6	0.0	5.0	4.7	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	6.7	2.2	0.0	5.5	8.8	0.0	7.2	7.8	0.0	6.4
LnGrp Delay(d),s/veh	50.4	0.0	33.6	48.1	0.0	29.6	37.1	0.0	32.8	32.9	0.0	30.4
LnGrp LOS	D		C	D		C	D		C	C		C
Approach Vol, veh/h		375			350			697			653	
Approach Delay, s/veh		36.8			34.1			35.1			31.8	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		24.3	8.8	22.3		24.1	8.1	23.0
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	8.0	24.0		26.1	8.0	24.0
Max Q Clear Time (g_c+I1), s		17.1	5.7	14.5		16.1	5.1	12.7
Green Ext Time (p_c), s		2.2	0.0	2.5		2.8	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	71	304	84	266	697	653
v/c Ratio	0.48	0.77	0.55	0.67	0.83	0.86
Control Delay	54.6	47.3	58.0	41.2	43.3	45.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	47.3	58.0	41.2	43.3	45.2
Queue Length 50th (ft)	43	172	51	144	212	196
Queue Length 95th (ft)	90	267	#103	213	#318	#288
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	165	513	165	512	943	838
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.59	0.51	0.52	0.74	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	329	3	23	250	34	1	1	10	39	8	61
Future Vol, veh/h	41	329	3	23	250	34	1	1	10	39	8	61
Conflicting Peds, #/hr	3	0	0	0	0	0	0	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	83	83	83	88	88	88	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	370	3	28	301	41	1	1	11	49	10	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	345	0	0	373	0	0	845	864	374	853	845	325
Stage 1	-	-	-	-	-	-	463	463	-	380	380	-
Stage 2	-	-	-	-	-	-	382	401	-	473	465	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1214	-	-	1185	-	-	283	292	672	279	300	716
Stage 1	-	-	-	-	-	-	579	564	-	642	614	-
Stage 2	-	-	-	-	-	-	640	601	-	572	563	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1214	-	-	1181	-	-	234	273	670	259	281	714
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	273	-	259	281	-
Stage 1	-	-	-	-	-	-	557	543	-	616	597	-
Stage 2	-	-	-	-	-	-	548	585	-	538	542	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.6	12	15.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	525	1214	-	-	1181	-	-	262	714
HCM Lane V/C Ratio	0.026	0.038	-	-	0.023	-	-	0.227	0.108
HCM Control Delay (s)	12	8.1	-	-	8.1	-	-	22.7	10.7
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-	-	0.9	0.4

Near-Term With-Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	95	56	8	95	40	61	383	11	24	366	94
Future Volume (veh/h)	122	95	56	8	95	40	61	383	11	24	366	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	156	122	72	10	119	50	102	638	18	29	436	112
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.60	0.60	0.60	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	495	413	23	309	254	131	1280	556	58	1134	490
Arrive On Green	0.11	0.27	0.27	0.01	0.17	0.17	0.07	0.36	0.36	0.03	0.32	0.32
Sat Flow, veh/h	1774	1863	1553	1774	1863	1529	1774	3539	1537	1774	3539	1530
Grp Volume(v), veh/h	156	122	72	10	119	50	102	638	18	29	436	112
Grp Sat Flow(s),veh/h/ln	1774	1863	1553	1774	1863	1529	1774	1770	1537	1774	1770	1530
Q Serve(g_s), s	4.7	2.8	1.9	0.3	3.1	1.5	3.1	7.6	0.4	0.9	5.2	2.9
Cycle Q Clear(g_c), s	4.7	2.8	1.9	0.3	3.1	1.5	3.1	7.6	0.4	0.9	5.2	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	495	413	23	309	254	131	1280	556	58	1134	490
V/C Ratio(X)	0.78	0.25	0.17	0.44	0.39	0.20	0.78	0.50	0.03	0.50	0.38	0.23
Avail Cap(c_a), veh/h	358	1197	998	261	1094	899	261	2352	1021	261	2352	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	15.7	15.4	26.7	20.2	19.6	24.8	13.5	11.2	25.9	14.3	13.6
Incr Delay (d2), s/veh	6.4	0.3	0.2	12.6	0.8	0.4	9.4	0.3	0.0	6.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.5	0.8	0.2	1.7	0.7	1.8	3.8	0.2	0.5	2.6	1.2
LnGrp Delay(d),s/veh	29.9	16.0	15.6	39.3	21.0	20.0	34.2	13.8	11.2	32.5	14.6	13.8
LnGrp LOS	C	B	B	D	C	B	C	B	B	C	B	B
Approach Vol, veh/h		350			179			758			577	
Approach Delay, s/veh		22.1			21.8			16.5			15.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	24.6	4.7	19.4	8.0	22.3	10.2	13.9
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	8.0	36.2	8.0	35.0	8.0	36.2	11.0	32.0
Max Q Clear Time (g_c+I1), s	2.9	9.6	2.3	4.8	5.1	7.2	6.7	5.1
Green Ext Time (p_c), s	0.0	8.5	0.0	1.8	0.1	8.8	0.1	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	122	72	10	119	50	102	638	18	29	436	112
v/c Ratio	0.51	0.19	0.12	0.06	0.34	0.13	0.44	0.45	0.03	0.15	0.47	0.23
Control Delay	38.6	17.7	2.6	37.5	28.0	0.7	41.0	18.9	0.1	37.0	23.0	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	17.7	2.6	37.5	28.0	0.7	41.0	18.9	0.1	37.0	23.0	6.1
Queue Length 50th (ft)	51	27	0	3	39	0	35	81	0	10	73	0
Queue Length 95th (ft)	#171	86	8	21	92	0	80	142	0	45	144	31
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	332	1114	973	241	1016	890	241	2185	987	241	2185	988
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.11	0.07	0.04	0.12	0.06	0.42	0.29	0.02	0.12	0.20	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	13	1	1	1	16	484	1	1	415	12
Future Vol, veh/h	8	1	13	1	1	1	16	484	1	1	415	12
Conflicting Peds, #/hr	2	0	5	1	0	0	1	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	65	65	65	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	15	1	1	1	25	745	2	1	472	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	906	1277	249	1039	1283	375	486	0	0	746	0	0
Stage 1	482	482	-	795	795	-	-	-	-	-	-	-
Stage 2	424	795	-	244	488	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	231	165	751	185	164	623	1073	-	-	858	-	-
Stage 1	534	552	-	347	398	-	-	-	-	-	-	-
Stage 2	578	398	-	738	548	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	221	158	746	174	157	622	1067	-	-	856	-	-
Mov Cap-2 Maneuver	221	158	-	174	157	-	-	-	-	-	-	-
Stage 1	512	550	-	333	382	-	-	-	-	-	-	-
Stage 2	551	382	-	716	546	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	21.7	0.5	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1067	-	-	367	219	856	-	-
HCM Lane V/C Ratio	0.023	-	-	0.068	0.016	0.001	-	-
HCM Control Delay (s)	8.5	0.2	-	15.5	21.7	9.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	65	13	34	135	123	16	310	66	117	321	11
Future Volume (veh/h)	9	65	13	34	135	123	16	310	66	117	321	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	73	15	39	155	141	19	373	80	143	391	13
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.83	0.83	0.83	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	212	44	74	318	267	30	601	135	216	630	22
Arrive On Green	0.01	0.14	0.14	0.04	0.17	0.17	0.21	0.21	0.21	0.24	0.24	0.24
Sat Flow, veh/h	1774	1492	307	1774	1863	1562	140	2821	635	913	2657	91
Grp Volume(v), veh/h	10	0	88	39	155	141	253	0	219	285	0	262
Grp Sat Flow(s),veh/h/ln	1774	0	1799	1774	1863	1562	1856	0	1740	1817	0	1844
Q Serve(g_s), s	0.3	0.0	2.3	1.1	3.8	4.2	6.3	0.0	5.8	7.2	0.0	6.5
Cycle Q Clear(g_c), s	0.3	0.0	2.3	1.1	3.8	4.2	6.3	0.0	5.8	7.2	0.0	6.5
Prop In Lane	1.00		0.17	1.00		1.00	0.08		0.36	0.50		0.05
Lane Grp Cap(c), veh/h	23	0	256	74	318	267	395	0	370	431	0	437
V/C Ratio(X)	0.44	0.00	0.34	0.53	0.49	0.53	0.64	0.00	0.59	0.66	0.00	0.60
Avail Cap(c_a), veh/h	278	0	884	278	916	768	880	0	825	854	0	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	19.7	24.0	19.1	19.3	18.3	0.0	18.1	17.6	0.0	17.3
Incr Delay (d2), s/veh	12.4	0.0	0.8	5.7	1.2	1.6	1.7	0.0	1.5	1.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	0.7	2.1	1.9	3.4	0.0	2.9	3.8	0.0	3.4
LnGrp Delay(d),s/veh	37.5	0.0	20.5	29.7	20.3	20.9	20.0	0.0	19.6	19.4	0.0	18.7
LnGrp LOS	D		C	C	C	C	C		B	B		B
Approach Vol, veh/h		98			335			472			547	
Approach Delay, s/veh		22.3			21.6			19.8			19.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.8	6.1	12.2		17.0	4.7	13.6
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.2	8.0	25.1		24.0	8.0	25.1
Max Q Clear Time (g_c+I1), s		8.3	3.1	4.3		9.2	2.3	6.2
Green Ext Time (p_c), s		2.4	0.0	1.9		2.8	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	10	88	39	155	141	472	547
v/c Ratio	0.06	0.27	0.20	0.34	0.29	0.58	0.62
Control Delay	37.4	27.3	37.2	25.3	7.0	26.5	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	27.3	37.2	25.3	7.0	26.5	27.4
Queue Length 50th (ft)	4	29	15	47	0	85	100
Queue Length 95th (ft)	22	79	55	131	42	165	196
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	240	776	240	794	747	1426	1419
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.11	0.16	0.20	0.19	0.33	0.39

Intersection Summary

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	159	70	63	234	7	49	12	65	3	6	16
Future Vol, veh/h	33	159	70	63	234	7	49	12	65	3	6	16
Conflicting Peds, #/hr	0	0	10	0	0	0	2	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	90	90	82	82	92	54	92	54	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	177	78	77	285	8	91	13	120	3	7	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	293	0	0	264	0	0	754	744	226	797	779	291
Stage 1	-	-	-	-	-	-	297	297	-	443	443	-
Stage 2	-	-	-	-	-	-	457	447	-	354	336	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1269	-	-	1300	-	-	326	343	813	305	327	748
Stage 1	-	-	-	-	-	-	712	668	-	594	576	-
Stage 2	-	-	-	-	-	-	583	573	-	663	642	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1266	-	-	1300	-	-	289	310	804	235	296	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	310	-	235	296	-
Stage 1	-	-	-	-	-	-	684	642	-	577	542	-
Stage 2	-	-	-	-	-	-	528	539	-	537	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	1.7	21.2	13.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	443	1266	-	-	1300	-	-	459
HCM Lane V/C Ratio	0.506	0.028	-	-	0.059	-	-	0.059
HCM Control Delay (s)	21.2	7.9	-	-	7.9	-	-	13.3
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.8	0.1	-	-	0.2	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	5	17	11	6	20	8	357	13	5	345	13
Future Volume (veh/h)	12	5	17	11	6	20	8	357	13	5	345	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	14	6	19	12	7	23	10	446	16	5	375	14
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	29	69	169	30	78	19	882	33	10	808	32
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.25	0.25	0.25	0.23	0.23	0.23
Sat Flow, veh/h	487	323	770	383	338	874	75	3489	131	45	3515	138
Grp Volume(v), veh/h	39	0	0	42	0	0	248	0	224	207	0	187
Grp Sat Flow(s),veh/h/ln	1580	0	0	1596	0	0	1859	0	1836	1860	0	1837
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	4.0	0.0	3.6	3.3	0.0	3.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.8	0.0	0.0	4.0	0.0	3.6	3.3	0.0	3.0
Prop In Lane	0.36		0.49	0.29		0.55	0.04		0.07	0.02		0.07
Lane Grp Cap(c), veh/h	284	0	0	277	0	0	470	0	464	428	0	422
V/C Ratio(X)	0.14	0.00	0.00	0.15	0.00	0.00	0.53	0.00	0.48	0.48	0.00	0.44
Avail Cap(c_a), veh/h	1126	0	0	1137	0	0	1468	0	1449	1415	0	1397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	14.6	0.0	0.0	11.1	0.0	10.9	11.5	0.0	11.3
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.9	0.0	0.8	0.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.4	0.0	0.0	2.1	0.0	1.9	1.8	0.0	1.6
LnGrp Delay(d),s/veh	14.8	0.0	0.0	14.8	0.0	0.0	12.0	0.0	11.7	12.3	0.0	12.1
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h		39			42			472			394	
Approach Delay, s/veh		14.8			14.8			11.8			12.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		13.6		8.0		12.8		8.0
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.1		22.1		26.1		22.1
Max Q Clear Time (g_c+I1), s		6.0		2.7		5.3		2.8
Green Ext Time (p_c), s		2.6		0.3		2.1		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	39	43	472	394
v/c Ratio	0.12	0.13	0.43	0.38
Control Delay	15.1	14.5	15.6	15.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.1	14.5	15.6	15.9
Queue Length 50th (ft)	3	3	27	24
Queue Length 95th (ft)	32	34	136	131
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	950	968	2635	2578
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.18	0.15

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	178	17	110	231	46	64	318	79	30	311	25
Future Volume (veh/h)	27	178	17	110	231	46	64	318	79	30	311	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	212	20	153	321	64	96	475	118	33	346	28
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.84	0.84	0.84	0.72	0.72	0.72	0.67	0.67	0.67	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	323	30	193	405	81	123	635	166	49	536	45
Arrive On Green	0.03	0.19	0.19	0.11	0.27	0.27	0.26	0.26	0.26	0.17	0.17	0.17
Sat Flow, veh/h	1774	1676	158	1774	1508	301	475	2441	638	284	3107	263
Grp Volume(v), veh/h	32	0	232	153	0	385	372	0	317	215	0	192
Grp Sat Flow(s),veh/h/ln	1774	0	1834	1774	0	1808	1839	0	1715	1849	0	1805
Q Serve(g_s), s	1.2	0.0	8.2	5.9	0.0	13.9	13.2	0.0	11.8	7.6	0.0	6.9
Cycle Q Clear(g_c), s	1.2	0.0	8.2	5.9	0.0	13.9	13.2	0.0	11.8	7.6	0.0	6.9
Prop In Lane	1.00		0.09	1.00		0.17	0.26		0.37	0.15		0.15
Lane Grp Cap(c), veh/h	59	0	353	193	0	485	478	0	446	319	0	311
V/C Ratio(X)	0.55	0.00	0.66	0.79	0.00	0.79	0.78	0.00	0.71	0.67	0.00	0.62
Avail Cap(c_a), veh/h	202	0	525	303	0	620	607	0	566	684	0	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	26.2	30.5	0.0	23.9	24.1	0.0	23.6	27.2	0.0	26.9
Incr Delay (d2), s/veh	7.7	0.0	2.1	7.4	0.0	5.5	4.9	0.0	3.0	2.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	4.3	3.3	0.0	7.7	7.3	0.0	5.9	4.1	0.0	3.6
LnGrp Delay(d),s/veh	41.1	0.0	28.3	37.9	0.0	29.3	29.0	0.0	26.6	29.7	0.0	28.9
LnGrp LOS	D		C	D		C	C		C	C		C
Approach Vol, veh/h		264			538			689			407	
Approach Delay, s/veh		29.8			31.8			27.9			29.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.2	11.6	18.4		17.0	6.3	23.8
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	12.0	20.1		26.0	8.0	24.1
Max Q Clear Time (g_c+I1), s		15.2	7.9	10.2		9.6	3.2	15.9
Green Ext Time (p_c), s		2.6	0.1	2.8		2.1	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	29.6
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	32	232	153	385	689	407
v/c Ratio	0.22	0.65	0.65	0.70	0.79	0.60
Control Delay	44.1	41.4	51.8	36.9	37.4	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	41.4	51.8	36.9	37.4	35.1
Queue Length 50th (ft)	17	114	82	193	180	110
Queue Length 95th (ft)	46	197	127	257	194	158
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	175	460	263	566	995	1127
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.50	0.58	0.68	0.69	0.36

Intersection Summary

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	225	22	38	266	88	13	18	60	28	11	107
Future Vol, veh/h	57	225	22	38	266	88	13	18	60	28	11	107
Conflicting Peds, #/hr	5	0	85	1	0	1	42	0	2	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	81	81	81	53	53	53	62	62	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	326	32	47	328	109	25	34	113	45	18	173

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	442	0	0	443	0	0	1119	1128	438	1074	1090	430
Stage 1	-	-	-	-	-	-	592	592	-	482	482	-
Stage 2	-	-	-	-	-	-	527	536	-	592	608	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1118	-	-	1117	-	-	184	204	619	198	215	625
Stage 1	-	-	-	-	-	-	493	494	-	565	553	-
Stage 2	-	-	-	-	-	-	535	523	-	493	486	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1066	-	-	1103	-	-	95	162	554	119	171	593
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	162	-	119	171	-
Stage 1	-	-	-	-	-	-	412	413	-	518	526	-
Stage 2	-	-	-	-	-	-	335	498	-	328	406	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.8	44	24.9
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	255	1066	-	-	1103	-	-	130	593
HCM Lane V/C Ratio	0.673	0.077	-	-	0.043	-	-	0.484	0.291
HCM Control Delay (s)	44	8.7	-	-	8.4	-	-	56.3	13.5
HCM Lane LOS	E	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	4.4	0.3	-	-	0.1	-	-	2.2	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	88	96	14	55	25	70	728	19	63	544	143
Future Volume (veh/h)	150	88	96	14	55	25	70	728	19	63	544	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	181	106	116	18	69	31	79	818	21	66	567	149
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.80	0.80	0.80	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	411	342	38	209	173	108	1430	619	99	1411	616
Arrive On Green	0.13	0.22	0.22	0.02	0.11	0.11	0.06	0.40	0.40	0.06	0.40	0.40
Sat Flow, veh/h	1774	1863	1549	1774	1863	1547	1774	3539	1533	1774	3539	1544
Grp Volume(v), veh/h	181	106	116	18	69	31	79	818	21	66	567	149
Grp Sat Flow(s),veh/h/ln	1774	1863	1549	1774	1863	1547	1774	1770	1533	1774	1770	1544
Q Serve(g_s), s	5.9	2.8	3.8	0.6	2.0	1.1	2.6	10.7	0.5	2.2	6.8	3.8
Cycle Q Clear(g_c), s	5.9	2.8	3.8	0.6	2.0	1.1	2.6	10.7	0.5	2.2	6.8	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	411	342	38	209	173	108	1430	619	99	1411	616
V/C Ratio(X)	0.78	0.26	0.34	0.47	0.33	0.18	0.73	0.57	0.03	0.67	0.40	0.24
Avail Cap(c_a), veh/h	446	1061	882	238	843	700	238	2146	930	267	2206	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	19.2	19.6	28.9	24.4	24.0	27.5	13.8	10.7	27.6	12.9	11.9
Incr Delay (d2), s/veh	5.8	0.3	0.6	8.7	0.9	0.5	8.9	0.4	0.0	7.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.5	1.7	0.4	1.1	0.5	1.5	5.3	0.2	1.3	3.3	1.6
LnGrp Delay(d),s/veh	31.0	19.6	20.2	37.5	25.4	24.5	36.5	14.2	10.8	35.2	13.0	12.2
LnGrp LOS	C	B	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		403			118			918			782	
Approach Delay, s/veh		24.9			27.0			16.0			14.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	29.0	5.3	18.1	7.7	28.7	11.8	11.6
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	9.0	36.2	8.0	34.0	8.0	37.2	15.0	27.0
Max Q Clear Time (g_c+I1), s	4.2	12.7	2.6	5.8	4.6	8.8	7.9	4.0
Green Ext Time (p_c), s	0.0	11.0	0.0	1.5	0.0	12.0	0.3	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	181	106	116	18	69	31	79	818	21	66	567	149
v/c Ratio	0.53	0.19	0.21	0.10	0.28	0.09	0.37	0.62	0.03	0.30	0.42	0.22
Control Delay	35.3	21.9	6.6	35.5	34.9	0.6	38.8	21.8	0.1	36.7	18.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	21.9	6.6	35.5	34.9	0.6	38.8	21.8	0.1	36.7	18.7	4.6
Queue Length 50th (ft)	72	31	0	8	28	0	33	162	0	27	102	1
Queue Length 95th (ft)	145	85	34	26	65	0	85	240	0	74	157	37
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	449	1057	935	239	852	790	239	2092	963	269	2131	989
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.10	0.12	0.08	0.08	0.04	0.33	0.39	0.02	0.25	0.27	0.15

Intersection Summary

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	13	1	1	1	18	804	2	1	622	18
Future Vol, veh/h	10	1	13	1	1	1	18	804	2	1	622	18
Conflicting Peds, #/hr	4	0	1	3	0	1	1	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	92	92	92	92	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	15	1	1	1	20	874	2	1	635	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1128	1563	331	1238	1571	443	654	0	0	877	0	0
Stage 1	647	647	-	915	915	-	-	-	-	-	-	-
Stage 2	481	916	-	323	656	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	159	111	665	132	109	562	929	-	-	766	-	-
Stage 1	426	465	-	294	350	-	-	-	-	-	-	-
Stage 2	535	349	-	663	460	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	151	106	662	123	104	559	926	-	-	763	-	-
Mov Cap-2 Maneuver	151	106	-	123	104	-	-	-	-	-	-	-
Stage 1	408	464	-	281	335	-	-	-	-	-	-	-
Stage 2	508	334	-	643	459	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21	28.9	0.4	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	926	-	-	252	154	763	-	-
HCM Lane V/C Ratio	0.021	-	-	0.108	0.021	0.001	-	-
HCM Control Delay (s)	9	0.2	-	21	28.9	9.7	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	81	25	72	102	193	13	599	66	135	480	19
Future Volume (veh/h)	28	81	25	72	102	193	13	599	66	135	480	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	95	29	83	117	222	15	673	74	144	511	20
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	230	70	107	365	305	19	870	101	182	685	28
Arrive On Green	0.03	0.17	0.17	0.06	0.20	0.20	0.27	0.27	0.27	0.24	0.24	0.24
Sat Flow, veh/h	1774	1363	416	1774	1863	1553	69	3207	372	746	2805	114
Grp Volume(v), veh/h	33	0	124	83	117	222	406	0	356	352	0	323
Grp Sat Flow(s),veh/h/ln	1774	0	1780	1774	1863	1553	1859	0	1788	1825	0	1840
Q Serve(g_s), s	1.3	0.0	4.6	3.4	4.0	9.8	14.9	0.0	13.3	13.3	0.0	11.8
Cycle Q Clear(g_c), s	1.3	0.0	4.6	3.4	4.0	9.8	14.9	0.0	13.3	13.3	0.0	11.8
Prop In Lane	1.00		0.23	1.00		1.00	0.04		0.21	0.41		0.06
Lane Grp Cap(c), veh/h	59	0	301	107	365	305	505	0	485	446	0	449
V/C Ratio(X)	0.56	0.00	0.41	0.77	0.32	0.73	0.80	0.00	0.73	0.79	0.00	0.72
Avail Cap(c_a), veh/h	193	0	558	242	635	529	616	0	592	597	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	27.2	34.0	25.3	27.7	24.9	0.0	24.3	26.0	0.0	25.4
Incr Delay (d2), s/veh	8.0	0.0	0.9	11.1	0.5	3.3	6.4	0.0	3.7	5.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	2.3	2.0	2.1	4.5	8.6	0.0	7.0	7.3	0.0	6.3
LnGrp Delay(d),s/veh	42.9	0.0	28.1	45.1	25.8	31.0	31.3	0.0	28.0	31.1	0.0	28.1
LnGrp LOS	D		C	D	C	C	C		C	C		C
Approach Vol, veh/h		157			422			762			675	
Approach Delay, s/veh		31.2			32.3			29.8			29.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		24.8	8.4	17.3		22.8	6.4	19.3
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.3	10.0	23.0		24.0	8.0	25.0
Max Q Clear Time (g_c+I1), s		16.9	5.4	6.6		15.3	3.3	11.8
Green Ext Time (p_c), s		2.7	0.1	2.0		2.7	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	30.4
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	33	124	83	117	222	762	675
v/c Ratio	0.21	0.49	0.43	0.35	0.48	0.77	0.74
Control Delay	41.5	38.4	44.3	35.0	8.8	33.5	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	38.4	44.3	35.0	8.8	33.5	33.7
Queue Length 50th (ft)	17	56	43	58	0	194	173
Queue Length 95th (ft)	44	104	89	106	53	#288	254
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	188	558	235	621	666	1133	1117
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.22	0.35	0.19	0.33	0.67	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	186	20	22	202	14	48	30	25	20	33	95
Future Vol, veh/h	80	186	20	22	202	14	48	30	25	20	33	95
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	92	92	92	87	92	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	204	22	24	220	15	55	33	29	22	36	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	235	0	0	230	0	0	738	676	219	695	679	227
Stage 1	-	-	-	-	-	-	393	393	-	275	275	-
Stage 2	-	-	-	-	-	-	345	283	-	420	404	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1332	-	-	1338	-	-	334	375	821	357	374	812
Stage 1	-	-	-	-	-	-	632	606	-	731	683	-
Stage 2	-	-	-	-	-	-	671	677	-	611	599	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1332	-	-	1338	-	-	250	343	817	300	342	812
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	343	-	300	342	-
Stage 1	-	-	-	-	-	-	588	564	-	683	671	-
Stage 2	-	-	-	-	-	-	544	665	-	519	557	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.7	21.6	14.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	332	1332	-	-	1338	-	-	528
HCM Lane V/C Ratio	0.351	0.065	-	-	0.018	-	-	0.305
HCM Control Delay (s)	21.6	7.9	-	-	7.7	-	-	14.8
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0.1	-	-	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1	46	11	4	16	17	601	16	9	545	38
Future Volume (veh/h)	35	1	46	11	4	16	17	601	16	9	545	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	1	52	12	5	18	18	639	17	10	599	42
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	12	85	138	44	85	30	1111	31	15	922	68
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.32	0.32	0.32	0.27	0.27	0.27
Sat Flow, veh/h	552	118	849	367	436	850	94	3505	98	54	3369	248
Grp Volume(v), veh/h	93	0	0	35	0	0	354	0	320	345	0	306
Grp Sat Flow(s),veh/h/ln	1519	0	0	1653	0	0	1858	0	1839	1860	0	1811
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	7.6	0.0	6.8	7.9	0.0	7.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	0.9	0.0	0.0	7.6	0.0	6.8	7.9	0.0	7.0
Prop In Lane	0.43		0.56	0.34		0.51	0.05		0.05	0.03		0.14
Lane Grp Cap(c), veh/h	260	0	0	267	0	0	589	0	583	509	0	496
V/C Ratio(X)	0.36	0.00	0.00	0.13	0.00	0.00	0.60	0.00	0.55	0.68	0.00	0.62
Avail Cap(c_a), veh/h	919	0	0	945	0	0	1064	0	1053	865	0	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	0.0	19.7	0.0	0.0	13.7	0.0	13.4	15.4	0.0	15.1
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.2	0.0	0.0	1.0	0.0	0.8	1.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.4	0.0	0.0	4.0	0.0	3.6	4.2	0.0	3.7
LnGrp Delay(d),s/veh	21.3	0.0	0.0	19.9	0.0	0.0	14.7	0.0	14.2	17.0	0.0	16.3
LnGrp LOS	C			B			B		B	B		B
Approach Vol, veh/h		93			35			674			651	
Approach Delay, s/veh		21.3			19.9			14.5			16.7	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		20.0		9.6		17.9		9.6
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.2		26.0		22.1		26.0
Max Q Clear Time (g_c+I1), s		9.6		4.7		9.9		2.9
Green Ext Time (p_c), s		3.8		0.6		3.1		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	16.0
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	93	36	674	651
v/c Ratio	0.37	0.15	0.60	0.60
Control Delay	18.7	18.9	19.4	20.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.7	18.9	19.4	20.3
Queue Length 50th (ft)	13	6	99	96
Queue Length 95th (ft)	55	30	179	185
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	783	822	1938	1568
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.04	0.35	0.42

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	254	44	71	180	50	75	531	57	63	443	85
Future Volume (veh/h)	74	254	44	71	180	50	75	531	57	63	443	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	76	259	45	84	212	59	83	590	63	73	515	99
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.85	0.85	0.85	0.90	0.90	0.90	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	332	58	108	309	86	98	726	81	91	666	135
Arrive On Green	0.06	0.22	0.22	0.06	0.22	0.22	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	1543	268	1774	1396	389	392	2917	327	366	2684	543
Grp Volume(v), veh/h	76	0	304	84	0	271	390	0	346	368	0	319
Grp Sat Flow(s),veh/h/ln	1774	0	1811	1774	0	1785	1843	0	1792	1844	0	1748
Q Serve(g_s), s	3.5	0.0	13.1	3.8	0.0	11.5	16.6	0.0	14.8	15.5	0.0	13.8
Cycle Q Clear(g_c), s	3.5	0.0	13.1	3.8	0.0	11.5	16.6	0.0	14.8	15.5	0.0	13.8
Prop In Lane	1.00		0.15	1.00		0.22	0.21		0.18	0.20		0.31
Lane Grp Cap(c), veh/h	98	0	390	108	0	394	459	0	446	457	0	433
V/C Ratio(X)	0.78	0.00	0.78	0.78	0.00	0.69	0.85	0.00	0.77	0.80	0.00	0.74
Avail Cap(c_a), veh/h	172	0	527	172	0	520	519	0	504	584	0	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	0.0	30.5	38.2	0.0	29.5	29.5	0.0	28.8	29.1	0.0	28.5
Incr Delay (d2), s/veh	12.3	0.0	5.2	11.3	0.0	2.5	11.6	0.0	6.6	6.4	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	7.1	2.2	0.0	5.9	9.9	0.0	8.1	8.7	0.0	7.1
LnGrp Delay(d),s/veh	50.7	0.0	35.7	49.5	0.0	32.0	41.1	0.0	35.4	35.5	0.0	32.3
LnGrp LOS	D		D	D		C	D		D	D		C
Approach Vol, veh/h		380			355			736			687	
Approach Delay, s/veh		38.7			36.1			38.4			34.0	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		25.4	9.0	22.6		25.3	8.5	23.1
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	8.0	24.0		26.1	8.0	24.0
Max Q Clear Time (g_c+I1), s		18.6	5.8	15.1		17.5	5.5	13.5
Green Ext Time (p_c), s		1.8	0.0	2.5		2.7	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	76	304	84	271	736	687
v/c Ratio	0.52	0.78	0.57	0.69	0.86	0.90
Control Delay	56.8	48.5	59.5	42.7	46.1	49.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	48.5	59.5	42.7	46.1	49.2
Queue Length 50th (ft)	46	172	51	147	227	212
Queue Length 95th (ft)	#100	267	#103	217	#348	#317
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	158	493	158	491	906	795
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.62	0.53	0.55	0.81	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	333	3	23	254	34	1	1	10	39	8	61
Future Vol, veh/h	41	333	3	23	254	34	1	1	10	39	8	61
Conflicting Peds, #/hr	3	0	0	0	0	0	0	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	83	83	83	88	88	88	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	374	3	28	306	41	1	1	11	49	10	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	350	0	0	378	0	0	855	873	379	862	855	330
Stage 1	-	-	-	-	-	-	468	468	-	385	385	-
Stage 2	-	-	-	-	-	-	387	405	-	477	470	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1209	-	-	1180	-	-	278	289	668	275	296	712
Stage 1	-	-	-	-	-	-	575	561	-	638	611	-
Stage 2	-	-	-	-	-	-	637	598	-	569	560	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1209	-	-	1176	-	-	230	270	666	255	277	710
Mov Cap-2 Maneuver	-	-	-	-	-	-	230	270	-	255	277	-
Stage 1	-	-	-	-	-	-	553	540	-	612	594	-
Stage 2	-	-	-	-	-	-	545	582	-	535	539	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.6	12.1	16.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	520	1209	-	-	1176	-	-	258	710
HCM Lane V/C Ratio	0.026	0.038	-	-	0.024	-	-	0.231	0.109
HCM Control Delay (s)	12.1	8.1	-	-	8.1	-	-	23.1	10.7
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-	-	0.9	0.4

2039 With-Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	109	154	11	119	47	119	531	13	30	546	128
Future Volume (veh/h)	151	109	154	11	119	47	119	531	13	30	546	128
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	194	140	197	14	149	59	198	885	22	36	650	152
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.60	0.60	0.60	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	527	440	30	313	257	191	1505	654	63	1248	540
Arrive On Green	0.13	0.28	0.28	0.02	0.17	0.17	0.11	0.43	0.43	0.04	0.35	0.35
Sat Flow, veh/h	1774	1863	1554	1774	1863	1530	1774	3539	1539	1774	3539	1532
Grp Volume(v), veh/h	194	140	197	14	149	59	198	885	22	36	650	152
Grp Sat Flow(s),veh/h/ln	1774	1863	1554	1774	1863	1530	1774	1770	1539	1774	1770	1532
Q Serve(g_s), s	7.9	4.3	7.7	0.6	5.4	2.5	8.0	14.2	0.6	1.5	10.8	5.3
Cycle Q Clear(g_c), s	7.9	4.3	7.7	0.6	5.4	2.5	8.0	14.2	0.6	1.5	10.8	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	527	440	30	313	257	191	1505	654	63	1248	540
V/C Ratio(X)	0.83	0.27	0.45	0.47	0.48	0.23	1.04	0.59	0.03	0.58	0.52	0.28
Avail Cap(c_a), veh/h	263	878	732	191	803	659	191	1725	750	191	1725	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	20.6	21.9	36.2	27.9	26.7	33.1	16.4	12.5	35.3	19.1	17.3
Incr Delay (d2), s/veh	17.9	0.3	0.7	10.9	1.1	0.4	74.9	0.4	0.0	8.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	2.3	3.4	0.4	2.9	1.1	7.9	7.0	0.3	0.9	5.3	2.3
LnGrp Delay(d),s/veh	49.3	20.9	22.6	47.1	29.1	27.2	108.1	16.8	12.5	43.3	19.4	17.6
LnGrp LOS	D	C	C	D	C	C	F	B	B	D	B	B
Approach Vol, veh/h		531			222			1105			838	
Approach Delay, s/veh		31.9			29.7			33.1			20.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	36.5	5.3	25.9	12.0	31.1	13.8	17.4
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	8.0	36.2	8.0	35.0	8.0	36.2	11.0	32.0
Max Q Clear Time (g_c+I1), s	3.5	16.2	2.6	9.7	10.0	12.8	9.9	7.4
Green Ext Time (p_c), s	0.0	11.2	0.0	2.5	0.0	12.3	0.1	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	194	140	197	14	149	59	198	885	22	36	650	152
v/c Ratio	0.72	0.20	0.28	0.09	0.44	0.16	1.01	0.64	0.03	0.22	0.60	0.28
Control Delay	51.9	20.2	4.7	40.8	32.4	2.2	107.9	23.5	0.1	41.3	24.8	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	20.2	4.7	40.8	32.4	2.2	107.9	23.5	0.1	41.3	24.8	8.3
Queue Length 50th (ft)	85	42	0	6	62	0	~93	178	0	15	123	11
Queue Length 95th (ft)	#229	98	29	26	112	1	#186	201	0	52	219	53
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	269	903	856	196	825	741	196	1773	820	196	1773	825
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.16	0.23	0.07	0.18	0.08	1.01	0.50	0.03	0.18	0.37	0.18

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	17	1	1	1	20	638	1	1	689	15
Future Vol, veh/h	10	1	17	1	1	1	20	638	1	1	689	15
Conflicting Peds, #/hr	2	0	5	1	0	0	1	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	65	65	65	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	19	1	1	1	31	982	2	1	783	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1350	1840	406	1443	1847	494	801	0	0	983	0	0
Stage 1	795	795	-	1044	1044	-	-	-	-	-	-	-
Stage 2	555	1045	-	399	803	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	109	75	594	93	74	521	818	-	-	698	-	-
Stage 1	347	398	-	245	304	-	-	-	-	-	-	-
Stage 2	484	304	-	598	394	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	100	68	590	82	68	520	813	-	-	696	-	-
Mov Cap-2 Maneuver	100	68	-	82	68	-	-	-	-	-	-	-
Stage 1	317	396	-	224	278	-	-	-	-	-	-	-
Stage 2	440	278	-	572	392	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27	40.8	0.7	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	813	-	-	195	104	696	-	-
HCM Lane V/C Ratio	0.038	-	-	0.163	0.033	0.002	-	-
HCM Control Delay (s)	9.6	0.4	-	27	40.8	10.2	0	-
HCM Lane LOS	A	A	-	D	E	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	81	13	45	173	192	20	435	86	185	513	26
Future Volume (veh/h)	22	81	13	45	173	192	20	435	86	185	513	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	91	15	52	199	221	24	524	104	226	626	32
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.83	0.83	0.83	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	279	46	78	366	307	30	685	143	260	766	41
Arrive On Green	0.03	0.18	0.18	0.04	0.20	0.20	0.24	0.24	0.24	0.29	0.29	0.29
Sat Flow, veh/h	1774	1554	256	1774	1863	1563	127	2874	602	892	2622	139
Grp Volume(v), veh/h	25	0	106	52	199	221	350	0	302	461	0	423
Grp Sat Flow(s),veh/h/ln	1774	0	1810	1774	1863	1563	1856	0	1746	1818	0	1834
Q Serve(g_s), s	1.1	0.0	3.9	2.2	7.3	10.1	13.5	0.0	12.1	18.3	0.0	16.1
Cycle Q Clear(g_c), s	1.1	0.0	3.9	2.2	7.3	10.1	13.5	0.0	12.1	18.3	0.0	16.1
Prop In Lane	1.00		0.14	1.00		1.00	0.07		0.34	0.49		0.08
Lane Grp Cap(c), veh/h	48	0	325	78	366	307	442	0	416	531	0	536
V/C Ratio(X)	0.52	0.00	0.33	0.67	0.54	0.72	0.79	0.00	0.73	0.87	0.00	0.79
Avail Cap(c_a), veh/h	187	0	596	187	613	514	591	0	556	577	0	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	0.0	27.1	35.8	27.5	28.6	27.2	0.0	26.6	25.5	0.0	24.7
Incr Delay (d2), s/veh	8.5	0.0	0.6	9.5	1.3	3.2	5.3	0.0	3.1	12.6	0.0	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.0	1.3	3.9	4.6	7.6	0.0	6.1	10.9	0.0	9.1
LnGrp Delay(d),s/veh	45.0	0.0	27.7	45.2	28.7	31.7	32.4	0.0	29.8	38.1	0.0	31.5
LnGrp LOS	D		C	D	C	C	C		C	D		C
Approach Vol, veh/h		131			472			652			884	
Approach Delay, s/veh		31.0			31.9			31.2			34.9	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.0	7.3	18.5		27.1	6.0	19.8
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		24.2	8.0	25.0		24.1	8.0	25.0
Max Q Clear Time (g_c+I1), s		15.5	4.2	5.9		20.3	3.1	12.1
Green Ext Time (p_c), s		2.6	0.0	2.5		1.9	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	32.9
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	25	106	52	199	221	652	884
v/c Ratio	0.17	0.33	0.33	0.53	0.46	0.75	0.82
Control Delay	42.8	31.7	45.2	35.3	9.4	34.5	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	31.7	45.2	35.3	9.4	34.5	36.5
Queue Length 50th (ft)	12	47	25	83	7	154	221
Queue Length 95th (ft)	41	94	68	167	61	237	#383
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	182	591	182	600	641	1087	1082
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.18	0.29	0.33	0.34	0.60	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	17

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	200	88	79	293	11	62	19	79	5	10	25
Future Vol, veh/h	52	200	88	79	293	11	62	19	79	5	10	25
Conflicting Peds, #/hr	0	0	10	0	0	0	2	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	90	90	82	82	92	54	92	54	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	222	98	96	357	12	115	21	146	5	11	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	369	0	0	330	0	0	971	956	281	1024	999	365
Stage 1	-	-	-	-	-	-	394	394	-	556	556	-
Stage 2	-	-	-	-	-	-	577	562	-	468	443	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1190	-	-	1229	-	-	232	258	758	214	243	680
Stage 1	-	-	-	-	-	-	631	605	-	515	513	-
Stage 2	-	-	-	-	-	-	502	510	-	575	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1187	-	-	1229	-	-	191	224	750	145	211	678
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	224	-	145	211	-
Stage 1	-	-	-	-	-	-	594	570	-	490	473	-
Stage 2	-	-	-	-	-	-	433	470	-	425	542	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	1.7	63.2	17.3
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	1187	-	-	1229	-	-	337
HCM Lane V/C Ratio	0.889	0.048	-	-	0.078	-	-	0.129
HCM Control Delay (s)	63.2	8.2	-	-	8.2	-	-	17.3
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	8.3	0.1	-	-	0.3	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	6	21	14	8	25	10	478	16	6	552	15
Future Volume (veh/h)	16	6	21	14	8	25	10	478	16	6	552	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	7	24	16	9	28	12	598	20	7	600	16
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	33	71	141	36	77	19	997	35	11	1021	29
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.28	0.28	0.28	0.29	0.29	0.29
Sat Flow, veh/h	445	362	774	361	392	844	67	3506	123	40	3565	100
Grp Volume(v), veh/h	49	0	0	53	0	0	331	0	299	327	0	296
Grp Sat Flow(s),veh/h/ln	1581	0	0	1597	0	0	1859	0	1837	1861	0	1844
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	6.8	0.0	6.0	6.6	0.0	5.9
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.3	0.0	0.0	6.8	0.0	6.0	6.6	0.0	5.9
Prop In Lane	0.37		0.49	0.30		0.53	0.04		0.07	0.02		0.05
Lane Grp Cap(c), veh/h	258	0	0	254	0	0	528	0	522	533	0	528
V/C Ratio(X)	0.19	0.00	0.00	0.21	0.00	0.00	0.63	0.00	0.57	0.61	0.00	0.56
Avail Cap(c_a), veh/h	886	0	0	896	0	0	1157	0	1144	1115	0	1105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	0.0	18.5	0.0	0.0	13.6	0.0	13.3	13.5	0.0	13.2
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.4	0.0	0.0	1.2	0.0	1.0	1.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	0.6	0.0	0.0	3.6	0.0	3.2	3.5	0.0	3.1
LnGrp Delay(d),s/veh	18.8	0.0	0.0	18.9	0.0	0.0	14.8	0.0	14.3	14.6	0.0	14.1
LnGrp LOS	B			B			B		B	B		B
Approach Vol, veh/h		49			53			630			623	
Approach Delay, s/veh		18.8			18.9			14.6			14.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		17.3		8.9		17.4		8.9
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.1		22.1		26.1		22.1
Max Q Clear Time (g_c+I1), s		8.8		3.2		8.6		3.3
Green Ext Time (p_c), s		3.5		0.5		3.4		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	49	53	631	623
v/c Ratio	0.18	0.19	0.56	0.56
Control Delay	18.0	17.2	19.5	19.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.0	17.2	19.5	19.8
Queue Length 50th (ft)	7	7	86	85
Queue Length 95th (ft)	38	39	185	216
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	739	758	2122	2045
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.07	0.07	0.30	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	225	24	131	258	62	68	401	97	43	510	37
Future Volume (veh/h)	43	225	24	131	258	62	68	401	97	43	510	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	51	268	29	182	358	86	101	599	145	48	567	41
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.84	0.84	0.84	0.72	0.72	0.72	0.67	0.67	0.67	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	313	34	216	393	94	104	640	163	59	723	55
Arrive On Green	0.04	0.19	0.19	0.12	0.27	0.27	0.26	0.26	0.26	0.23	0.23	0.23
Sat Flow, veh/h	1774	1651	179	1774	1451	349	407	2508	641	256	3165	240
Grp Volume(v), veh/h	51	0	297	182	0	444	457	0	388	347	0	309
Grp Sat Flow(s),veh/h/ln	1774	0	1830	1774	0	1799	1842	0	1713	1850	0	1811
Q Serve(g_s), s	2.6	0.0	14.3	9.1	0.0	21.7	22.4	0.0	19.8	16.2	0.0	14.5
Cycle Q Clear(g_c), s	2.6	0.0	14.3	9.1	0.0	21.7	22.4	0.0	19.8	16.2	0.0	14.5
Prop In Lane	1.00		0.10	1.00		0.19	0.22		0.37	0.14		0.13
Lane Grp Cap(c), veh/h	71	0	346	216	0	488	470	0	437	423	0	414
V/C Ratio(X)	0.72	0.00	0.86	0.84	0.00	0.91	0.97	0.00	0.89	0.82	0.00	0.75
Avail Cap(c_a), veh/h	156	0	404	234	0	488	470	0	437	529	0	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	35.7	39.1	0.0	32.1	33.6	0.0	32.6	33.3	0.0	32.7
Incr Delay (d2), s/veh	13.0	0.0	14.8	22.2	0.0	21.1	34.6	0.0	19.3	8.1	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	8.6	5.8	0.0	13.6	15.8	0.0	11.7	9.2	0.0	7.7
LnGrp Delay(d),s/veh	56.1	0.0	50.5	61.3	0.0	53.2	68.2	0.0	51.9	41.4	0.0	37.2
LnGrp LOS	E		D	E		D	E		D	D		D
Approach Vol, veh/h		348			626			845			656	
Approach Delay, s/veh		51.3			55.5			60.7			39.5	
Approach LOS		D			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		28.1	15.1	22.1		25.7	7.6	29.6
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	12.0	20.1		26.0	8.0	24.1
Max Q Clear Time (g_c+I1), s		24.4	11.1	16.3		18.2	4.6	23.7
Green Ext Time (p_c), s		0.0	0.0	0.8		2.4	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	52.4
HCM 2010 LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	51	297	182	444	845	656
v/c Ratio	0.38	0.83	0.83	0.92	0.99	0.79
Control Delay	51.7	56.7	72.7	60.7	64.4	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	56.7	72.7	60.7	64.4	41.3
Queue Length 50th (ft)	31	174	113	270	~291	198
Queue Length 95th (ft)	65	#272	#161	#325	244	263
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	150	395	225	485	856	967
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.75	0.81	0.92	0.99	0.68

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	50

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	282	28	48	334	112	16	23	73	36	14	136
Future Vol, veh/h	73	282	28	48	334	112	16	23	73	36	14	136
Conflicting Peds, #/hr	5	0	85	1	0	1	42	0	2	11	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	81	81	81	53	53	53	62	62	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	106	409	41	59	412	138	30	43	138	58	23	219

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	556	0	0	534	0	0	1379	1400	525	1347	1351	528
Stage 1	-	-	-	-	-	-	726	726	-	605	605	-
Stage 2	-	-	-	-	-	-	653	674	-	742	746	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1015	-	-	1034	-	-	122	140	552	128	150	550
Stage 1	-	-	-	-	-	-	416	430	-	485	487	-
Stage 2	-	-	-	-	-	-	456	454	-	408	421	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	968	-	-	1021	-	-	45	106	494	~ 55	113	521
Mov Cap-2 Maneuver	-	-	-	-	-	-	45	106	-	~ 55	113	-
Stage 1	-	-	-	-	-	-	335	347	-	429	456	-
Stage 2	-	-	-	-	-	-	225	425	-	226	339	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.8	254.7	95
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	155	968	-	-	1021	-	-	64	521
HCM Lane V/C Ratio	1.363	0.109	-	-	0.058	-	-	1.26	0.421
HCM Control Delay (s)	254.7	9.2	-	-	8.7	-	-	$ 307.7	16.8
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	13.1	0.4	-	-	0.2	-	-	6.6	2.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	111	225	18	69	29	127	851	23	75	638	165
Future Volume (veh/h)	150	111	225	18	69	29	127	851	23	75	638	165
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	181	134	271	22	86	36	143	956	26	78	665	172
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.83	0.83	0.83	0.80	0.80	0.80	0.89	0.89	0.89	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	445	370	44	254	211	179	1497	649	101	1340	585
Arrive On Green	0.13	0.24	0.24	0.02	0.14	0.14	0.10	0.42	0.42	0.06	0.38	0.38
Sat Flow, veh/h	1774	1863	1550	1774	1863	1550	1774	3539	1534	1774	3539	1544
Grp Volume(v), veh/h	181	134	271	22	86	36	143	956	26	78	665	172
Grp Sat Flow(s),veh/h/ln	1774	1863	1550	1774	1863	1550	1774	1770	1534	1774	1770	1544
Q Serve(g_s), s	6.9	4.1	11.2	0.8	2.9	1.4	5.5	14.8	0.7	3.0	10.0	5.4
Cycle Q Clear(g_c), s	6.9	4.1	11.2	0.8	2.9	1.4	5.5	14.8	0.7	3.0	10.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	445	370	44	254	211	179	1497	649	101	1340	585
V/C Ratio(X)	0.80	0.30	0.73	0.50	0.34	0.17	0.80	0.64	0.04	0.78	0.50	0.29
Avail Cap(c_a), veh/h	383	913	760	205	725	603	205	1846	800	230	1897	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	21.7	24.4	33.4	27.1	26.5	30.5	15.8	11.7	32.3	16.5	15.1
Incr Delay (d2), s/veh	6.5	0.4	2.8	8.4	0.8	0.4	17.5	0.5	0.0	12.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	2.1	5.0	0.5	1.5	0.6	3.5	7.3	0.3	1.8	4.9	2.3
LnGrp Delay(d),s/veh	35.9	22.0	27.2	41.8	27.9	26.9	48.0	16.3	11.8	44.3	16.8	15.4
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		586			144			1125			915	
Approach Delay, s/veh		28.7			29.8			20.3			18.9	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	34.3	5.7	21.5	11.0	31.2	12.8	14.4
Change Period (Y+Rc), s	4.0	4.9	4.0	4.9	4.0	4.9	4.0	4.9
Max Green Setting (Gmax), s	9.0	36.2	8.0	34.0	8.0	37.2	15.0	27.0
Max Q Clear Time (g_c+I1), s	5.0	16.8	2.8	13.2	7.5	12.0	8.9	4.9
Green Ext Time (p_c), s	0.0	11.7	0.0	2.3	0.0	13.7	0.2	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	181	134	271	23	86	36	143	956	26	78	665	172
v/c Ratio	0.58	0.28	0.45	0.14	0.36	0.11	0.68	0.64	0.04	0.39	0.51	0.26
Control Delay	40.3	27.3	6.8	38.9	38.6	0.7	57.0	22.3	0.1	41.9	20.0	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	27.3	6.8	38.9	38.6	0.7	57.0	22.3	0.1	41.9	20.0	5.9
Queue Length 50th (ft)	83	46	0	11	40	0	71	213	0	37	130	9
Queue Length 95th (ft)	152	107	46	32	79	0	#193	297	0	87	191	48
Internal Link Dist (ft)		439			389			353			158	
Turn Bay Length (ft)	420		150	85		30	160		130	160		100
Base Capacity (vph)	394	941	922	210	747	711	210	1903	889	236	1956	920
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.14	0.29	0.11	0.12	0.05	0.68	0.50	0.03	0.33	0.34	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1	16	1	1	1	23	981	2	1	829	23
Future Vol, veh/h	13	1	16	1	1	1	23	981	2	1	829	23
Conflicting Peds, #/hr	4	0	1	3	0	1	1	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	92	92	92	92	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	1	18	1	1	1	25	1066	2	1	846	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1449	1980	439	1547	1991	539	870	0	0	1069	0	0
Stage 1	861	861	-	1118	1118	-	-	-	-	-	-	-
Stage 2	588	1119	-	429	873	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	92	61	566	78	60	487	770	-	-	648	-	-
Stage 1	317	371	-	221	281	-	-	-	-	-	-	-
Stage 2	462	280	-	574	366	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	84	56	563	69	55	484	767	-	-	645	-	-
Mov Cap-2 Maneuver	84	56	-	69	55	-	-	-	-	-	-	-
Stage 1	291	369	-	203	258	-	-	-	-	-	-	-
Stage 2	420	257	-	550	364	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.9	48.5	0.6	0
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	767	-	-	150	86	645	-	-
HCM Lane V/C Ratio	0.033	-	-	0.227	0.038	0.002	-	-
HCM Control Delay (s)	9.9	0.4	-	35.9	48.5	10.6	0	-
HCM Lane LOS	A	A	-	E	E	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	119	31	81	129	280	16	684	81	192	621	31
Future Volume (veh/h)	38	119	31	81	129	280	16	684	81	192	621	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	45	140	36	93	148	322	18	769	91	204	661	33
Adj No. of Lanes	1	1	0	1	1	1	0	2	0	0	2	0
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	284	73	118	429	358	20	870	109	221	757	39
Arrive On Green	0.04	0.20	0.20	0.07	0.23	0.23	0.27	0.27	0.27	0.28	0.28	0.28
Sat Flow, veh/h	1774	1424	366	1774	1863	1555	71	3175	396	793	2723	141
Grp Volume(v), veh/h	45	0	176	93	148	322	469	0	409	469	0	429
Grp Sat Flow(s),veh/h/ln	1774	0	1790	1774	1863	1555	1859	0	1783	1823	0	1834
Q Serve(g_s), s	2.6	0.0	9.0	5.3	6.8	20.6	25.1	0.0	22.2	25.6	0.0	22.6
Cycle Q Clear(g_c), s	2.6	0.0	9.0	5.3	6.8	20.6	25.1	0.0	22.2	25.6	0.0	22.6
Prop In Lane	1.00		0.20	1.00		1.00	0.04		0.22	0.44		0.08
Lane Grp Cap(c), veh/h	63	0	356	118	429	358	510	0	489	507	0	510
V/C Ratio(X)	0.72	0.00	0.49	0.79	0.35	0.90	0.92	0.00	0.84	0.93	0.00	0.84
Avail Cap(c_a), veh/h	138	0	438	138	456	381	526	0	505	519	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.9	0.0	36.5	47.2	33.0	38.3	36.1	0.0	35.0	36.0	0.0	34.9
Incr Delay (d2), s/veh	14.4	0.0	1.1	22.7	0.5	22.8	21.1	0.0	11.5	22.3	0.0	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	4.5	3.4	3.6	11.1	15.9	0.0	12.5	16.0	0.0	13.1
LnGrp Delay(d),s/veh	63.3	0.0	37.5	69.9	33.5	61.1	57.2	0.0	46.5	58.3	0.0	46.5
LnGrp LOS	E		D	E	C	E	E		D	E		D
Approach Vol, veh/h		221			563			878			898	
Approach Delay, s/veh		42.8			55.3			52.2			52.7	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.0	10.8	25.3		33.4	7.6	28.5
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		29.0	8.0	25.1		29.2	8.0	25.1
Max Q Clear Time (g_c+I1), s		27.1	7.3	11.0		27.6	4.6	22.6
Green Ext Time (p_c), s		1.0	0.0	2.8		0.9	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	52.2
HCM 2010 LOS	D

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	45	176	93	148	322	878	898
v/c Ratio	0.35	0.65	0.66	0.40	0.57	0.87	0.88
Control Delay	52.6	48.7	68.2	40.2	8.7	44.2	44.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	48.7	68.2	40.2	8.7	44.2	44.7
Queue Length 50th (ft)	27	100	58	88	0	272	282
Queue Length 95th (ft)	62	158	#134	145	64	#408	#433
Internal Link Dist (ft)		324		365		404	400
Turn Bay Length (ft)	65		110		70		
Base Capacity (vph)	145	470	145	478	638	1038	1041
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.37	0.64	0.31	0.50	0.85	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	230	25	28	249	17	60	36	31	24	40	114
Future Vol, veh/h	96	230	25	28	249	17	60	36	31	24	40	114
Conflicting Peds, #/hr	0	0	4	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	92	92	92	87	92	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	253	27	30	271	18	69	39	36	26	43	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	289	0	0	284	0	0	903	829	270	854	834	280
Stage 1	-	-	-	-	-	-	479	479	-	341	341	-
Stage 2	-	-	-	-	-	-	424	350	-	513	493	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1273	-	-	1278	-	-	258	306	769	279	304	759
Stage 1	-	-	-	-	-	-	568	555	-	674	639	-
Stage 2	-	-	-	-	-	-	608	633	-	544	547	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1273	-	-	1278	-	-	174	273	766	218	271	759
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	273	-	218	271	-
Stage 1	-	-	-	-	-	-	519	507	-	619	624	-
Stage 2	-	-	-	-	-	-	462	618	-	440	500	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.8	38.6	19.7
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	245	1273	-	-	1278	-	-	436
HCM Lane V/C Ratio	0.587	0.082	-	-	0.024	-	-	0.444
HCM Control Delay (s)	38.6	8.1	-	-	7.9	-	-	19.7
HCM Lane LOS	E	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	3.4	0.3	-	-	0.1	-	-	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	1	58	14	5	20	21	700	20	11	676	46
Future Volume (veh/h)	43	1	58	14	5	20	21	700	20	11	676	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	1	66	16	6	23	22	745	21	12	743	51
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	17	102	126	55	100	32	1136	34	16	1009	73
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.33	0.33	0.33	0.30	0.30	0.30
Sat Flow, veh/h	510	143	862	345	462	844	99	3493	103	52	3376	244
Grp Volume(v), veh/h	116	0	0	45	0	0	415	0	373	427	0	379
Grp Sat Flow(s),veh/h/ln	1515	0	0	1651	0	0	1858	0	1838	1860	0	1812
Q Serve(g_s), s	2.7	0.0	0.0	0.0	0.0	0.0	11.1	0.0	9.8	11.9	0.0	10.6
Cycle Q Clear(g_c), s	4.1	0.0	0.0	1.4	0.0	0.0	11.1	0.0	9.8	11.9	0.0	10.6
Prop In Lane	0.42		0.57	0.36		0.51	0.05		0.06	0.03		0.13
Lane Grp Cap(c), veh/h	269	0	0	281	0	0	604	0	598	556	0	541
V/C Ratio(X)	0.43	0.00	0.00	0.16	0.00	0.00	0.69	0.00	0.62	0.77	0.00	0.70
Avail Cap(c_a), veh/h	766	0	0	789	0	0	886	0	876	721	0	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	22.8	0.0	0.0	16.7	0.0	16.3	18.2	0.0	17.7
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.3	0.0	0.0	1.4	0.0	1.1	3.8	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.7	0.0	0.0	5.9	0.0	5.2	6.6	0.0	5.6
LnGrp Delay(d),s/veh	25.0	0.0	0.0	23.0	0.0	0.0	18.1	0.0	17.4	22.0	0.0	19.9
LnGrp LOS	C			C			B		B	C		B
Approach Vol, veh/h		116			45			788			806	
Approach Delay, s/veh		25.0			23.0			17.8			21.0	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.5		11.7		21.9		11.7
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9
Max Green Setting (Gmax), s		27.2		26.0		22.1		26.0
Max Q Clear Time (g_c+I1), s		13.1		6.1		13.9		3.4
Green Ext Time (p_c), s		4.1		0.8		3.1		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.9
HCM 2010 LOS	B

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	116	45	788	806
v/c Ratio	0.47	0.21	0.67	0.68
Control Delay	21.3	19.6	22.1	23.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.3	19.6	22.1	23.5
Queue Length 50th (ft)	19	8	142	142
Queue Length 95th (ft)	64	35	219	251
Internal Link Dist (ft)	327	105	414	404
Turn Bay Length (ft)				
Base Capacity (vph)	673	678	1634	1324
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.07	0.48	0.61

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	286	55	78	234	60	91	607	67	86	521	120
Future Volume (veh/h)	82	286	55	78	234	60	91	607	67	86	521	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	84	292	56	92	275	71	101	674	74	100	606	140
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.85	0.85	0.85	0.90	0.90	0.90	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	341	65	117	327	85	101	704	81	109	685	167
Arrive On Green	0.06	0.22	0.22	0.07	0.23	0.23	0.24	0.24	0.24	0.27	0.27	0.27
Sat Flow, veh/h	1774	1516	291	1774	1422	367	413	2887	332	404	2549	621
Grp Volume(v), veh/h	84	0	348	92	0	346	450	0	399	456	0	390
Grp Sat Flow(s),veh/h/ln	1774	0	1806	1774	0	1789	1842	0	1791	1843	0	1732
Q Serve(g_s), s	4.4	0.0	17.6	4.9	0.0	17.6	23.2	0.0	20.6	22.9	0.0	20.2
Cycle Q Clear(g_c), s	4.4	0.0	17.6	4.9	0.0	17.6	23.2	0.0	20.6	22.9	0.0	20.2
Prop In Lane	1.00		0.16	1.00		0.21	0.22		0.19	0.22		0.36
Lane Grp Cap(c), veh/h	107	0	406	117	0	412	449	0	437	495	0	465
V/C Ratio(X)	0.78	0.00	0.86	0.79	0.00	0.84	1.00	0.00	0.91	0.92	0.00	0.84
Avail Cap(c_a), veh/h	149	0	456	149	0	451	449	0	437	506	0	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.1	0.0	35.4	43.8	0.0	34.9	36.0	0.0	35.0	33.8	0.0	32.8
Incr Delay (d2), s/veh	16.2	0.0	13.7	18.9	0.0	12.4	43.0	0.0	23.3	22.1	0.0	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	10.3	3.0	0.0	10.1	17.1	0.0	13.0	14.7	0.0	11.2
LnGrp Delay(d),s/veh	60.3	0.0	49.1	62.6	0.0	47.3	79.0	0.0	58.3	55.9	0.0	45.2
LnGrp LOS	E		D	E		D	F		E	E		D
Approach Vol, veh/h		432			438			849			846	
Approach Delay, s/veh		51.3			50.5			69.3			51.0	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		28.1	10.3	26.3		30.5	9.8	26.8
Change Period (Y+Rc), s		4.9	4.0	4.9		4.9	4.0	4.9
Max Green Setting (Gmax), s		23.2	8.0	24.0		26.1	8.0	24.0
Max Q Clear Time (g_c+I1), s		25.2	6.9	19.6		24.9	6.4	19.6
Green Ext Time (p_c), s		0.0	0.0	1.8		0.7	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	57.0
HCM 2010 LOS	E

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	84	348	92	346	849	846
v/c Ratio	0.59	0.85	0.64	0.84	0.99	1.21
Control Delay	62.1	54.5	65.4	53.9	65.4	139.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	54.5	65.4	53.9	65.4	139.3
Queue Length 50th (ft)	53	204	58	200	~309	~358
Queue Length 95th (ft)	#115	#341	#118	#302	#434	#450
Internal Link Dist (ft)		334		371	514	414
Turn Bay Length (ft)	80		200			
Base Capacity (vph)	150	468	150	467	860	700
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.74	0.61	0.74	0.99	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	413	4	29	314	42	1	1	12	48	10	76
Future Vol, veh/h	51	413	4	29	314	42	1	1	12	48	10	76
Conflicting Peds, #/hr	3	0	0	0	0	0	0	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	1	-	-	1	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	83	83	83	88	88	88	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	464	4	35	378	51	1	1	14	61	13	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	432	0	0	469	0	0	1061	1083	469	1067	1059	407
Stage 1	-	-	-	-	-	-	581	581	-	476	476	-
Stage 2	-	-	-	-	-	-	480	502	-	591	583	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1128	-	-	1093	-	-	202	217	594	200	224	644
Stage 1	-	-	-	-	-	-	499	500	-	570	557	-
Stage 2	-	-	-	-	-	-	567	542	-	493	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1128	-	-	1089	-	-	154	199	592	181	205	642
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	199	-	181	205	-
Stage 1	-	-	-	-	-	-	474	475	-	539	537	-
Stage 2	-	-	-	-	-	-	456	523	-	455	474	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.6	13.5	22.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	440	1128	-	-	1089	-	-	185	642
HCM Lane V/C Ratio	0.036	0.051	-	-	0.032	-	-	0.397	0.15
HCM Control Delay (s)	13.5	8.4	-	-	8.4	-	-	36.7	11.6
HCM Lane LOS	B	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-	-	1.8	0.5

APPENDIX E

TRAFFIC SIGNAL WARRANT ANALYSIS SHEETS

Existing-Plus-Project Conditions

Warrant 3: Peak Hour

7: Veterans Way & 5th Existing Plus Project

Intersection Informatior

	Major Street	Minor Street
Street Name	5th	Veterans Way
Direction	EB/WB	NB/SB
Number of Lane:	2	2
Approch Speed	25	30

Warrant 3 Met? **No**

Details

Low Population? No

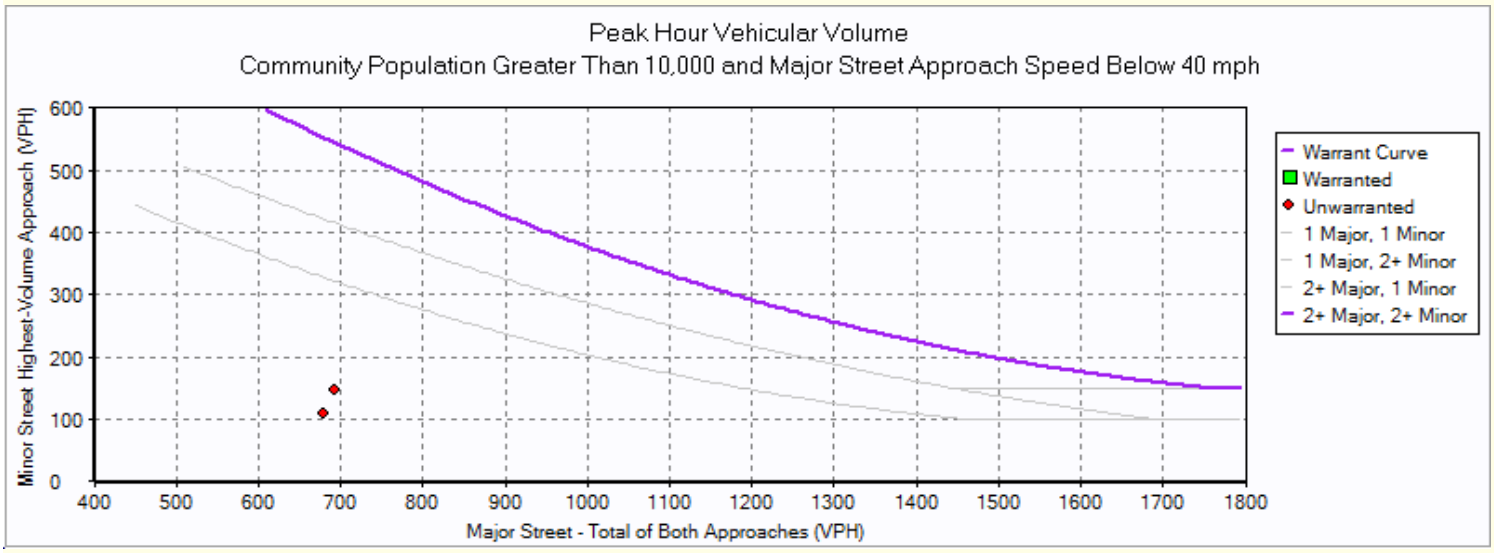
Condition A Met' No

Notes 0 Hours met (1 required)

Condition B Met' No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

7: Veterans Way & 5th Existing Plus Project

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:30	694	146
17:15	680	108

Near-Term With-Project Conditions

Warrant 3: Peak Hour

7: Veterans Way & 5th - Near-Term With Project

Intersection Informatior

	Major Street	Minor Street
Street Name	5th	Veterans Way
Direction	EB/WB	NB/SB
Number of Lane:	2	2
Approch Speed	25	30

Warrant 3 Met? **No**

Details

Low Population? No

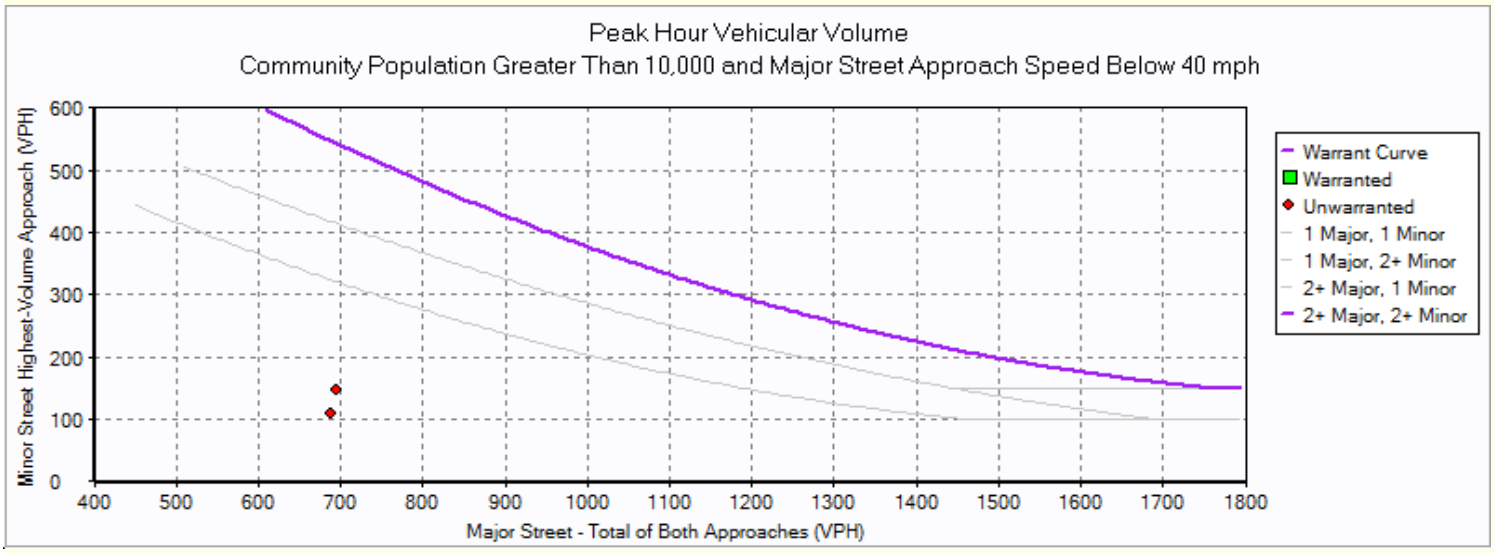
Condition A Met' No

Notes 0 Hours met (1 required)

Condition B Met' No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

7: Veterans Way & 5th - Near-Term With Project

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:30	696	146
17:15	688	108

2039 With-Project Conditions

Warrant 3: Peak Hour

2: Clovis Ave & 2nd

Intersection Informatior

	Major Street	Minor Street
Street Name	Clovis Ave	2nd
Direction	NB/SB	EB/WB
Number of Lane:	2	1
Approch Speed	35	30

Warrant 3 Met? **No**

Details

Low Population? No

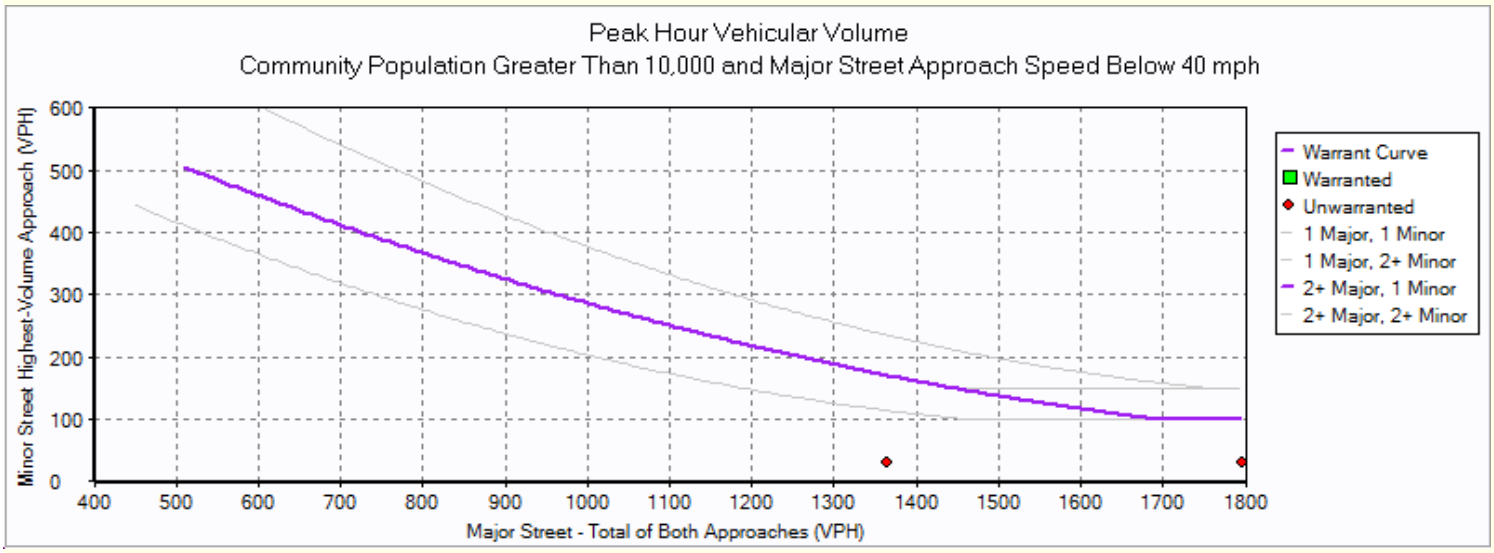
Condition A Met' No

Notes 0 Hours met (1 required)

Condition B Met' No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

2: Clovis Ave & 2nd

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:15	1,364	30
17:00	1,855	32

Warrant 3: Peak Hour

4: Veterans Way & 3rd

Intersection Informatior

	Major Street	Minor Street
Street Name	3rd	Veterans Way
Direction	EB/WB	NB/SB
Number of Lane:	2	1
Approch Speed	30	30

Warrant 3 Met? **No**

Details

Low Population? No

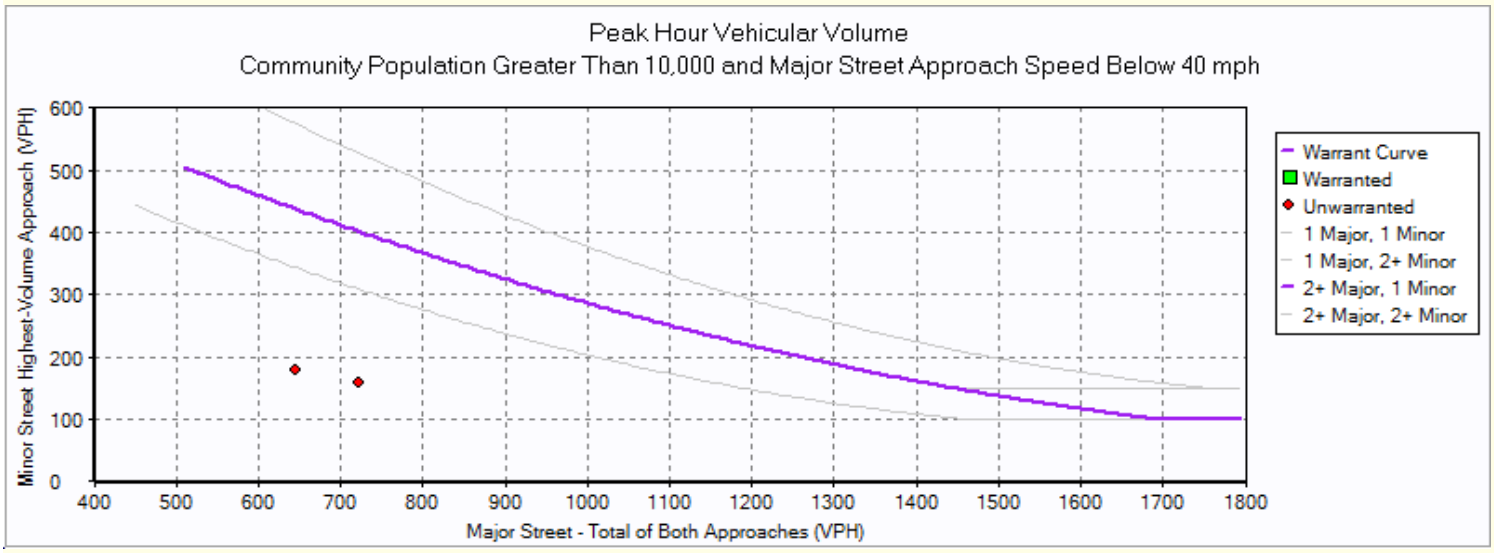
Condition A Met' No

Notes 0 Hours met (1 required)

Condition B Met' No

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 3: Peak Hour

4: Veterans Way & 3rd

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:30	723	160
16:30	645	178

Warrant 3: Peak Hour

7: Veterans Way & 5th

Intersection Information:

	Major Street	Minor Street
Street Name	5th	Veterans Way
Direction	EB/WB	NB/SB
Number of Lanes	2	2
Approach Speed	25	30

Warrant 3 Met? **No**

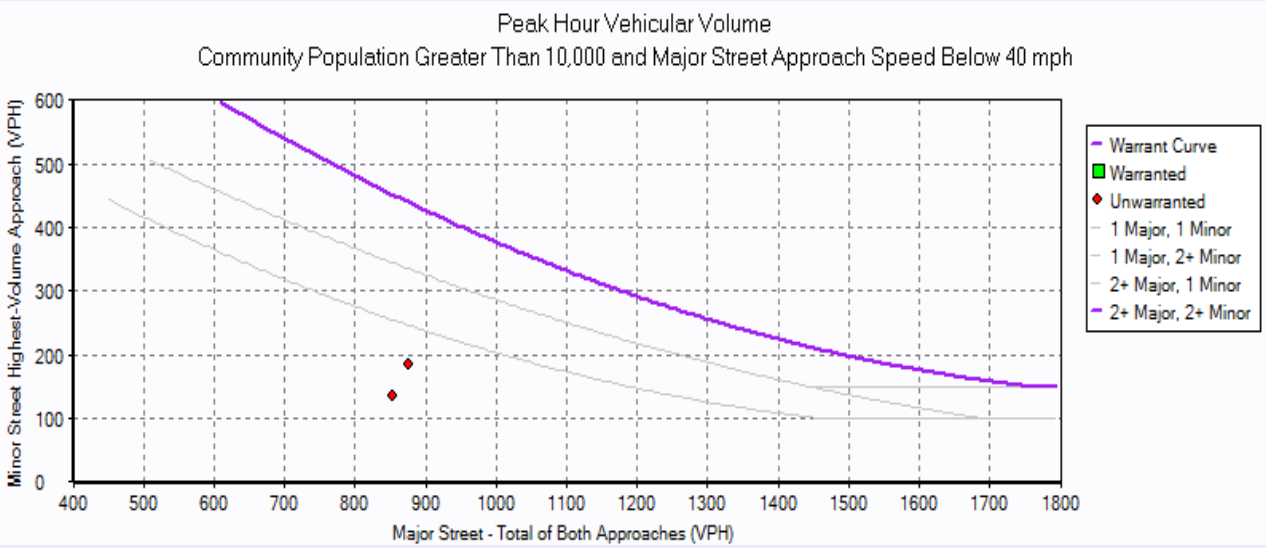
Details:

Low Population?	No
Condition A Met?	No
Notes:	0 Hours met (1 required)
Minor Approach Time Delay Condition	Not Met
Minor Approach Volume Condition	Met
Total Entering Intersection Volume Condition	Not Met
Condition B Met?	No
Notes:	0 Hours met (1 required)

Warrant 3: Peak Hour

7: Veterans Way & 5th

Warrant 3



Note: Please turn over for volume information.

Warrant 3: Peak Hour

7: Veterans Way & 5th

Warranted / Unwarranted

Hour	Major Street Total of both approaches (VPH)	Minor Street Highest volume approach (VPH)
7:30	877	186
17:15	853	134

APPENDIX F

MITIGATED INTERSECTION ANALYSIS SHEETS

Intersection	
Intersection Delay, s/veh	9.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	465	282	43
Demand Flow Rate, veh/h	384	474	287	44
Vehicles Circulating, veh/h	114	196	289	579
Vehicles Exiting, veh/h	509	380	209	91
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	2	0	10	0
Ped Cap Adj	1.000	1.000	0.999	1.000
Approach Delay, s/veh	7.8	10.5	8.3	6.6
Approach LOS	A	B	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	384	474	287	44
Cap Entry Lane, veh/h	1008	929	846	633
Entry HV Adj Factor	0.981	0.981	0.981	0.972
Flow Entry, veh/h	377	465	282	43
Cap Entry, veh/h	988	911	829	616
V/C Ratio	0.381	0.510	0.340	0.069
Control Delay, s/veh	7.8	10.5	8.3	6.6
LOS	A	B	A	A
95th %tile Queue, veh	2	3	2	0

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	384	319	144	193
Demand Flow Rate, veh/h	392	325	147	197
Vehicles Circulating, veh/h	102	216	391	377
Vehicles Exiting, veh/h	472	322	103	164
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	4	0
Ped Cap Adj	1.000	1.000	0.999	1.000
Approach Delay, s/veh	7.8	8.0	6.9	7.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	392	325	147	197
Cap Entry Lane, veh/h	1020	910	764	775
Entry HV Adj Factor	0.979	0.980	0.981	0.980
Flow Entry, veh/h	384	319	144	193
Cap Entry, veh/h	999	892	749	760
V/C Ratio	0.384	0.357	0.192	0.254
Control Delay, s/veh	7.8	8.0	6.9	7.6
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

Mr. Mike Harrison, PE
City Engineer
City of Clovis
1033 Fifth Street
Clovis, California 93612

October 25, 2017

Subject: Traffic Impact Study - Addendum No. 1
Net Trip Generation Considering Existing Facilities
Proposed Landmark Commons Project
Clovis, California

Dear Mr. Harrison:

This report presents the an estimate of the net trip generation for the proposed Landmark Commons project in Clovis, California. Peters Engineering Group previously performed a traffic impact study for the project and presented the result in a draft report dated November 23, 2016 (TIS).

The Landmark Commons project is a mixed-use development consisting of community and public uses, including a new library, senior center, and transit center that will replace existing facilities. The existing library will be utilized for City staff offices that currently are located in modular buildings that will be removed. It is also expected that the existing senior center will be incorporated into the existing law school as a law library generating no new trips. The transit center will accommodate transit staff and trips that currently exist as well.

For purposes of the traffic analyses presented in the TIS, trips expected to be generated by the Project were added to the existing traffic volumes, and no adjustments were made to account for the decrease in trips that will occur at the existing facilities. This approach provided a conservative and defensible analysis of traffic operations, especially considering that the new or redistributed trips resulting from the Project are likely to occur at different intersections not adjacent to the existing facilities.

For purposes of the air quality analyses, consideration must be given to the net trip generation, including any trip reductions, regardless of the intersections at which those trips occur. Tables 1 and 2 present an estimate of the net trip generation for the project. The values for the existing library are based on a building area of 8,457 square feet as provided by the City of Clovis.

Table 1
Project Net Vehicle Trip Generation – Near-Term

Location	Type of Trip	A.M. Peak Hour (Occurs between 7:00 and 9:00 a.m.)			P.M. Peak Hour (Occurs between 4:00 and 6:00 p.m.)			Daily
		In	Out	Total	In	Out	Total	
Transit Center	Stageline Fixed Route	8	8	16	8	8	16	208
	Roundup Driver Breaks	0	0	0	2	2	4	24
Senior Center	Employee	6	0	6	0	6	6	24
	Clovis Roundup	3	3	6	3	3	6	48
	Visitor Vehicles	15	5	18	18	18	36	240
	Instructors	2	0	2	2	2	4	16
Library	Employees and Visitors	23	9	32	104	114	219	1,688
Existing Transit Center	Stageline Fixed Route	-8	-8	-16	-8	-8	-16	-208
	Roundup Driver Breaks	0	0	0	-2	-2	-4	-24
Existing Library	Employees and Visitors	-6	-3	-9	-30	-32	-62	-476
Existing Senior Center	Employee	-6	0	-6	0	-6	-6	-24
	Clovis Roundup	-3	-3	-6	-3	-3	-6	-48
	Visitor Vehicles	-15	-5	-18	-18	-18	-36	-240
	Instructors	-2	0	-2	-2	-2	-4	-16
	NET TOTALS	**17**	**6**	**23**	**74**	**82**	**157**	**1,212**

Table 2
Project Net Vehicle Trip Generation – Future

Location	Type of Trip	A.M. Peak Hour (Occurs between 7:00 and 9:00 a.m.)			P.M. Peak Hour (Occurs between 4:00 and 6:00 p.m.)			Daily
		In	Out	Total	In	Out	Total	
Transit Center	Stageline Fixed Route	16	16	32	16	16	32	416
	Roundup Driver Breaks	0	0	0	4	4	8	48
Senior Center	Employee	12	0	12	0	12	12	48
	Clovis Roundup	6	6	12	6	6	12	96
	Visitor Vehicles	30	10	36	36	36	72	480
	Instructors	4	0	4	4	4	8	32
Library	Employees and Visitors	23	9	32	104	114	219	1,688
Existing Transit Center	Stageline Fixed Route	-8	-8	-16	-8	-8	-16	-208
	Roundup Driver Breaks	0	0	0	-2	-2	-4	-24
Existing Library	Employees and Visitors	-6	-3	-9	-30	-32	-62	-476
Existing Senior Center	Employee	-6	0	-6	0	-6	-6	-24
	Clovis Roundup	-3	-3	-6	-3	-3	-6	-48
	Visitor Vehicles	-15	-5	-18	-18	-18	-36	-240
	Instructors	-2	0	-2	-2	-2	-4	-16
	NET TOTALS	**51**	**22**	**71**	**107**	**121**	**229**	**1,772**

Reference for Tables 1 and 2: *Trip Generation Manual, 9th Edition, Institute of Transportation Engineers 2012* for Library (Land Use 590, a.m. rate: 1.04 trips per 1,000 square feet, 71% entering; p.m. rate: 7.30 trips per 1,000 square feet, 48% entering; daily rate: 56.24 trips per 1,000 square feet)
Daily volumes are combined entering and exiting.

Thank you for the opportunity to continue to work with you on this project. Please feel free to contact our office if you have any questions.

PETERS ENGINEERING GROUP

John Rowland, PE, TE

REGISTERED PROFESSIONAL ENGINEER
JOHN ROWLAND
NO. 2484
TRAFFIC
STATE OF CALIFORNIA

Exhibit A

Attachment to
City of Clovis
Resolution No. _____

California Environmental Quality Act

Findings, Facts In Support of Findings

FINAL FOCUSED ENVIRONMENTAL IMPACT REPORT LANDMARK COMMONS CIVIC CENTER NORTH

FINDINGS, FACTS IN SUPPORT OF FINDINGS

PREPARED FOR:

City of Clovis
1033 Fifth Street
Clovis, CA 93612
Contact: Andrew Haussler
559.324.2095

PREPARED BY:

ICF
630 K Street, Suite 400
Sacramento, CA 95814
Contact: Cherry Zamora
916.231.9538

June 2018

ICF

EXHIBIT "A"

ICF. 2018. *Final Focused Environmental Impact Report Landmark Commons Civic Center North: Findings, Facts in Support of Findings*. June. Sacramento, CA.

Contents

Acronyms and Abbreviations

BMP	best management practice
CEQA	California Environmental Quality Act
City	City of Clovis
EIR	Environmental Impact Report
FEIR	Final Environmental Impact Report
FMFCD	Fresno Metropolitan Flood Control District
IS	Initial Study
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
NAHC	Native American Heritage Commission
SWPPP	Storm Water Pollution Prevention Plan

Chapter 1
Introduction

A lead agency must prepare written findings of fact (Findings) for each significant effect on the environment identified in the Environmental Impact Report (EIR) (Section 21081 of the Public Resources Code) to support a decision on a project for which the EIR is certified. The City of Clovis (City), as the California Environmental Quality Act (CEQA) lead agency, prepared these Findings for the Landmark Commons Civic Center North project. The Findings must be adopted by the Clovis City Council after circulation of the Final Environmental Impact Report (FEIR) and prior to approval of the project.

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Chapter 2
Project Background and Overview

2.1 Project Background

The City-prepared Initial Study (IS) in March 2017 found that the Landmark Commons Civic Center North could result in potential significant impacts to air quality, greenhouse gas emissions, tribal cultural resources, noise, and transportation/traffic. A draft focused Environmental Impact Report (EIR) was prepared in April 2018 in accordance with CEQA, Public Resources Code 21000 et seq.; and the State CEQA Guidelines, California Code of Regulations, 15000 et seq. The 2018 draft EIR focused on air quality, greenhouse gas emissions, tribal cultural resources, noise, and transportation/traffic impacts. The 2018 final EIR considered responses to comments received on the draft EIR.

2.2 Project Overview

The proposed project would entail the development of approximately 63,000 square feet of community and office uses. The county library would be moved from its current location in the Clovis Civic Center. The Senior Center would be moved from its current location at 850 4th Street. This is a joint city/county project. For CEQA purposes, the City of Clovis is the lead agency and Fresno County is a responsible agency. The City of Clovis is developing the senior center and transit hub; the County is developing the regional library.

2.3 CEQA Process

On April 4, 2017, the City issued the Notice of Preparation for the Draft EIR. A scoping meeting was held to offer an additional opportunity for public agencies and members of the public to provide input prior to preparation of the Draft EIR at the City of Clovis on April 18, 2017.

The Draft EIR (State Clearinghouse Number 2017041010) was made available to the public and regulatory agencies for review and comment during a 45-day comment period between April 6, 2018 and May 21, 2018. Comments on the Draft EIR were submitted in writing (including as an email).

Responses were provided in the 2018 Final EIR to all comments received on the Draft EIR.

2.4 Permits and Approvals

The proposed project would require approval from the following agencies.

- Certification by the City of Clovis City Council of the Final EIR
- Approval by the City of Clovis City Council of the transit center and relocated senior center design review
- Approval by the City of Clovis City Council of the Site Plan and any necessary zoning updates

- Approval by the Fresno County Board of Supervisors of the library design
- Approval of property exchange agreement between the City of Clovis and County of Fresno by the respective governing bodies

2.5 Alternatives

The Draft EIR analyzed the proposed project and two alternatives to the project, including the No-Project Alternative. Alternative 2 (Site Plan 2) is potentially feasible, meets most of the project objectives, and reduces one or more of its significant impacts. As authorized under CEQA, the alternatives were analyzed at a lesser level of detail than the project. However, because Alternative 2 differs from the project only in its layout, the EIR examined it at nearly the same level as the project.

2.5.1 Proposed Project

The proposed project is a mixed-use development consisting of community and public uses. It is illustrated in Site Plan 1 and reflects the first concept for the layout of the site. Specifically, the project would entail the development of a combined 63,000 square feet of community and office uses including 36,000 square feet for the library. The county library would be moved from its current location in the Clovis Civic Center and the Senior Center would be moved from its current location at 850 4th Street.

Project Entitlements

The proposed project would require a site plan review by the City of Clovis. The project is consistent with Clovis General Plan designations for the site and the site zoning, and so it would not require a general plan amendment or zone change. No County entitlement is either necessary or proposed.

Project Features

The proposed project would include a senior activity center and clinic, a transit center, a county regional branch library, and associated parking and landscaping. A public plaza would be located between the senior activity center and the regional library. Each of these features is described below.

Senior Activity Center and Clinic

The senior center is to be a recreational activity center for seniors age 50+. The building will contain classrooms, meeting rooms, an exercise room, gym, multipurpose room with commercial kitchen, and offices. A health clinic will also be accommodated within the building. The building would be one-story in height and approximately 28,000-square-feet in area. This new facility would replace the existing senior activity center located at 850 Fourth Street.

The number of people in the facility would vary hour-to-hour, depending upon the activity. Most people will come for an activity or two and not stay all day. The minimum expected attendance is 100 people a day and 500 a day during peak times. Regular facility hours are from 8:00 am to 5 pm weekdays, but there are limited activities and events happening in the evening and on the weekend due to outside groups, classes, and special events.

The multipurpose room is expected to hold 300 people and will be available for rent on Saturday afternoons and evenings. The hours of the gym are expected to go beyond the regular office hours as well. Special events could include a car show, rummage sale, 5K running event, all of which could increase the number of people in attendance. Regarding the number of vehicles, people will come and go throughout the day. At the most, 100 cars would be in the parking lot at any one time. Many seniors visiting the center will take public transit or take a van provided by their apartment complex, or ride together which reduces the number of single occupant vehicles. For weekend hall rentals, there could be up to 200 cars. These would typically be in the evening when transit is no longer operating and the library is closed.

During hall rentals and special events, there may be either live or recorded music played inside the building or outside, if it is an outside event. This could occur as early as 7:00 am and as late as midnight for weekend special events and 10:00 pm on weekdays. There may be outside cooking such as BBQ as well.

The facility will be a designated emergency evacuation site. As such, it will have an emergency generator. The generator would only run when the power is out or during routine testing of the unit.

Transit Center

The Transit Center will serve three functions: a transit hub for passengers to transfer buses, purchase bus passes, and get transit information; staff offices and lunchroom; and a meeting/training room for 80-100 people that could also be used by the public. The building would be one-story in height and approximately 7,000 square-feet in area.

Transit office hours are expected to be from 6:00 am to 7:30 pm weekdays and from 7:00 am to 5:00 pm weekends. Groups may use the meeting room outside of these hours. During regular use, there would be from 6-8 staff personal vehicles in the parking lot. During meetings or training, up to 50 personal vehicles can be expected to use the parking lot. There will be a minimal number of members of the public driving their personal car to the office as most will be on public transit.

Buses would collect and drop off passengers at the transit center. Buses would access the site via Third Street and Second Street. An estimated 6-8 fixed-route buses would stop at the center per hour, plus there will be Roundup dial-a-ride type buses that will stop to use the restroom or meet with staff on and off throughout the day. Passengers may wait for the bus inside or outside the building. Buses will not be stored at the site, but some could be parked there for an extended time during training. Bus drivers will be required to shut off bus engines and not allow them to idle more than 5 minutes. However, if there are passengers on board and it's very hot or cold, engines can run longer.

County Regional Branch Library

An approximately 30,000-square-foot regional branch library (branch library) is proposed in the southwestern portion of the site. This one-story building would replace the existing County public library currently located in the Civic Center on Fifth Street. The existing Civic Center library would be converted to office space for City staff.

The new branch library is expected to serve both city residents and residents from other areas outside of the city. Residents from as far west as Highway 41, south of Kings Canyon, north of

Herndon Avenue to Friant Road and east of Quail Lake up to the mountains are expected to visit this facility.

The new branch library will replace the 8,600 square foot library building currently located in the City's main civic center campus on Fifth Street. The new building will provide services that are presently not available in the current facility due to space limitations. The branch library will feature all of the amenities of a 21st Century modern library including: a children's garden, multiple study rooms, a meeting room (minimum 50-person capacity), a conference room (minimum 200 capacity), innovation lab, quiet reading room, children's story time area, and a dedicated teen lounge. The branch library will house many personal computers for public use, early literacy stations for children, and fast, reliable Wi-Fi during open hours. Back-of-house operations will also be included, allowing ample storage of library materials and a means for shipping and receiving trucks and miscellaneous deliveries to conveniently access the branch library.

The branch library's hours of operation are to be Monday through Thursday 9:00 am to 9:00 p.m., Friday and Saturday 9:00 a.m. to 5:00 p.m. and Sunday 12 pm to 5:00 pm. There may be times outside operating hours when the public will use the building for special events and programming. For example, stargazing events, author talks, teen evening and weekend events and a host of additional programming are planned for this branch library, in keeping with events at facilities of similar size throughout the County Library system.

The new branch library is anticipated to host an average of 1,200 people throughout the course of the day. For special events, groups of up to 300 may be in the facility at one time to enjoy programming. Such events will be limited to 2-3 monthly.

The current Clovis branch library staffing will be adjusted in light of the proposed building. The County Library anticipates the need for 7 part-time library aides, 8 full-time library assistants, 1 senior library assistant and 2 programming librarians. A supervising librarian will manage the operation as well as other facilities.

As a county library, the branch library will be designed by architects contracted by the County. Design considerations will include energy efficiency and effective use of artificial and natural light within the building. The branch library is to have a garden - like setting around the building, with outdoor benches and paths connecting to the Fresno-Clovis Rail Trail. Landscaping and irrigation will be part of the building project. It is expected xeriscaping will be used to address the drought conditions of the region and to proactively conserve resources. The architect, landscape architect, County Library architect, and City of Clovis will work together as a team to create a mutually agreeable landscape that transitions people from inside the library to the garden - like setting, then again to the parking lot or other destinations like the trail and proposed transit hub.

In addition to benches throughout the landscaping, there will be a covered, outdoor space for events. Three concrete patio tables, approximately 5 feet in diameter with benches will also be installed. There will be at least four multi - use racks for safely securing bicycles, jogger strollers, etc.

Parking

Approximately 259 paved parking spaces are proposed on the site to serve the new facilities. The parking area would be shared by the proposed transit center, library, and senior center, as well as employees. The parking area is sized to accommodate the heavier demand when there are events at the senior center or the library, or when the transit center meeting/training room is in full use. The

combined staff and public parking for a branch library of this size is expected to occupy 204 parking stalls. There will be no separate parking for library delivery vehicles, but the vehicles will have access to an approach on the side of the branch library building for delivery and pick up of goods. The City will coordinate with the County Library for special events to make sure that the events will not occur simultaneously and exceed the capacity of the parking areas.

Public Spaces and Landscaping

There will be a public plaza between the senior activity center and trail and the branch library and trail. Landscaping would be installed at the locations of the proposed buildings. The proposed parking lot would contain shade trees and drought tolerant landscaping consistent with City requirements outlined in Chapter 10.1 of the Clovis Municipal Code and the City's Water Efficient Landscape Ordinance. There also would be a small courtyard by the branch library.

Roundabout at Third Street and Clovis Avenue

The intersection will be modified by 2039 to a single-lane modern roundabout designed in accordance with typical industry standards, which currently are primarily based on the Transportation Research Board's National Cooperative Research Program Report 672: Roundabouts: An Informational Guide, Second Edition, 2010.

Construction of a roundabout at the intersection of Veterans Way and Third Street will create a minimized crosswalk length across Third Street and will be beneficial to the Clovis Old Town Trail, which crosses Third Street at Veterans Way. The roundabout will include narrow roadways and a pedestrian refuge in the splitter island that allows pedestrians and bicyclists to cross against only one direction of vehicular travel at a time.

A roundabout may be installed at the time of project construction or may be deferred until the intersection is observed operating at an unacceptable Level of Service D or lower or there is an increase in the average delay if already operating at an unacceptable Level of Service. If deferred, the City will install the roundabout no later than 2039, even if the intersection operates at an acceptable Level of Service D and above or its average delay does not increase. The City will add the cost of the roundabout to the City's development fee program.

2.5.2 Alternative 1/No-Project Alternative

The No-Project Alternative assumes that the project site would be developed as allowable under the City's general plan and zoning.

2.5.3 Alternative 2/Site Plan 2

Building square footage and operations for Alternative 2/Site Plan 2 are similar to the project, however, the public plaza would be located west of the senior activity center, the library would be located slightly further east, and the transit center building and loading zones would be oriented differently. With Alternative 2/Site Plan 2, two bus loading zones would be in regular use north of the transit center building and one bus loading zone situated at the front of the library would be used on a non-regular basis. Alternative 2 reflects an evolution of the site design of the project. It is the preferred alternative.

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Chapter 3
Findings

3.1 CEQA Requirements

CEQA, Public Resources Code section 21002 provides that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." The same statute states that the procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects." Section 21002 goes on to state that "in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects."

Regarding these Findings, section 15091 of the CEQA Guidelines (14 California Code of Regulations) states:

(a) No public agency shall approve or carry out a project for which an [environmental impact report] EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

(2) Such changes or alternations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

(b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

The concept of "feasibility" also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417 [183 Cal.Rptr. 898].) '[F]easibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." (Id.; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715 [29 Cal.Rptr.2d 182].)

The CEQA Guidelines do not define the difference between "avoiding" a significant environmental effect and merely "substantially lessening" such an effect. The City must therefore glean the meaning of these terms from the other contexts in which the terms are used. Public Resources Code section

21081, on which CEQA Guidelines section 15091 is based, uses the term "mitigate" rather than "substantially lessen." The CEQA Guidelines therefore equate "mitigating" with "substantially lessening." Such an understanding of the statutory term is consistent with the policies underlying CEQA, which include the policy that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." (Public Resources Code section 21002, emphasis added.)

For purposes of these Findings, the term "avoid" refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less-than-significant level. In contrast, the term "substantially lessen" refers to the effectiveness of such measure or measures to substantially reduce the severity of a significant effect, but not to reduce that impact to a less-than-significant level. These interpretations appear to be mandated by the holding in *Laurel Hills Homeowners Association v. City Council* (1978) 83 Cal.App.3d 515, 519–527 [147 Cal.Rptr. 842], in which the Court of Appeal held that an agency had satisfied its obligation to substantially lessen or avoid significant impacts by adopting numerous mitigation measures, not all of which rendered the significant impacts in question (e.g., the "regional traffic problem") to less than significant.

3.2 Legal Effects of Findings

These findings constitute the City's best efforts to set forth the evidentiary and policy bases for its decision to approve the project in a manner consistent with the requirements of CEQA. To the extent that these findings conclude that various proposed mitigation measures outlined in the Final EIR are feasible and have not been modified, superseded or withdrawn, the City hereby binds itself to implement these measures. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when the City adopts a resolution approving the project.

3.3 Mitigation Monitoring Program

A Mitigation Monitoring and Reporting Program (MMRP) was prepared for the project, and approved by the City by the same resolution that has adopted these findings. (See Pub. Resources Code, § 21081.6, subd. (a)(1); CEQA Guidelines, § 15097.) The City will use the MMRP to track compliance with project mitigation measures. The MMRP will remain available for public review during the compliance period.

3.4 Availability of Documents

The documents and other materials that constitute the record upon which the City's decision and these Findings are based can be reviewed at the following location:

City of Clovis Planning Department
1033 Fifth Street
Clovis, CA 93612

3.5 Findings Regarding Independent Review and Judgment

Each member of the City Council was provided a complete copy of the Final EIR. The City Council hereby finds that the Final EIR meets the requirements of CEQA, reflects its independent judgment on the potential environmental impacts of the project, and that it reviewed and considered the Final EIR prior to taking final action with respect to the approval of the project.

3.6 Findings Regarding the Project

The Findings presented in this document are based on the substantial evidence contained in the Final EIR. The Findings do not attempt to describe the full analysis of each significant environmental impact contained in the Final EIR. Instead, each Finding provides a summary description of each impact, describes the applicable mitigation measures identified in the Final EIR and adopted by the City Council, and states the Findings on the significance of each impact after imposition of the adopted mitigation measures. A full explanation of these environmental Findings and conclusions can be found in the Final EIR.

In making these Findings, the City Council ratifies, adopts, and incorporates into these Findings the analysis and explanation in the Final EIR and supporting documents in the administrative record, and ratifies, adopts, and incorporates in these Findings, the determinations and conclusions of the Final EIR relating to environmental impacts and mitigation measures, except to the extent any such determinations and conclusions are specifically and expressly modified by these Findings.

3.6.1 Environmental Impacts

The IS and EIR indicated that the project would result in potentially significant impacts to cultural resources, hydrology and water quality, noise, transportation and traffic, and cumulative impacts. The potential environmental impacts to these resources have been reduced to less-than-significant levels through the incorporation of mitigation measures identified in the IS and EIR. No impacts were considered to be significant and unavoidable.

3.6.2 Findings Regarding Significant Impacts Mitigated to Less-than-Significant Levels

The IS and EIR identifies the following significant impacts that are reduced to a less-than-significant level. It is hereby determined that the significant environmental impacts which these mitigation measures address will be avoided or mitigated to a less-than-significant level by incorporation of the mitigation measures into the project.

Significant Impacts Mitigated to Less-than-Significant Levels Identified in the Final EIR

Cultural Resources

Significant Impact: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5.

It is unlikely that any cultural or historical resources would be found during the construction of the proposed project because all construction would take place on previously developed and disturbed land. However, it is possible construction of the new facilities would result in the discovery of buried cultural or historic resources, because the project site was graded but not the subject of excavation for new buildings. California Public Resources Code Section 5097.5 prohibits destruction of cultural resources. To reduce potential impacts on potential undiscovered cultural resources, Mitigation Measure CUL-1 would be implemented if resources are found during construction. With implementation of Mitigation Measure CUL-1 if necessary, the proposed project would result in an impact that is less than significant with mitigation incorporated.

Mitigation Measure CUL-1: Stop Work at Discovery of Cultural Resources

If buried cultural resources, such as chipped or ground stone, historic debris, or building foundations, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop a response plan, with appropriate treatment measures, in consultation with Fresno County, the State Historic Preservation Officer, and other appropriate agencies. Preservation in place shall be the preferred treatment method pursuant to State CEQA Guidelines Section 15126.4(b) (avoidance, open space, capping, easement). Data recovery of important information about the resource, research, or other actions determined during consultation is allowed if it is the only feasible treatment method.

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure CUL-1: Stop Work at Discovery of Cultural Resources, would reduce impacts to a less-than-significant level by stopping work if buried cultural resources are inadvertently discovered during ground-disturbing activities.

Significant Impact: Destroy directly or indirectly a unique paleontological resource or site or unique geologic feature.

There are no known unique paleontological resources, sites, or unique geologic features at the project site. Although the entire project site has been previously graded, it is remotely possible that construction of the new facilities' foundations would result in the discovery of paleontological resources or sites. The potential is remote because project development would not require extensive excavations. To reduce potential impacts on undiscovered paleontological resources, Mitigation Measure CUL-2 would be implemented if resources are found during construction. With

implementation of Mitigation Measure CUL-2, the proposed project would result in an impact that is less than significant with mitigation incorporated.

Mitigation Measure CUL-2: Stop Work at Discovery of Paleontological Resources

The construction contractor and subcontractors shall stop all work in the area immediately in the event that paleontological resources are encountered during grading, construction, landscaping, or other construction-related activity. The Clovis Public Works Department shall be notified and a qualified archaeologist will be contacted to evaluate the resources and recommend appropriate mitigation.

Work may resume after the find has been mitigated appropriately.

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure CUL-2: Stop Work at Discovery of Paleontological Resources, would reduce impacts to a less-than-significant level by stopping work in the event that paleontological resources are inadvertently discovered during grading, construction, landscaping, or other construction-related activity.

Significant Impact: Disturb any human remains, including those interred outside of formal cemeteries.

There are no known human remains, including those interred outside of formal cemeteries, on the project site. The proposed project would be constructed on previously developed land in which no human remains were found during construction of previous facilities.

Although the entire project site has been previously disturbed by construction of the previous lumber yard, it is possible construction of the new facilities would result in the discovery of human remains. To reduce potential impacts on undiscovered human remains, Mitigation Measure CUL-3 would be implemented if remains are found during construction. With implementation of Mitigation Measure CUL-3, the proposed project would result in an impact that is less than significant with mitigation.

Mitigation Measure CUL-3: Stop Work at Discovery of Human Remains

If human skeletal remains are encountered, ground-disturbing activities will be stopped within a 100-foot radius of the discovery. The Fresno County coroner must be contacted immediately and is required to examine the discovery within 48 hours. If the county coroner determines that the remains are Native American, the coroner is required to contact the Native American Heritage Commission (NAHC) within 24 hours. A qualified archaeologist should also be contacted immediately. The coroner is required to notify and seek out a treatment recommendation of the NAHC-designated Most Likely Descendant (MLD).

- If NAHC identifies an MLD, and the MLD makes a recommendation, and the landowner accepts the recommendation, then ground-disturbing activities may resume after a qualified archeologist verifies and notifies Fresno County that the recommendations have been completed.

- If NAHC is unable to identify the MLD, or the MLD makes no recommendation, or the landowner rejects the recommendation, and mediation pursuant to Public Resources Code Section 5094.98(k) fails, then ground-disturbing activities may resume, but only after a qualified archeologist verifies and notifies Fresno County that the landowner has completely reinterred the human remains and items associated with Native American burials with appropriate dignity on the property, and ensures no further disturbance of the site pursuant to Public Resources Code Section 5097.98(e) by County recording, open space designation, or a conservation easement.

If the coroner determines that no investigation of the cause of death is required and that the human remains are not Native American, then ground-disturbing activities may resume after the coroner informs Fresno County of such determination. According to state law, six or more human burials at one location constitute a cemetery and disturbance of Native American cemeteries is a felony (Public Resources Code Sections 21083.2, 5094.98, 5097.5, 5097.9; Health and Safety Code Sections. 7050.5, 7052).

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure CUL-3: Stop Work at Discovery of Human Remains, would reduce impacts to a less-than-significant level by stopping work in the event that human skeletal remains are encountered during ground-disturbing activities.

Hydrology and Water Quality

Significant Impact: Violation of any water quality standards or waste discharge requirements.

Project construction activities, such as excavation, site clearing and grading, paving, and landscaping, could temporarily affect water quality by introducing sediments, turbidity, and pollutants associated with sediments into storm drains or other water bodies. Impervious surface area is expected to increase after project implantation. Runoff from impervious surfaces could contain nonpoint pollution sources associated with automobiles and landscaped areas. Because of regionwide Low Impact Development (LID), no site specific post-construction (or LID) BMPs are needed.

All project construction activities would be subject to existing regulatory requirements. The proposed project would be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan). Accordingly, the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality. With implementation of Mitigation Measures HYD-1, HYD-2, and HYD-3, the proposed project would result in an impact that is less than significant with mitigation.

Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit

The City shall obtain coverage under the Construction General Permit in accordance with State Water Resources Control Board Order No. 2009-0009-DWQ. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan

(SWPPP). The SWPPP must list best management practices (BMPs) that the discharger will use to protect stormwater runoff and document the placement and maintenance of those BMPs. The City shall implement all applicable BMPs to reduce construction effects on water quality and eliminate non-stormwater discharges. BMPs shall include the following.

- The work site, areas adjacent to the work site, and access roads will be maintained in an orderly condition, free and clear from debris. Personnel shall not sweep, grade, or flush surplus materials, rubbish, debris, or dust into storm drains or waterways. For activities that last more than 1 day, materials or equipment left on the site overnight shall be stored as inconspicuously as possible, and shall be neatly arranged. Any materials and equipment left on the site overnight shall be stored to avoid erosion, leaks, or other potential impacts on water quality. Upon completion of work, all building materials, debris, unused materials, concrete forms, and other construction-related materials shall be removed from the work site.
- Temporary sanitary facilities shall be provided, in compliance with California Division of Occupational Safety and Health Act regulation 8, California Code of Regulations 1526. All temporary sanitary facilities shall be located where overflow or spillage cannot enter a watercourse directly (overbank) or indirectly (through a storm drain).
- The stockpiling and disposing of demolition debris, concrete, and soil shall only take place in predetermined locations identified on construction site plans. These locations shall be protected against the potential migration of pollutants through the use of appropriate protective measures.
- All trash receptacles shall be appropriately sited at locations of common congregation such as parking, break, and restroom areas. All trash receptacles shall be securable to prevent wildlife entry.

Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District

Prior to the issuance of grading or building permits, the City of Clovis shall obtain approval of the project grading and drainage plans by the Fresno Metropolitan Flood Control District (FMFCD).

Mitigation Measure HYD-3: Implement stormwater collection measures

In the Fresno-Clovis area, the FMFCD has encouraged the capture of local stormwater into earthen basins, which allows percolation of storm water into the local groundwater aquifer. FMFCD's system has created a region-wide Low Impact Development on a macro scale. BMPs for onsite collection of storm water prior to connection to the FMFCD system must be implemented to ensure that onsite stormwater flow is captured and ultimately drains to groundwater aquifers. Developments are required to pay connection fees to FMFCD to help fund construction and maintenance of master-planned facilities. The system accomplishes the goals set by the State Water Resources Control Board and the Regional Water Quality Control Board for the post-construction BMP program. No additional mitigation is required onsite.

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit, Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District, and Mitigation Measure HYD-3: Implement stormwater collection measures, would reduce impacts to a less-than-significant level by obtaining coverage under the Construction General Permit and implementing BMPs to reduce construction effects on water quality and eliminate non-stormwater discharges, coordinating with the FMFCD, and implementing BMPs for onsite collection of storm water.

Significant Impact: Other substantial degradation of water quality.

Project construction activities, such as excavation, site clearing and grading, paving, and landscaping, could temporarily affect water quality by introducing sediments, turbidity, and pollutants associated with sediments into storm drains or other water bodies. Impervious surface area is expected to increase after project implantation. Runoff from impervious surfaces could contain nonpoint pollution sources associated with automobiles and landscaped areas. Because of regionwide Low Impact Development (LID), no site specific post-construction (or LID) BMPs are needed.

All project construction activities would be subject to existing regulatory requirements. The proposed project would be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan). Accordingly, the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality. With implementation of Mitigation Measures HYD-1, HYD-2, and HYD-3, the proposed project would result in an impact that is less than significant with mitigation.

Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit

The City shall obtain coverage under the Construction General Permit in accordance with State Water Resources Control Board Order No. 2009-0009-DWQ. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list best management practices (BMPs) that the discharger will use to protect stormwater runoff and document the placement and maintenance of those BMPs. The City shall implement all applicable BMPs to reduce construction effects on water quality and eliminate non-stormwater discharges. BMPs shall include the following.

- The work site, areas adjacent to the work site, and access roads will be maintained in an orderly condition, free and clear from debris. Personnel shall not sweep, grade, or flush surplus materials, rubbish, debris, or dust into storm drains or waterways. For activities that last more than 1 day, materials or equipment left on the site overnight shall be stored as inconspicuously as possible, and shall be neatly arranged. Any materials and equipment left on the site overnight shall be stored to avoid erosion, leaks, or other potential impacts on water quality. Upon completion of work, all building materials, debris, unused materials, concrete forms, and other construction-related materials shall be removed from the work site.
- Temporary sanitary facilities shall be provided, in compliance with California Division of Occupational Safety and Health Act regulation 8, California Code of Regulations 1526. All temporary sanitary facilities shall be located where overflow or spillage cannot enter a watercourse directly (overbank) or indirectly (through a storm drain).

- The stockpiling and disposing of demolition debris, concrete, and soil shall only take place in predetermined locations identified on construction site plans. These locations shall be protected against the potential migration of pollutants through the use of appropriate protective measures.
- All trash receptacles shall be appropriately sited at locations of common congregation such as parking, break, and restroom areas. All trash receptacles shall be securable to prevent wildlife entry.

Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District

Prior to the issuance of grading or building permits, the City of Clovis shall obtain approval of the project grading and drainage plans by the Fresno Metropolitan Flood Control District (FMFCD).

Mitigation Measure HYD-3: Implement stormwater collection measures

In the Fresno-Clovis area, the FMFCD has encouraged the capture of local stormwater into earthen basins, which allows percolation of storm water into the local groundwater aquifer. FMFCD's system has created a region-wide Low Impact Development on a macro scale. BMPs for onsite collection of storm water prior to connection to the FMFCD system must be implemented to ensure that onsite stormwater flow is captured and ultimately drains to groundwater aquifers. Developments are required to pay connection fees to FMFCD to help fund construction and maintenance of master-planned facilities. The system accomplishes the goals set by the State Water Resources Control Board and the Regional Water Quality Control Board for the post-construction BMP program. No additional mitigation is required onsite.

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit, Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District, and Mitigation Measure HYD-3: Implement stormwater collection measures, would reduce impacts to a less-than-significant level by obtaining coverage under the Construction General Permit and implementing BMPs to reduce construction effects on water quality and eliminate non-stormwater discharges, coordinating with the FMFCD, and implementing BMPs for onsite collection of storm water

Noise

Significant Impact: Exposure of persons to or generation of noise levels in excess of applicable standards.

HVAC Equipment and Emergency Generators

Site Plan 1 and Site Plan 2

The proposed project would require the use of heating, ventilation, and air-conditioning (HVAC) units to heat and cool the buildings associated with the project. Under a reasonable worst-case assumption,

a unit could be located on the ground adjacent to the transit building, near the southeast corner of the proposed project site. The City's Noise Ordinance prohibits the generation of exterior noise levels at residential land uses of 55 dBA L_{EQ} (15-minute L_{eq}) during the daytime and 50 dBA L_{eq} (15-minute L_{eq}) during the nighttime. Depending on the location of future project HVAC equipment, the noise generated by the proposed HVAC system could exceed the allowable noise levels at nearby land uses. Impacts from project HVAC noise would be potentially significant.

In addition to HVAC equipment, is it possible that emergency generators would be installed as part of the project. Implementation of Mitigation Measure NOI-1a would reduce impacts from HVAC equipment and emergency generators to a less-than-significant level. If generators were located near the existing offsite residential uses, they could be as close as 25 feet away from offsite sensitive receptors. At this distance, noise levels from generator testing could be up to 6 dB higher, or approximately 87 dBA L_{eq}. Because the testing of emergency generators may result in noise levels at residential outdoor areas near the project site in excess of allowable levels, this impact would be potentially significant.

With implementation of Mitigation Measure M-NOI-1a, these impacts would be less than significant with mitigation.

Mitigation Measure M-NOI-1a: Provide Acoustical Treatments for Stationary Equipment

The project sponsor shall provide acoustical treatments for stationary equipment (including HVAC equipment and emergency generators) that reduces noise levels to below the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime City Noise Ordinance exterior thresholds at adjacent land uses, as determined by a qualified acoustical consultant. The acoustical treatments must be selected by a qualified acoustical consultant to ensure that noise levels are below the 55 dBA daytime and 50 dBA nighttime thresholds, in accordance with the noise limitations for residential properties specified in the City Noise Ordinance. Treatments may include the following provisions.

- Installation of stationary equipment as far as possible from offsite noise-sensitive land uses to reduce noise levels at adjacent parcels.
- Construction of enclosures around noise-generating mechanical equipment.
- Placement of barriers around the equipment.
- Installation of relatively quiet models of mechanical equipment.
- Use of muffler or silencers on equipment exhaust fans.
- Orientation or shielding of equipment to protect sensitive uses to the greatest extent feasible.
- Limiting the testing of emergency generators to daytime hours (7:00 a.m. to 10:00 p.m.).
- Limiting the testing of emergency generators such that only one generator is tested at a given time to limit the effects of additive noise from the equipment.

Bus Pass-by Noise from Transit Center

Site Plan 1

The proposed project includes the construction of a transit center near the southeast corner of the project site. It is estimated that six to eight fixed-route buses per hour would stop at the center, in addition to Roundup dial-a-ride type buses that will stop to provide passengers with access to the restroom or meet with staff on and off throughout the day. It is currently anticipated that the transit center would be operational from 6:00 a.m. to 7:30 p.m. on weekdays and from 7:00 a.m. to 5:00 p.m. on weekends. The transit center's primary loading zone would be on the western side of the transit building, with an additional loading zone located on the eastern side of the building to be used rarely. This secondary loading zone would be used for training sessions to help individuals who have limited experience taking buses; this loading zone would be used one to two times per month, for a limited time (likely less than 1 to 2 hours at a time). Using the Federal Transit Administration Noise Impact Assessment Spreadsheet for transportation noise sources to model bus pass-by noise, an average of 8 diesel buses per hour traveling 10 miles per hour while accessing the loading zone located on the western site of the transit building could generate noise of approximately 44 dBA L_{eq} at a distance of 60 feet (or the approximate distance to the nearest sensitive receptor). This noise level is below both the daytime (55 dBA L_{eq}) and nighttime (50 dBA L_{eq}) exterior noise standards in the City Noise Ordinance. Therefore, noise from buses accessing the loading zone on the western site of the transit building would result in a less-than-significant impact.

The loading zone located on the eastern side of the transit building would be used to conduct training to teach individuals who are less familiar with buses how various bus features work. Training sessions are anticipated for teaching the use of ramps and bus features for disabled patrons. Although bus pass-by noise from intermittent trainings may result in audible noise at adjacent residential properties, the once- or twice-per-month nature of these activities would result in less-than-significant impacts related to bus pass-by noise in this area. Therefore, noise from bus pass-by activity on both sides of the transit center would result in a less-than-significant impact with Site Plan 1.

Site Plan 2

Under Site Plan 2, the bus route would bring buses closer to existing residential land uses. Buses would enter the project site from 3rd street and turn north, then turn right to access the loading zone located north of the transit center. When buses leave this loading zone, they would travel eastward toward the alley, then turn northward in the alley, and then loop westward back onto the project site. The bus route associated with Site Plan 2 would bring buses within 5 to 10 feet of residential backyards. Implementation of Mitigation Measure NOI-1b, which would require construction of a sound wall, would reduce noise from bus pass-by activity such that both the daytime and nighttime exterior noise standards would not be exceeded. Because noise levels would be reduced to below the applicable thresholds with construction of an approximately 6-foot sound wall, with implementation of Mitigation Measure NOI-1b, this impact would be less than significant with mitigation.

Mitigation Measure NOI-1b: Construct a sound wall along eastern side of the alley.

Prior to beginning operations of the transit center and any activity that would result in bus pass-by activity, the project sponsor shall construct a solid sound wall of at least 6 feet in height along

the eastern side of the alley, beginning at the intersection of the alley with 3rd Street and extending northward to the northern terminus of the backyard for 212 Osmun Street (just south of the multi-family residential complex south of Osmun Circle). The sound wall shall be constructed with a solid sound-attenuating material that has a surface density of at least 4 lbs per square foot, such as concrete blocks, and shall have no gaps or holes.

Bus Idling Noise

Site Plan 1

Buses idling at the primary loading zone, located along the western perimeter of the transit center, would generate noise. Although there is expected to be an average of six to eight buses per hour accessing this transit center, it can be conservatively assumed that no more than two buses would idle at the bus loading zone at a given time. Two buses idling concurrently at the loading zone could result in noise levels of approximately 53 dBA L_{eq} at a distance of 60 feet (the approximate distance to the nearest residential receptor), without accounting for any attenuation that may be achieved through shielding from buildings. This noise level is below the daytime (7 a.m. to 10 p.m.) allowable noise level of 55 dBA L_{eq}, but is above the 50 dBA L_{eq} threshold for nighttime (10 p.m. to 7 a.m.) noise.

The proposed hours of operation for the transit center (from 6:00 a.m. to 7:30 p.m. on weekdays and from 7:00 a.m. to 5:00 p.m. on weekends) include 1 hour of operation for the transit center during "nighttime" hours. Without accounting for potential shielding, modeled noise levels during this hour would potentially be in excess of the applicable nighttime threshold.

However, it is important to note that the loading zone where buses would idle would be largely shielded from the closest residential use by the transit building structure. This type of shielding would essentially block the line of sight between the idling buses and the backyard associated with the closest residence. This type of shielding is expected to reduce noise levels by at least 3 dB. Therefore, noise at the nearby residential receptor would be reduced to 50 dBA L_{eq} or less, and would not exceed either the daytime or nighttime noise standards. Noise from bus idling at the western loading zone would be a less-than-significant impact.

At the loading zone located on the eastern side of the transit building, used to conduct intermittent bus training, buses may idle for limited periods (no more than approximately 5 minutes at a time) in the alley area near offsite residential property lines. However, training would occur on only 1 to 2 days per month, and only during daytime hours. Further, each training would occur over a period of 1 to 2 hours on a given training day. Thus, although idling noise from these intermittent training sessions may result in audible noise at adjacent residential properties, the noise would be very short-term and infrequent. The intermittent nature (1 to 2 times per month) and short duration (approximately 1 hour on a given training day) of these activities would result in less-than-significant noise impacts from bus idling associated with infrequent training. Overall, noise from bus idling would result in a less-than-significant impact with Site Plan 1.

Site Plan 2

Site Plan 2 includes east-west running loading zones north of the transit building. Because there would be no intervening buildings, which there would be under Site Plan 1, loading zones under Site Plan 2 would have a direct line of sight to the residential receptors. As with Site Plan 1, these loading zones are located approximately 60 feet from the nearest receptor. Consequently, without

accounting for the decibel reduction from shielding provided by buildings under Site Plan 1, the hourly average noise level from idling buses at the nearest offsite receptor would be approximately 53 dBA L_{eq}. This noise level is below the daytime (7 a.m. to 10 p.m.) allowable noise level of 55 dBA LEQ, but is above the 50 dBA L_{eq} threshold for nighttime (10 p.m. to 7 a.m.) noise.

The proposed hours of operation for the transit center (from 6:00 a.m. to 7:30 p.m. on weekdays and from 7:00 a.m. to 5:00 p.m. on weekends) include 1 hour of operation for the transit center during nighttime hours. Noise levels during this hour would be in excess of the applicable nighttime threshold. Therefore, this impact would be potentially significant.

Construction of a sound wall under Mitigation Measure NOI-1b, described previously and required to reduce bus pass-by noise, would reduce noise from bus idling activity by at least 5 to 7 dB; with the presence of this intervening wall, nighttime exterior noise standards would not be exceeded during the single nighttime (6:00 a.m. to 7:00 a.m.) hour of operation. Because noise would be reduced to a level below the applicable thresholds with construction of an approximately 6-foot sound wall, with implementation of Mitigation Measure NOI-1b, this impact would be less than significant with mitigation.

Mitigation Measure NOI-1b: Construct a sound wall along eastern side of the alley.

Prior to beginning operations of the transit center and any activity that would result in bus pass-by activity, the project sponsor shall construct a solid sound wall of at least 6 feet in height along the eastern side of the alley, beginning at the intersection of the alley with 3rd Street and extending northward to the northern terminus of the backyard for 212 Osmun Street (just south of the multi-family residential complex south of Osmun Circle). The sound wall shall be constructed with a solid sound-attenuating material that has a surface density of at least 4 lbs per square foot, such as concrete blocks, and shall have no gaps or holes.

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure M-NOI-1a: Provide Acoustical Treatments for Stationary Equipment, and NOI-1b: Construct a sound wall along eastern side of the alley, would reduce impacts to a less-than-significant level by reducing noise levels using acoustical treatments and constructing a sound wall prior to beginning operations of the transit center.

Significant Impact: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity.

Site Plan 1

As discussed above, some components of project implementation could result in the generation of noise (e.g. bus pass-by noise, bus idling noise, special event noise, and mechanical equipment noise). However, with implementation of Mitigation Measures NOI-1a, NOI-1b, and NOI-1c, described below, noise impacts related to a substantial permanent increase in existing ambient noise levels would be reduced to less than significant levels with mitigation.

Site Plan 2

Impacts under Site Plan 2 would be the same as those described under Site Plan 1. Impacts related to a substantial permanent increase in existing ambient noise levels under Site Plan 2 would be less than significant with mitigation.

Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment

The project sponsor shall provide acoustical treatments for stationary equipment (including HVAC equipment and emergency generators) that reduces noise levels to below the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime City Noise Ordinance exterior thresholds at adjacent land uses, as determined by a qualified acoustical consultant. The acoustical treatments must be selected by a qualified acoustical consultant to ensure that noise levels are below the 55 dBA daytime and 50 dBA nighttime thresholds, in accordance with the noise limitations for residential properties specified in the City Noise Ordinance. Treatments may include the following provisions.

- Installation of stationary equipment as far as possible from offsite noise-sensitive land uses to reduce noise levels at adjacent parcels.
- Construction of enclosures around noise-generating mechanical equipment.
- Placement of barriers around the equipment.
- Installation of relatively quiet models of mechanical equipment.
- Use of muffler or silencers on equipment exhaust fans.
- Orientation or shielding of equipment to protect sensitive uses to the greatest extent feasible.
- Limiting the testing of emergency generators to daytime hours (7:00 a.m. to 10:00 p.m.).
- Limiting the testing of emergency generators such that only one generator is tested at a given time to limit the effects of additive noise from the equipment.

Mitigation Measure NOI-1b: Construct a sound wall along eastern side of the alley.

Prior to beginning operations of the transit center and any activity that would result in bus pass-by activity, the project sponsor shall construct a solid sound wall of at least 6 feet in height along the eastern side of the alley, beginning at the intersection of the alley with 3rd Street and extending northward to the northern terminus of the backyard for 212 Osmun Street (just south of the multi-family residential complex south of Osmun Circle). The sound wall shall be constructed with a solid sound-attenuating material that has a surface density of at least 4 lbs per square foot, such as concrete blocks, and shall have no gaps or holes.

Site Plan 1

Noise would be generated by individuals gathering for periodic events in the outdoor public plaza between the library and senior center. Events could occur once or twice per week, on average. The hall associated with the proposed project may be rented for special events, and these special events could have some outdoor components in the plaza. During hall rentals and special events, there may be either live or recorded music played inside or outside the building. These events could occur as early as 7:00 am and as late as midnight for weekend special events, and as late as 10:00 pm for

weekday special events. Special events could include but are not limited to a car show, rummage sale, and a 5K running event.

The offsite noise-sensitive land uses closest to the plaza area are the residences located to the east of the alley, bordering the eastern edge of the project site. These residential property lines are located as close as 275 feet from the plaza area.

A live rock band can generate a noise level of about 100 dBA L_{eq} at a distance of 50 feet (Charles M. Salter Associates 2008). Based on this source data, the hourly noise level would be 85 dBA L_{eq} at a distance of 275 feet (nearest residential land uses). This noise level would be in excess of both the daytime (55 dBA L_{EQ}) and nighttime (50 dBA L_{EQ}) exterior noise standards in the City Noise Ordinance. Therefore, it is possible that noise generated at events in the plaza could exceed thresholds at nearby noise-sensitive land uses. This impact would be potentially significant. By restricting sound levels, implementation of Mitigation Measure NOI-1c would reduce impacts resulting from special events at the plaza to a less-than-significant level. This impact would be less than significant with mitigation.

Site Plan 2

Site Plan 2 includes the development of the outdoor plaza near the southwestern corner of the project site. As described under the analysis for Site Plan 1, there is a potential for amplified music during events. A live rock band can generate a noise level of about 85 dBA LEQ at a distance of 275 feet (the distances to the nearest residential land uses with Site Plan 1). Under Site Plan 2, the distance between the plaza and those same residences would increase. However, the plaza location under Site Plan 2 is closer to residential land uses along 3rd Street east of the intersection of 3rd Street and Pollasky Avenue. Residences in this area would be as close as 330 feet from the proposed plaza location under Site Plan 2. At this distance, noise would be approximately 1.5 dB quieter than the noise level at 275 feet (83.5 dBA L_{eq} instead of 85 dBA L_{eq}). This noise level would be in excess of both the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime exterior noise standards in the City Noise Ordinance. Therefore, with implementation of Site Plan 2, noise from public gatherings or events at the plaza would result in potentially significant noise impacts. Implementation of Mitigation Measure M-NOI-1C would reduce impacts from special events at the plaza to a less-than-significant level for Site Plan 2. This impact would be less than significant with mitigation.

Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events.

The project sponsor shall require noise from onsite events and gatherings to be limited to the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime exterior thresholds at adjacent land uses.

To ensure these noise standards are not exceeded at adjacent residences located approximately 275 feet away, event noise shall be limited to 65 dBA L_{eq} at a distance of 50 feet during nighttime hours (10:00 p.m. to 7:00 a.m.) and 70 dBA L_{eq} at a distance of 50 feet during daytime hours. The project proponent shall monitor event noise to ensure that the level is not exceeded and shall require reductions in noise to achieve that standard. When an onsite event or gathering is similar in nature to a previously monitored event, additional monitoring will not be required as long as the event or gathering employs all reductions required of the previously monitored event. This mitigation measure will likely require limiting or prohibiting events with loud amplified sound, such as events including a rock band.

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure M-NOI-1a: Provide Acoustical Treatments for Stationary Equipment, and NOI-1b: Construct a sound wall along eastern side of the alley, and NOI-1c: Noise Reduction Measures for Special Events, would reduce impacts to a less-than-significant level by reducing noise levels using acoustical treatments, reducing noise levels by constructing a sound wall prior to beginning operations of the transit center, and limiting event noise through monitoring.

Transportation and Traffic

Significant Impact: Result in a substantial increase in hazards because of a design feature (e.g., sharp curves, dangerous intersections) or incompatible uses (e.g., farm equipment).

The project would likely increase bicyclist and pedestrian use of Clovis Old Town Trail, an increase that would help meet a project objective of optimizing pedestrian and bicyclist access to transit and goals of the *Central Clovis Specific Plan.* However, the project also would contribute to an increase in motor vehicle traffic on Third and Fifth Streets, both of which the multiple-use Clovis Old Town Trail crosses without controls on the streets. The effects of Site Plan 1 and Site Plan 2 would be the same.

Construction of a roundabout at the intersection of Veterans Way and Third Street by 2039 as required under Mitigation Measure TRA-1, would minimize the crosswalk length across Third Street. The roundabout would have narrow lanes and a pedestrian refuge in the splitter island that allows pedestrians and bicyclists to cross against only one direction of vehicular travel at a time, which would be a safety improvement. In addition, Mitigation Measure TRA-2 would require installation of signage and pavement markings on Clovis Old Town Trail and Third Street to warn pedestrians, bicyclists, and motor vehicle operators to be alert for each other and to share space.

The project also could result in additional conflicts between pedestrians and cyclists on the Clovis Old Town Trail and motor vehicle drivers on Fifth Street. Those conflicts could be reduced with installation of signage and pavement markings, as required under Mitigation Measure TRA-2.

With implementation of Mitigation Measure TRA-1, the impact related to street hazards would be less than significant.

Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings

In accordance with the *California Manual on Uniform Traffic Control Devices for Streets and Highways*, the City will install appropriate signage and pavement markings at the intersections of Clovis Old Town Trail and Third Street, and Clovis Old Town Trail and Fifth Street. The signage and pavement markings shall be installed prior to operation of any portion of the project.

Significant Impact: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (less than significant with mitigation)

The project is intended to improve public transit facilities, and the City choose a project site adjacent to the multiple-use Clovis Old Town Trail to optimize pedestrian and bicyclist access to transit.

These project intents are consistent with the 2014 RTP goals, CMP strategies, and *Clovis General Plan* goals and policies.

The effects of Site Plan 1 and Site Plan 2 are the same because the two plans generate the same amount of traffic and affect the same streets.

As discussed under Impact TRA-4, the project has the potential to increase both the number of pedestrians and bicyclists in the project vicinity, and the number of motor vehicles. The increases could result in conflicts between pedestrians and bicyclists on the Clovis Old Town Trail, and motor vehicles on Third Street and Fifth Street, which Clovis Old Town Trail crosses without traffic controls on the streets. The implementation of Mitigation Measure TRA-1 would reduce the impact related to those conflicts to a less-than-significant level.

Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings

In accordance with the *California Manual on Uniform Traffic Control Devices for Streets and Highways*, the City will install appropriate signage and pavement markings at the intersections of Clovis Old Town Trail and Third Street, and Clovis Old Town Trail and Fifth Street. The signage and pavement markings shall be installed prior to operation of any portion of the project.

Findings: The City Council hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings, would reduce impacts to a less-than-significant level by reducing the potential for conflicts between pedestrians and bicyclists on the Clovis Old Town Trail, and motor vehicles on Third Street and Fifth Street, which Clovis Old Town Trail crosses without traffic controls on the streets.

Cumulative Impacts

Significant Impact: Exposure of persons to or generation of noise levels in excess of applicable standards.

Project operations, including parking lot operations, HVAC equipment, emergency generators, buses at the transit center, and events at the plaza but not including project-related traffic, would be expected to result in the generation of noise in the project vicinity. Potential direct project impacts related to HVAC equipment, emergency generators, and event noise at the plaza were identified in Impact NOI-1. Significant noise levels from these sources could potentially combine with noise from other cumulative projects to result in cumulative noise impacts.

However, implementation of project Mitigation Measures NOI-1a, NOI-1b, and NOI-1c would reduce direct noise impacts from these project noise sources to less-than-significant levels, and would ensure that the project would not result in a cumulatively considerable contribution to potential cumulative operational (non-traffic related) noise impacts. Cumulative noise impacts related to these operational noise sources would be less than significant with mitigation.

Based on modeling results of the cumulative traffic scenarios, no roadway segment is predicted to have a 3 dB increase in noise levels between existing conditions and cumulative with project

conditions. Therefore, no significant cumulative traffic noise impacts are identified. Further, project traffic would not increase traffic noise levels from cumulative no project conditions to cumulative with project conditions by 3 dB along any modeled roadway segments. Therefore, the project would not result in a cumulatively considerable contribution to traffic noise along any roadway segment. Cumulative traffic noise impacts would be less than significant.

Because cumulative noise impacts related to project operations (excluding traffic) would be less than significant with mitigation, and because cumulative traffic noise impacts would be less than significant, overall cumulative project impacts related to the exposure of persons to or generation of noise levels in excess of applicable standards would be less than significant with mitigation.

Mitigation Measure M-NOI-1a: Provide Acoustical Treatments for Stationary Equipment

The project sponsor shall provide acoustical treatments for stationary equipment (including HVAC equipment and emergency generators) that reduces noise levels to below the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime City Noise Ordinance exterior thresholds at adjacent land uses, as determined by a qualified acoustical consultant. The acoustical treatments must be selected by a qualified acoustical consultant to ensure that noise levels are below the 55 dBA daytime and 50 dBA nighttime thresholds, in accordance with the noise limitations for residential properties specified in the City Noise Ordinance. Treatments may include the following provisions.

- Installation of stationary equipment as far as possible from offsite noise-sensitive land uses to reduce noise levels at adjacent parcels.
- Construction of enclosures around noise-generating mechanical equipment.
- Placement of barriers around the equipment.
- Installation of relatively quiet models of mechanical equipment.
- Use of muffler or silencers on equipment exhaust fans.
- Orientation or shielding of equipment to protect sensitive uses to the greatest extent feasible.
- Limiting the testing of emergency generators to daytime hours (7:00 a.m. to 10:00 p.m.).
- Limiting the testing of emergency generators such that only one generator is tested at a given time to limit the effects of additive noise from the equipment.

Mitigation Measure NOI-1b: Construct a sound wall along eastern side of the alley.

Prior to beginning operations of the transit center and any activity that would result in bus pass-by activity, the project sponsor shall construct a solid sound wall of at least 6 feet in height along the eastern side of the alley, beginning at the intersection of the alley with 3rd Street and extending northward to the northern terminus of the backyard for 212 Osmun Street (just south of the multi-family residential complex south of Osmun Circle). The sound wall shall be

constructed with a solid sound-attenuating material that has a surface density of at least 4 lbs per square foot, such as concrete blocks, and shall have no gaps or holes.

Significant Impact: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity.

Operation of the proposed project under either Site Plan 1 or Site Plan 2 would result in noise from buses, mechanical equipment, parking lot activity, and plaza events. Project operation could result in permanent increases in noise levels in the project vicinity. However, implementation of Mitigation Measures NOI-1a, NOI-1b, and NOI-1c would reduce noise impacts related to a substantial permanent increase in noise to less-than-significant levels.

Because direct project impacts related to a substantial permanent increase in noise were determined to be less than significant with mitigation, the project would not result in a cumulatively considerable contribution to potential cumulative noise impacts related to a permanent increases in noise. Cumulative impacts related to a substantial permanent increase in ambient noise levels would be less than significant with mitigation.

Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment

The project sponsor shall provide acoustical treatments for stationary equipment (including HVAC equipment and emergency generators) that reduces noise levels to below the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime City Noise Ordinance exterior thresholds at adjacent land uses, as determined by a qualified acoustical consultant. The acoustical treatments must be selected by a qualified acoustical consultant to ensure that noise levels are below the 55 dBA daytime and 50 dBA nighttime thresholds, in accordance with the noise limitations for residential properties specified in the City Noise Ordinance. Treatments may include the following provisions.

- Installation of stationary equipment as far as possible from offsite noise-sensitive land uses to reduce noise levels at adjacent parcels.
- Construction of enclosures around noise-generating mechanical equipment.
- Placement of barriers around the equipment.
- Installation of relatively quiet models of mechanical equipment.
- Use of muffler or silencers on equipment exhaust fans.
- Orientation or shielding of equipment to protect sensitive uses to the greatest extent feasible.
- Limiting the testing of emergency generators to daytime hours (7:00 a.m. to 10:00 p.m.).
- Limiting the testing of emergency generators such that only one generator is tested at a given time to limit the effects of additive noise from the equipment.

Mitigation Measure NOI-1b: Construct a sound wall along eastern side of the alley.

Prior to beginning operations of the transit center and any activity that would result in bus pass-by activity, the project sponsor shall construct a solid sound wall of at least 6 feet in height along the eastern side of the alley, beginning at the intersection of the alley with 3rd Street and

extending northward to the northern terminus of the backyard for 212 Osmun Street (just south of the multi-family residential complex south of Osmun Circle). The sound wall shall be constructed with a solid sound-attenuating material that has a surface density of at least 4 lbs per square foot, such as concrete blocks, and shall have no gaps or holes.

Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events.

The project sponsor shall require noise from onsite events and gatherings to be limited to the 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime exterior thresholds at adjacent land uses.

To ensure these noise standards are not exceeded at adjacent residences located approximately 275 feet away, event noise shall be limited to 65 dBA L_{eq} at a distance of 50 feet during nighttime hours (10:00 p.m. to 7:00 a.m.) and 70 dBA L_{eq} at a distance of 50 feet during daytime hours. The project proponent shall monitor event noise to ensure that the level is not exceeded and shall require reductions in noise to achieve that standard. When an onsite event or gathering is similar in nature to a previously monitored event, additional monitoring will not be required as long as the event or gathering employs all reductions required of the previously monitored event. This mitigation measure will likely require limiting or prohibiting events with loud amplified sound, such as events including a rock band.

3.7 Record of Proceedings

Various documents and other materials constitute the record of proceedings upon which the City Council bases its Findings and decisions contained herein, including, without limitation, the Final EIR (including the IS and Draft EIR), the Findings, and the MMRP. All documents related to the project are available upon request at the City's Planning Department 1033 5th Street in Clovis. In accordance with Public Resources Code Section 21167.6, subdivision (e), the record of proceedings for the City Council's decision on the project includes but is not limited to the following documents:

- 2017 Initial Study
- 2018 Draft EIR
- 2018 Final EIR

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Exhibit B

Attachment to

City of Clovis

Resolution No. _____

MITIGATION AND MONITORING/REPORTING PROGRAM

Final Mitigation Monitoring and Reporting Program

EXHIBIT "B"

Final Mitigation Monitoring and Reporting Program

Introduction

Section 21081.6 of the California Environmental Quality Act (CEQA) and Section 15097 of the State CEQA Guidelines require a lead agency that adopts an environmental impact report (EIR) to establish a program to monitor and report on the adopted mitigation measures in order to ensure that approved mitigation measures are implemented subsequent to project approval. Specifically, the lead agency must adopt a reporting or monitoring program for mitigation measures incorporated into a project or imposed as conditions of approval. The program must be designed to ensure compliance during project implementation. As stated in California Public Resources Code Section 21081.6(a)(1):

> The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.

This mitigation monitoring and reporting program (MMRP) is designed to meet that requirement. As lead agency for this project, the City of Clovis will use this MMRP to ensure compliance with mitigation measures associated with implementation of the proposed project. Mitigation measures identified in this MMRP were developed in the EIR prepared for the proposed project. The MMRP will provide for monitoring of construction activities as necessary and in-the-field identification and resolution of environmental concerns.

The following table indicates the mitigation measure number, the mitigation measure text, implementation timing, the monitoring agency, and an area to record monitoring compliance.

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Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring	Verification of Completion	
				Date	Initial
Aesthetics					
Mitigation Measure AES-1: Implement Lighting Design That Limits Light Spill All exterior lighting will be shielded to avoid release of light upward. Exterior building and walkway lighting shall be directed downward and light fixtures shall be no taller than necessary to provide secure lighting of buildings and walkways. Light spill onto adjoining properties shall be avoided through design and shielding of light fixtures. The parking lot lighting will be of no greater intensity or height than is necessary to provide secure lighting of the parking lot. Parking lot light fixtures shall be directed downward so that no light is emitted above a 90 degree angle from vertical, and light fixtures shall be shielded to keep light from spilling off the site.	Project design, prior to construction	City of Clovis	**Reviewing Party** City of Clovis **Monitoring Action** City shall verify incorporation of measure in plans		
Cultural Resources					
Mitigation Measure CUL-1: Stop Work at Discovery of Cultural Resources If buried cultural resources, such as chipped or ground stone, historic debris, or building foundations, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop a response plan, with appropriate treatment measures, in consultation with Fresno County, the State Historic Preservation Officer, and other appropriate agencies. Preservation in place shall be the preferred treatment method pursuant to State CEQA Guidelines Section 15126.4(b) (avoidance, open space, capping, easement). Data recovery of important information about the resource, research, or other actions determined during consultation is allowed if it is the only feasible treatment method.	During construction	Project Contractor	**Reviewing Party** City of Clovis **Monitoring Action** City shall verify incorporation of measure in permit documentation and plans and shall review and approve mitigation monitoring report		
Mitigation Measure CUL-2: Stop Work at Discovery of Paleontological Resources The construction contractor and subcontractors shall stop all work in the area immediately in the event that paleontological resources are encountered during grading, construction, landscaping, or other construction-related activity. The Clovis Public Works Department shall be notified and a qualified archaeologist will be contacted to evaluate the resources and recommend appropriate mitigation. Work may resume after the find has been mitigated appropriately.	During construction	Project Contractor	**Reviewing Party** City of Clovis **Monitoring Action** City shall verify incorporation of measure in permit documentation and plans and shall review and approve mitigation monitoring report.		
Mitigation Measure CUL-3: Stop Work at Discovery of Human Remains If human skeletal remains are encountered, ground-disturbing activities will be stopped within a 100-foot radius of the discovery. The Fresno County coroner must be contacted immediately and is required to examine the discovery within 48 hours. If the county coroner determines that the remains are Native American, the coroner is required to contact the Native American Heritage Commission (NAHC) within 24 hours. A qualified archaeologist should also be contacted immediately. The coroner is required to notify and seek out a treatment recommendation of the NAHC-designated Most Likely Descendant (MLD). • If NAHC identifies an MLD, and the MLD makes a recommendation, and the landowner accepts the recommendation, then ground-disturbing activities may resume after a qualified archeologist verifies and notifies Fresno County that the recommendations have been completed. • If NAHC is unable to identify the MLD, or the MLD makes no recommendation, or the landowner rejects the recommendation, and mediation pursuant to Public Resources Code Section 5094.98(k) fails, then ground-disturbing activities may resume, but only after a qualified archeologist verifies and notifies Fresno County that the landowner has completely reinterred the human remains and items associated with Native American burials with appropriate dignity on the property, and ensures no further disturbance of the site pursuant to Public Resources Code Section 5097.98(e) by County recording, open space designation, or a conservation easement. If the coroner determines that no investigation of the cause of death is required and that the human remains are not Native American, then ground-disturbing activities may resume after the coroner informs Fresno County of such determination. According to state law, six or more human burials at one location constitute a cemetery and disturbance of Native American cemeteries is a felony (Public Resources Code Sections 21083.2, 5094.98, 5097.5, 5097.9; Health and Safety Code Sections. 7050.5, 7052).	During Construction	Project Contractor	**Reviewing Party** City of Clovis **Monitoring Action** City shall verify incorporation of measure in permit documentation and plans and shall review and approve mitigation monitoring report.		

Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring	Verification of Completion	
				Date	Initial
Hydrology					
Mitigation Measure HYD-1: Obtain coverage under the Construction General Permit The City shall obtain coverage under the Construction General Permit in accordance with State Water Resources Control Board Order No. 2009-0009-DWQ. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list best management practices (BMPs) that the discharger will use to protect stormwater runoff and document the placement and maintenance of those BMPs. The City shall implement all applicable BMPs to reduce construction effects on water quality and eliminate non-stormwater discharges. BMPs shall include the following. • The work site, areas adjacent to the work site, and access roads will be maintained in an orderly condition, free and clear from debris. Personnel shall not sweep, grade, or flush surplus materials, rubbish, debris, or dust into storm drains or waterways. For activities that last more than 1 day, materials or equipment left on the site overnight shall be stored as inconspicuously as possible, and shall be neatly arranged. Any materials and equipment left on the site overnight shall be stored to avoid erosion, leaks, or other potential impacts on water quality. Upon completion of work, all building materials, debris, unused materials, concrete forms, and other construction-related materials shall be removed from the work site. • Temporary sanitary facilities shall be provided, in compliance with California Division of Occupational Safety and Health Act regulation 8, California Code of Regulations 1526. All temporary sanitary facilities shall be located where overflow or spillage cannot enter a watercourse directly (overbank) or indirectly (through a storm drain). • The stockpiling and disposing of demolition debris, concrete, and soil shall only take place in predetermined locations identified on construction site plans. These locations shall be protected against the potential migration of pollutants through the use of appropriate protective measures. • All trash receptacles shall be appropriately sited at locations of common congregation such as parking, break, and restroom areas. All trash receptacles shall be securable to prevent wildlife entry.	Prior to and during construction	Project Contractor	**Reviewing Party** City of Clovis, State Water Resources Control Board **Monitoring Action** City to obtain Construction General Permit Coverage and ensure measures are in permit application		
Mitigation Measure HYD-2: Submit grading and drainage plans to the Fresno Metropolitan Flood Control District Prior to the issuance of grading or building permits, the City of Clovis shall obtain approval of the project grading and drainage plans by the Fresno Metropolitan Flood Control District (FMFCD).	Prior to construction	City of Clovis	**Reviewing Party** City of Clovis, Fresno Metropolitan Flood Control District **Monitoring Action** City to obtain approval from Fresno Metropolitan Flood Control District		
Mitigation Measure HYD-3: Implement stormwater collection measures In the Fresno-Clovis area, the FMFCD has encouraged the capture of local stormwater into earthen basins, which allows percolation of storm water into the local groundwater aquifer. FMFCD's system has created a region-wide Low Impact Development on a macro scale. BMPs for onsite collection of storm water prior to connection to the FMFCD system must be implemented to ensure that onsite stormwater flow is captured and ultimately drains to groundwater aquifers. Developments are required to pay connection fees to FMFCD to help fund construction and maintenance of master-planned facilities. The system accomplishes the goals set by the State Water Resources Control Board and the Regional Water Quality Control Board for the post-construction BMP program. No additional mitigation is required onsite.	Prior to and during project construction	City of Clovis	**Reviewing Party** City of Clovis, Fresno Metropolitan Flood Control District **Monitoring Action** City to obtain approval from Fresno Metropolitan Flood Control District		

Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring	Verification of Completion	
				Date	Initial
Noise					
Mitigation Measure M-NOI-1a: Provide Acoustical Treatments for Stationary Equipment The project sponsor shall provide acoustical treatments for stationary equipment (including HVAC equipment and emergency generators) that reduce noise levels to below the 55 dBA Leq daytime and 50 dBA Leq nighttime City Noise Ordinance exterior thresholds at adjacent land uses, as determined by a qualified acoustical consultant. The acoustical treatments must be selected by a qualified acoustical consultant to ensure that noise levels are below the 55 dBA daytime and 50 dBA nighttime thresholds, in accordance with the noise limitations for residential properties specified in the City Noise Ordinance. Treatments may include the following provisions. • Installation of stationary equipment as far as possible from offsite noise-sensitive land uses to reduce noise levels at adjacent parcels. • Construction of enclosures around noise-generating mechanical equipment. • Placement of barriers around the equipment. • Installation of relatively quiet models of mechanical equipment. • Use of muffler or silencers on equipment exhaust fans. • Orientation or shielding of equipment to protect sensitive uses to the greatest extent feasible. • Limiting the testing of emergency generators to daytime hours (7:00 a.m. to 10:00 p.m.). • Limiting the testing of emergency generators such that only one generator is tested at a given time to limit the effects of additive noise from the equipment.	Project design	Project Contractor	**Reviewing Party** City of Clovis **Monitoring Action** City shall verify incorporation of measure in plans and verify during and after construction activities that acoustical treatments are implemented		
Mitigation Measure NOI-1b: Construct a sound wall along eastern side of the alley. Prior to beginning operations of the transit center and any activity that would result in bus pass-by activity, the project sponsor shall construct a solid sound wall of at least 6 feet in height along the eastern side of the alley, beginning at the intersection of the alley with 3rd Street and extending northward to the northern terminus of the backyard for 212 Osmun Street (just south of the multi-family residential complex south of Osmun Circle). The sound wall shall be constructed with a solid sound-attenuating material that has a surface density of at least 4 lbs per square foot, such as concrete blocks, and shall have no gaps or holes.	Project design, construction	Project Contractor	**Reviewing Party** City of Clovis **Monitoring Action** City shall verify incorporation of measure in plans and verify during and after construction activities that the sound wall is constructed		
Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events. The project sponsor shall require noise from onsite events and gatherings to be limited to the 55 dBA Leq daytime and 50 dBA Leq nighttime exterior thresholds at adjacent land uses. To ensure these noise standards are not exceeded at adjacent residences located approximately 275 feet away, event noise shall be limited to 65 dBA Leq at a distance of 50 feet during nighttime hours (10:00 p.m. to 7:00 a.m.) and 70 dBA Leq at a distance of 50 feet during daytime hours. The project proponent shall monitor event noise to ensure that the level is not exceeded and shall require reductions in noise to achieve that standard. When an onsite event or gathering is similar in nature to a previously monitored event, additional monitoring will not be required as long as the event or gathering employs all reductions required of the previously monitored event. This mitigation measure will likely require limiting or prohibiting events with loud amplified sound, such as events including a rock band.	Post-construction	City of Clovis	**Reviewing Party** City of Clovis **Monitoring Action** City shall review special event plans and require noise reduction measures.		
Traffic and Circulation					
Mitigation Measure TRA-1: Provide appropriate pedestrian and bicycle signage and pavement markings In accordance with the California Manual on Uniform Traffic Control Devices for Streets and Highways, the City will install appropriate signage and pavement markings at the intersections of Clovis Old Town Trail and Third Street, and Clovis Old Town Trail and Fifth Street. The signage and pavement markings shall be installed prior to operation of any portion of the project.	Project design and construction	City of Clovis	**Reviewing Party** City of Clovis **Monitoring Action** This measure shall be verified prior to issuance of first occupancy building permit.		

FINAL
FOCUSED ENVIRONMENTAL IMPACT REPORT
LANDMARK COMMONS CIVIC CENTER NORTH

PREPARED FOR:

City of Clovis
1033 Fifth Street
Clovis, CA 93612
Contact: Andrew Haussler
(559) 324-2095

PREPARED BY:

ICF
630 K Street, Suite 400
Sacramento, CA 95814
Contact: Cherry Zamora
(916) 231-9538

June 2018

ICF

ATTACHMENT "D"

ICF. 2018. *Final Focused Environmental Impact Report Landmark Commons Civic Center North*. June 27, 2018. (ICF 00598.15.) Sacramento, CA. Prepared for City of Clovis, Clovis, CA.

Contents

Figures

Acronyms and Abbreviations

CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
Draft EIR	Draft Focused EIR
FMFCD	Fresno Metropolitan Flood Control District
PM10	particulate matter
PM2.5	fine particulate matter

Chapter 1
Introduction

1.1 This Document

This document comprises one part of the Final Focused EIR for the Landmark Commons Civic Center North project. The other part is the Draft Focused EIR (Draft EIR). The present document contains comments submitted by agencies, organizations and individuals concerning the April 2018 Draft EIR, responses to those comments, and appropriate revisions to the EIR. The Draft EIR (State Clearinghouse Number 2017041010) was made available to the public and regulatory agencies for review and comment during a 45-day comment period between April 6, 2018 and May 21, 2018.

The Guidelines implementing the California Environmental Quality Act (CEQA) require that written responses be prepared for all written comments received on a DEIR during the public review period. CEQA Guidelines Section 15132 specifically states:

The Final EIR shall consist of:

1. The Draft EIR or a revision of that draft.
2. Comments and recommendations received on the Draft EIR either verbatim or in a summary.
3. A list of persons, organizations, and public agencies commenting on the Draft EIR.
4. The response of the Lead Agency to significant environmental points raised in the review and consultation process.
5. Any other information added by the Lead Agency.

This Final EIR has been prepared in compliance with these Guidelines and includes the following.

Draft EIR, April 2018 (not reprinted)

- Executive Summary
- Chapter 1. Introduction and Scope of Environmental Impact Report
- Chapter 2. Project Description
- Chapter 3. Impact Analysis
- Chapter 4. Other CEQA Considerations
- Chapter 5. References
- Chapter 5. Report Preparers
- Appendix A – Initial Study
- Appendix B – Air Quality Modeling Data
- Appendix C – Traffic Impact Studies

Volume II—Final EIR: Comments, Responses to Comments, Revisions to Focused EIR (this document)

- Chapter 1. Introduction
- Chapter 2. Comments Received on the Focused EIR and Responses to Comments
- Chapter 3. Revisions to EIR

Chapter 2

Comments Received on the Focused EIR and Responses

This chapter includes the letter of receipt from the State Clearinghouse; a list of the agencies, organizations and individuals who commented on the Draft Focused EIR (Table 2-1); and the actual comment letters submitted. The comment letters have been numbered as shown in Table 2-1. The individual comments within each letter have been numbered in the right margins. The City's responses follow each letter.

Each response begins with a brief summary of the comment, responds to the comment, and then identifies if revisions to the Focused EIR are required. Revisions to the Focused EIR are provided in Chapter 3, *Errata to the Focused EIR*, in this document

Table 2-1. List of Commenters

Letter #	Commenter	Date Sent/Received
State Agencies		
1	California Department of Transportation (Caltrans) District 10	May 9, 2018
2	California State Clearinghouse	May 22, 2018
Local Agencies		
3	Fresno Metropolitan Flood Control District	May 9, 2018
4	San Joaquin Valley Air Pollution Control District (SJVAPCD)	May 21, 2018

2.1 Agency Comments

Letter 1. Caltrans, District 10

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 6
1352 WEST OLIVE AVENUE
P.O. BOX 12616
FRESNO, CA 93778-2616
PHONE (559) 488-7307
FAX (559) 488-4088
TTY 711
www.dot.ca.gov

Letter 1

Making Conservation a California way of life.

May 9, 2018

FRE-168-6.518
Draft EIR
Landmark Commons
SCH #2017041010

Mr. Andrew Haussler
City of Clovis
1033 Fifth Street
Clovis, CA 93612

Dear Mr. Haussler:

Thank you for the opportunity to review the proposed Landmark Commons Civic Center North project. The proposed site is 5.33 acres of property on the north side of Third Street between Clovis Avenue and Osmun Avenue in Clovis. The project proposes to serve the community by co-locating the county library with a transit center, a senior activity center and clinic.

The mission of Caltrans is to provide a safe, sustainable, integrated and efficient multi-modal transportation system to enhance California's economy and livability. The project supports this mission by its mixed-use nature, and in greater part by conforming to the Central Clovis Specific Plan. The Central Clovis Specific Plan caters to multiple modes of transportation. Indeed, the proposed project is in response to the community's need for centrally located civic facilities accessible via public transit, walking, and cycling. Caltrans recommends the project consider providing internal amenities to optimize bicycle use such as bike parking and/or bike lockers, security, and preservation and maintenance implements (e.g. a community air pump or tire patches). 1-1 It is also recommended that earnest consideration be given to lighting in order to promote a sense of safety at this activity center. 1-2 Projects such as this are hallmarks of vibrant communities and healthy economies. Caltrans applauds Clovis' efforts in multi-modal transportation planning and thoughtful community design.

Questions about these comments can be directed to me at (559) 488-7307.

Sincerely,

JAMAICA GENTRY
Transportation Planner
Transportation Planning - North

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Response to Comment 1-1

Caltrans recommends that "the project consider providing internal amenities to optimize bicycle use such as bike parking and/or bike lockers, security, and preservation and maintenance implements (e.g. a community air pump or tire patches)."

The project will include bike parking racks and a community bike repair station.

Response to Comment 1-2

Caltrans recommends that "earnest consideration be given to lighting in order to promote a sense of safety at this activity center."

The project will include lighting at the parking lot and areas around the building exterior. Placement of lighting will take into account safety as well as consistency with the City's lighting standards.

Letter 2. California State Clearinghouse

Letter 2

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

May 22, 2018

Andrew Haussier
City of Clovis
1033 Fifth Street
Clovis, CA 93612

Subject: Landmark Commons Civic Center North
SCH#: 2017041010

Dear Andrew Haussier:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on May 21, 2018, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. 2-1

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
1-916-322-2318 FAX 1-916-558-3184 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	**2017041010**
Project Title	Landmark Commons Civic Center North
Lead Agency	Clovis, City of

Type	**EIR** Draft EIR
Description	The proposed project is a mixed use development consisting of community and public uses. Specifically, it would entail the development of a combined 73,000 sf of community and office uses including 36,000 sf for the library. The county library would be moved from its current location in the Clovis Civic Center.

Lead Agency Contact

Name	Andrew Haussier		
Agency	City of Clovis		
Phone	(559) 324-2095	*Fax*	
email			
Address	1033 Fifth Street		
City	Clovis	*State* CA	*Zip* 93612

Project Location

County	Fresno			
City	Clovis			
Region				
Lat / Long	36° 49' 38.11" N / 119° 41' 58" W			
Cross Streets	North side of Third St, between Clovis Ave and Osmun Ave			
Parcel No.	492-010-46, -131-07			
Township	13S	*Range* 21E	*Section* 4	*Base* MD

Proximity to:

Highways	SR 168
Airports	
Railways	
Waterways	
Schools	San Joaquin College
Land Use	project site vacant/C-3 Central trading district/MU-V Mixed use village

Project Issues	Air Quality; Noise; Traffic/Circulation; Cumulative Effects

Reviewing Agencies	Resources Agency; Department of Fish and Wildlife, Region 4; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 6; Regional Water Quality Control Bd., Region 5 (Fresno); Native American Heritage Commission; California State Library Office of Library Construction

Date Received	04/06/2018	*Start of Review*	04/06/2018	*End of Review*	05/21/2018

Note: Blanks in data fields result from insufficient information provided by lead agency.

Response to Comment 2-1

The California State Clearinghouse letter acknowledges compliance with its review requirements for draft environmental documents, pursuant to CEQA. The California State Clearinghouse also forwarded the comment letter from Caltrans (Letter 1).

A response is not required.

Letter 3. Fresno Metropolitan Flood Control District

Lettter 3

Fresno Metropolitan Flood Control District
Capturing Stormwater since 1956

File 170.11
310. "4D", "6D"
550.30 "4D", "6D"

May 18, 2018

Mr. Andrew Haussler
Community & Economic Development Director
City of Clovis
1033 Fifth Street
Clovis, CA 93612

Dear Mr. Haussler,

Landmark Commons Civic Center North
Draft Environmental Impact Report
Drainage Areas "4D" and "6D"

The Fresno Metropolitan Flood Control District ("FMFCD" or "District") has reviewed the subject Draft Environmental Impact Report (EIR) and finds that the reference to District reqirements have been correctly incorporated in the report.

However, the District requests that the following comment be incorporated into the Draft Environmental Impact Report as follows:

1) Chapter 4, Section 4.1.16 Utilities and Service Systems, Page 4-8 the following information should be added: 3-1

   Any proposed relocation, construction of proposed or reconstruction of existing storm drainage facilities will need to be reviewed and approved by FMFCD prior to implementation.

Thank you for the opportunity to comment. Please keep our office informed on the development of this project. If you should you have any questions or comments, please contact the District at (559) 456-3292.

Very truly yours,

Michael Maxwell
Engineering Technician III

MM/lrl

k:\letters\environmental impact report letters\deir landmark commons civic center(4d.6d)(mm).docx

5469 E. Olive Avenue • Fresno, CA 93727 • (559) 456-3292 • FAX (559) 456-3194
www.fresnofloodcontrol.org

Response to Comment 3-1

The Fresno Metropolitan Flood Control District commented that in Chapter 4, Section 4.1.16, *Utilities and Service Systems*, Page 4-8, the following information should be added:

> Any proposed relocation, construction of proposed or reconstruction of existing storm drainage facilities will need to be reviewed and approved by FMFCD prior to implementation.

The City has included this text, as requested, in the Final Focused EIR.

Letter 4. San Joaquin Valley Air Pollution Control District

Letter 4

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

MAY 21 2018

Andrew Haussler
City of Clovis
1033 Fifth Street
Clovis, CA 93612

Project: Landmark Commons Civic Center North Draft Environmental Impact Report (EIR)

District CEQA Reference No: 20180402

Dear Mr. Haussler:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Landmark Commons Civic Center North Draft Environmental Impact Report (EIR). The proposed project consists of the construction and operation of a new senior activity center and clinic, public library, transit center, and associated parking and landscaping (Project). The Project is located on the north side of Third Street between Clovis Avenue and Osmun Avenue in Clovis, CA. The District offers the following comments:

1. **Table 3.1-3 Federal and State Attainment Status of Fresno County**

   The District recommends that Table 3.1-3 be updated to list the correct attainment status for PM10 and CO.

   On Page 3.1-11, Table 3.1-3 *Federal and State Attainment Status of Fresno County* summarizes the attainment status of Fresno County with respect to the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The table currently lists the attainment status under the NAAQS for PM10 as "Maintenance – Serious" and for CO as "Maintenance". The District would like to clarify that the attainment status for PM10 under the NAAQS is classified as "Attainment" and for CO is classified as "Attainment/Unclassified". Therefore, the District recommends that the table be updated to list the correct attainment status for PM10 and CO. More information on the District's attainment status can be found online at http://www.valleyair.org/aqinfo/attainment.htm. 4-1

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Printed on recycled paper.

District CEQA Reference No: 20180402

Page 2 of 4

2. **Proposed Project Buildings Size**

The District recommends providing clarification on the discrepancy regarding the size of the proposed buildings.

The Draft EIR states that the proposed Project consists of the construction and operation of a 30,000 square feet library, a 25,000 square feet senior center, and a 7,000 square feet transit building, which is consistent with the California Emissions Estimator Model (CalEEMod) analysis in Appendix B *Air Quality Modeling Data*. However, Figure 2.1-4 *Project Site Plan 1* and Figure 2.1-5 *Project Site Plan 2* indicates that the proposed library is 36,000 square feet and the proposed senior center is 30,000 square feet. If the proposed buildings size in the site plans are correct, then the CalEEMod analysis is underestimating the Project emissions. Therefore, the District recommends providing clarification for this discrepancy. 4-2

3. **Existing and Proposed Project Operational Emissions**

The operational emissions from the existing buildings and proposed Project should not be netted because at least one of the existing building would be converted to future office uses which would continue to generate operational emissions.

In Table 3.1-8, the net Project operational emissions were calculated by subtracting emissions associated with the existing land use types from emissions associated with the proposed Project land use types. The Draft EIR states that there is an existing library and an existing senior center that will be relocated to this new site. The Draft EIR further states that the existing library will be renovated to support future office uses at a future date. There appears to be no demolition involved with the existing buildings. Therefore, since the existing buildings will be renovated to support future office uses, it is not appropriate to net the operational emissions because the existing buildings would continue to generate emissions. The District recommends that all the emissions from the proposed Project be assessed against the District's significance thresholds for criteria pollutants. 4-3

4. **District Rule 9510 Indirect Source Review (ISR)**

The District recommends that an Air Impact Assessment (AIA) application be submitted for the Project at this time.

4-4

District Rule 9510 is intended to mitigate a project's impact on air quality through project design elements or by payment of applicable off-site fees. Any applicant subject to District Rule 9510 is required to submit an AIA application to the District no later than applying for final discretionary approval.

District CEQA Reference No: 20180402

Page 3 of 4

Based on the information provided to the District, the proposed Project is above the applicability thresholds listed in Rule 9510 Section 2.0 and will receive a final discretionary approval. Therefore, the District concludes that the proposed Project is subject to District Rule 9510, which requires that an AIA application be submitted at this time.

4-4 cont.

The District recommends that demonstration of compliance with District Rule 9510 be made a condition of Project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm. The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

5. **Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review)**

The District recommends submitting an Authority to Construct (ATC) application to the District prior to installing the emergency generator.

The Draft EIR states that the senior center will have a 700 horsepower onsite emergency generator. The emergency generator is subject to Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and will require District permit. Prior to installing the emergency generator, the Project proponent should submit to the District an application for an Authority to Construct (ATC). For further information or assistance, the Project proponent may contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

4-5

6. **Other District Rules and Regulations**

The proposed Project may also be subject to other District rules and regulations.

The proposed Project may also be subject to other District rules and regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

4-6

The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

District CEQA Reference No: 20180402

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The District recommends that a copy of the District's comments be provided to the Project proponent. If you have any questions or require further information, please call Sharla Yang at (559) 230-5934.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Brian Clements
Program Manager

AM: sy

Response to Comment 4-1

SJVAPCD's comment was:

> *The District recommends that Table 3.1-3 be updated to list the correct attainment status for PM 10 and CO.*
>
> On Page 3.1-11, Table 3.1-3 Federal and State Attainment Status of Fresno County summarizes the attainment status of Fresno County with respect to the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The table currently lists the attainment status under the NAAQS for PM10 as "Maintenance – Serious" and for CO as "Maintenance". The District would like to clarify that the attainment status for PM10 under the NAAQS is classified as "Attainment" and for CO is classified as "Attainment/Unclassified". Therefore, the District recommends that the table be updated to list the correct attainment status for PM10 and CO. More information on the District's attainment status can be found online at http://www.valleyair.org/aqinfo/attainment.htm.

The attainment status for particulate matter less than or equal to 10 microns in diameter (PM10) and carbon monoxide CO under the NAAQS has been updated to the correct attainment status.

Response to Comment 4-2

SJVAPCD's comment was:

> *The District recommends providing clarification on the discrepancy regarding the size of the proposed buildings.*
>
> The Draft EIR states that the proposed Project consists of the construction and operation of a 30,000 square feet library, a 25,000 square feet senior center, and a 7,000 square feet transit building, which is consistent with the California Emissions Estimator Model (CalEEMod) analysis in Appendix B Air Quality Modeling Data. However, Figure 2.1-4 Project Site Plan 1 and Figure 2.1-5 Project Site Plan 2 indicates that the proposed library is 36,000 square feet and the proposed senior center is 30,000 square feet. If the proposed building['s] size in the site plans are correct, then the CalEEMod analysis is underestimating the Project emissions. Therefore, the District recommends providing clarification for this discrepancy.

The proposed library building size is 30,000 square feet and the proposed senior activity center building size is 28,000 square feet (Haussler pers. Comm.). The building *pad* for the library is 48,000 square feet and the building *pad* for the senior activity center is 30,000 square feet; these specifics are now included in Figures 2.1-4 and Figure 2.1-5 for clarification.

The proposed library building size is consistent with the Draft EIR and the CalEEMod analysis in Draft EIR Appendix B. The proposed senior activity center building size of 28,000 square feet is 3,000 square feet larger than the 25,000 square feet indicated in the Draft EIR and the CalEEMod analysis in Appendix B. The activities and traffic data associated with the 28,000-square-foot senior activity center would be identical to the activities and traffic data associated with the 25,000-square-foot senior activity center. Only operational building energy use would increase due to the increase in building square footage associated with the proposed senior activity center. This would cause a negligible increase, in relation to total project operational emissions, in criteria pollutant and greenhouse gas emissions associated with the proposed project.

Response to Comment 4-3

SJVAPCD's comment was:

The operational emissions from the existing buildings and proposed Project should not be netted because at least one of the existing building[s] would be converted to future office uses which would continue to generate operational emissions.

In Table 3.1-8, the net Project operational emissions were calculated by subtracting emissions associated with the existing land use types from emissions associated with the proposed Project land use types. The Draft EIR states that there is an existing library and an existing senior center that will be relocated to this new site. The Draft EIR further states that the existing library will be renovated to support future office uses at a future date. There appears to be no demolition involved with the existing buildings. Therefore, since the existing buildings will be renovated to support future office uses, it is not appropriate to net the operational emissions because the existing buildings would continue to generate emissions. The District recommends that all the emissions from the proposed Project be assessed against the District's significance thresholds for criteria pollutants.

The Traffic Impact Study – Addendum No. 1 (see Appendix D of the Draft EIR) states that the existing library building will be utilized for City staff offices. City staff currently working in modular buildings will be moved to the library building and the modular buildings will be removed. Netting operational emissions is appropriate for this project because emissions from the existing modular buildings will cease.

Response to Comment 4-4

SJVAPCD's comment was:

The District recommends that an Air Impact Assessment (AIA) application be submitted for the Project at this time.

District Rule 9510 is intended to mitigate a project's impact on air quality through project design elements or by payment of applicable off-site fees. Any applicant subject to District Rule 9510 is required to submit an AIA application tot eh District no later than applying for final discretionary approval.

Based on the information provided to the District, the proposed Project is above the applicability thresholds listed in Rule 9510 Section 2.0 and will receive a final discretionary approval. Therefore, the District concludes that the proposed Project is subject to District Rule 9510, which requires that an AIA application be submitted at this time.

The District recommends that demonstration of compliance with District Rule 9510 be made a condition of Project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm. The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

The City intends to comply with SJVAPCD's rules and obtain any necessary permits, including the Air Impact Assessment. The City will work with SJVAPCD to comply with the applicable rules.

Response to Comment 4-5

SJVAPCD's comment was:

The District recommends submitting an Authority to Construct application to the District prior to installing the emergency generator.

The Draft EIR states that the senior center will have a 700 horsepower onsite emergency generator. The emergency generator is subject to Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and will require District permit. Prior to installing the emergency generator, the Project proponent should submit the District an application for an

Authority to Construct (ATC). For further information or assistance, the Project proponent may contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

The City intends to comply with SJVAPCD's rules and obtain any necessary permits. The City will work with SJVAPCD to comply with the applicable rules.

Response to Comment 4-6

SJVAPCD's comment was:

The proposed Project may also be subject to other District rules and regulations.

The proposed Project may also be subject to other District rules and regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business (SBA) Office at (559) 230-5888. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

The City intends to comply with SJVAPCD's rules and obtain any necessary permits. The City will work with the SJVAPCD to comply with the applicable rules.

2.2 References Cited in Response to Comments

Haussler, Andrew. Community and Economic Development Director. City of Clovis. May 25, 2018 – Email to Cherry Zamora, ICF, Sacramento, CA, regarding proposed library and senior center building sizes.

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Chapter 3
Errata to the Draft EIR

This chapter includes revisions to the Draft EIR by errata as allowed by CEQA. The revisions are presented in the order they appear in the Draft EIR, with the relevant page number indicated with italicized print. New or revised text is shown with underline for additions and ~~strike-out~~ for deletions.

All text revisions are to provide clarification and additional detail or to incorporate new mitigation measures that the City will adopt. The changes do not result in a need to recirculate the Draft EIR under the provisions of CEQA Guidelines Section 15088.

Executive Summary

Page ES-1, 6th paragraph, is revised as follows:

An approximately ~~25,000~~28,000-square foot, one-story senior activity center and clinic is proposed in the southwest portion of the site. It would include banquet facilities, office space, classrooms, and space for fitness activities. This new facility would replace the existing senior activity center located at 850 Fourth Street.

Page ES-5, 1st paragraph, is revised as follows:

An approximately ~~25,000~~28,000-square-foot, one-story senior activity center and clinic is proposed in the southeastern portion of the site. The senior center would be a recreational activity center for people at least 50 years of age. No one would live at the senior center. It would contain classrooms, meeting rooms, an exercise room, gym, multipurpose room with commercial kitchen, and offices. This new facility would replace the existing senior activity center located at 850 Fourth Street. The number of people in the facility would vary hour-to-hour, depending upon the activity. Most people would come for an activity or two and not stay all day. Attendance is expected to range from 100 to 500 people a day. Regular facility hours would be 8:00 a.m. to 5 p.m. on weekdays, but there would be limited activities and events in the evening and on weekends for outside groups, classes, and special events.

Page 3.1-11, the entry for Noise Impacts in Table ES-1 is revised as follows:

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Noise				
Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	Significant	Mitigation Measure M-NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: ~~Noise Reduction Measures for Special Events~~Construct a Sound Wall along Eastern Side of the Alley	Less than significant	City, County

Page ES-15, the entry for Noise Impacts in Table ES-1 is revised as follows:

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	Significant	Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: ~~Noise Reduction Measures for Special Events~~Construct a Sound Wall along Eastern Side of the Alley Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events.	Less than Significant	City, County

Page ES-18, the entries for Cumulative Impacts in Table ES-1 are revised as follows:

Impact	Level of Significance before Mitigation	Mitigation Measure	Significance after Mitigation	Responsible Agency
Cumulative Impacts				
Impact C-NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	Significant	Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: ~~Noise Reduction Measures for Special Events~~Construct a Sound Wall along Eastern Side of the Alley Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events	Less than Significant	City, County
Impact C-NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	Less than Significant	--	--	--
Impact C-NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	Significant	Mitigation Measure NOI-1a: Provide Acoustical Treatments for Stationary Equipment Mitigation Measure NOI-1b: ~~Noise Reduction Measures for Special Events~~Construct a Sound Wall along Eastern Side of the Alley Mitigation Measure NOI-1C: Noise Reduction Measures for Special Events	Less than Significant	City, County

Chapter 2. Project Description

Page 2-3, 3rd complete paragraph is revised as follows:

The senior center is to be a recreational activity center for seniors age 50+. The building will contain classrooms, meeting rooms, an exercise room, gym, multipurpose room with commercial kitchen, and offices. A health clinic will also be accommodated within the building. The building would be one-story in height and approximately ~~25,000~~28,000-square-feet in area. This new facility would replace the existing senior activity center located at 850 Fourth Street.

After page 2-6, Figures 2.1-4 and 2.1-5 were revised as follows:

The proposed library building size is 30,000 square feet and the proposed senior activity center building size is 28,000 square feet (Haussler pers. Comm.). The building *pad* for the library is 48,000 square feet and the building *pad* for the senior activity center is 30,000 square feet; these specifics are now included in Figures 2.1-4 and Figure 2.1-5 for clarification.

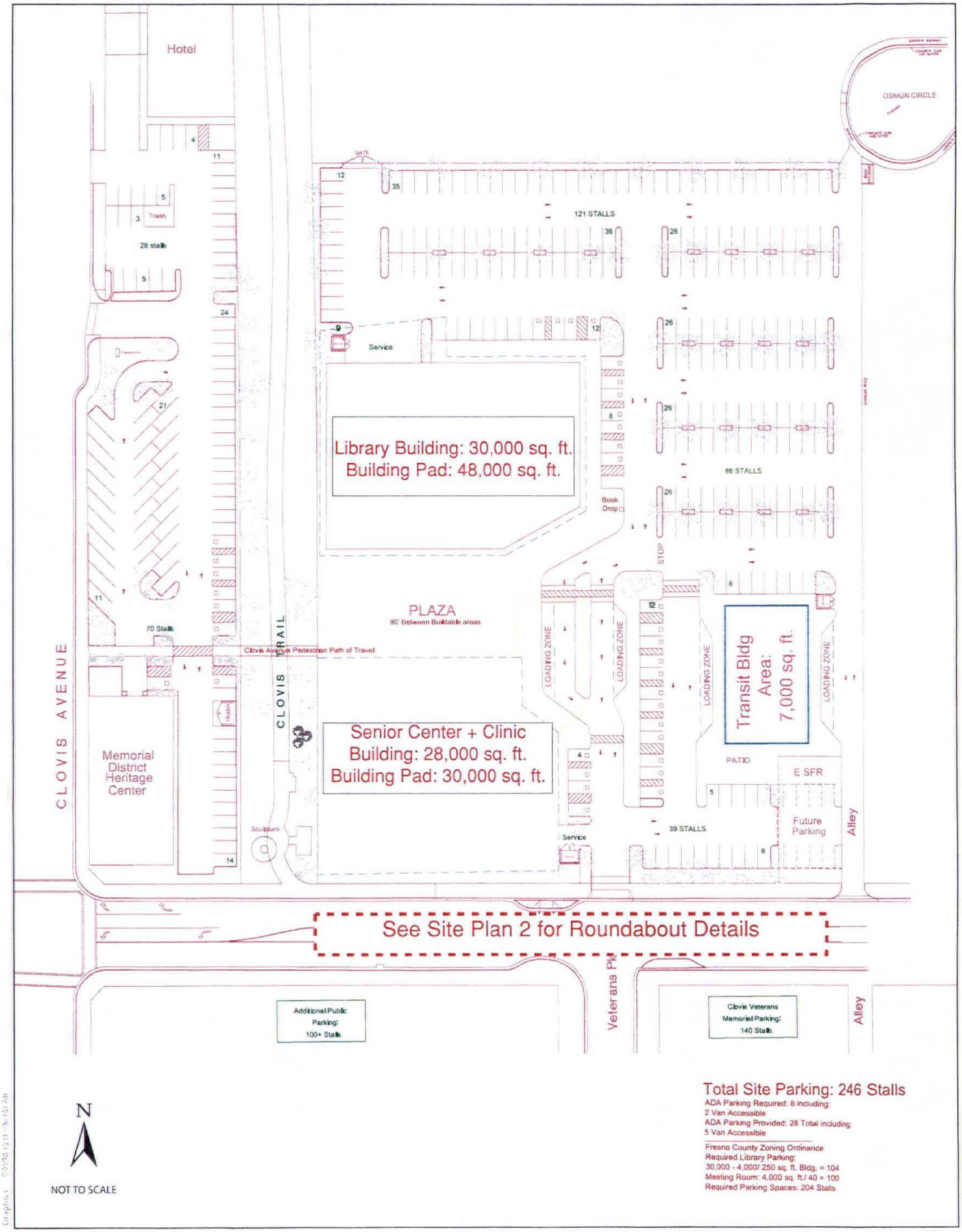

Figure 2.1-4
Project Site Plan 1

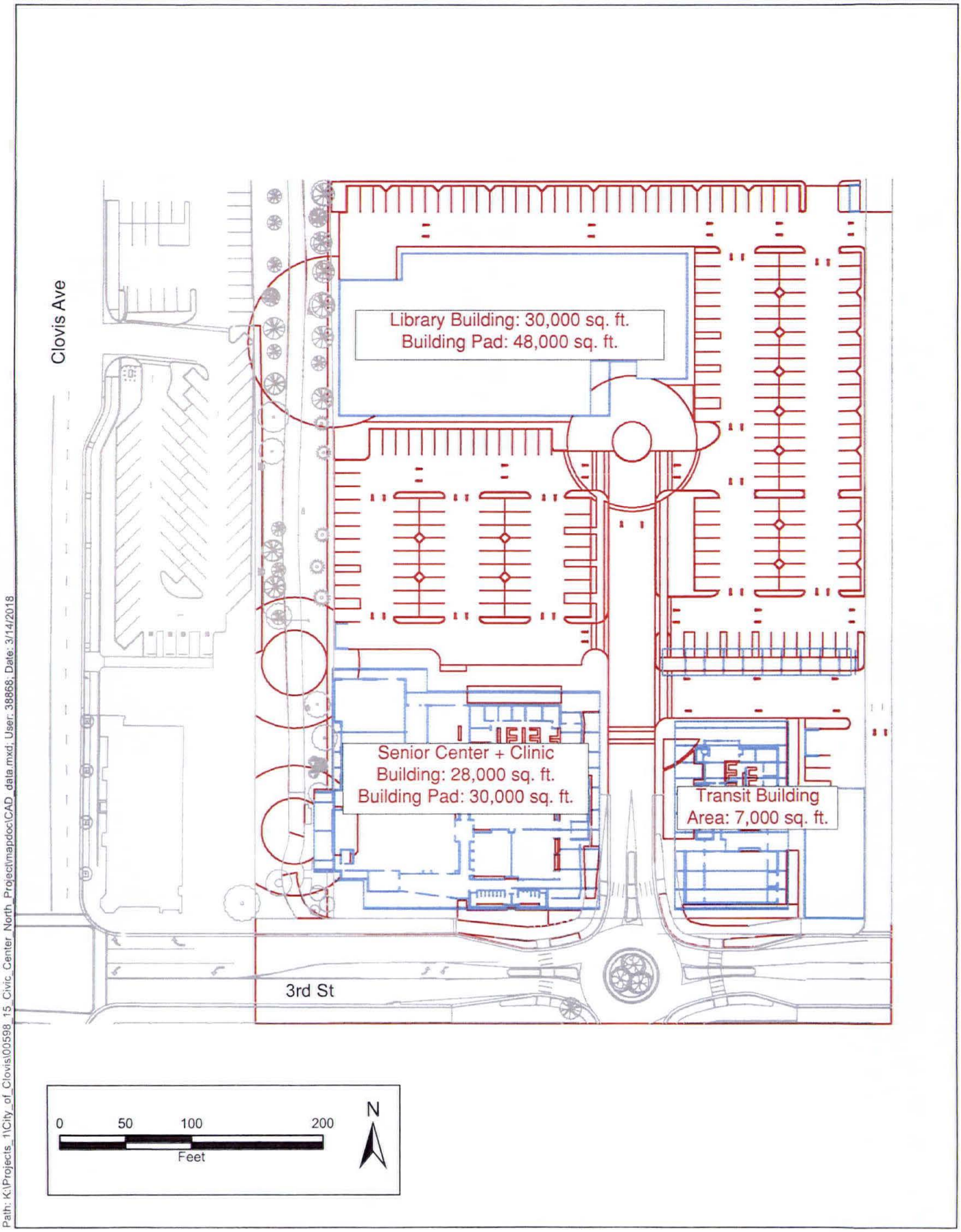

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Figure 2.1-5
Project Site Plan 2

Chapter 3. Impact Analysis

Page 3.1-11, Table 2.1-3 is revised as follows:

Table 3.1-3 summarizes the attainment status of Fresno County with respect to the NAAQS and CAAQS.

Table 3.1-3. Federal and State Attainment Status of Fresno County

Pollutant	NAAQS	CAAQS
Ozone (8 hour)	Nonattainment - Extreme	Nonattainment
CO	~~Maintenance (P)~~ Attainment/Unclassified	Attainment
PM10	~~Maintenance - Serious~~ Attainment	Nonattainment
PM2.5	Nonattainment - Serious	Nonattainment

Sources: U.S. Environmental Protection Agency 2017b; California Air Resources Board 2017b.
(P) Designation applies to the project area portion of Fresno County.
CO = carbon monoxide.
PM10 = particulate matter.
PM2.5 = fine particulate matter.

Page 3.1-12, 4th complete paragraph is revised as follows:

Criteria pollutant emissions from heavy-duty equipment, on-road vehicles, asphalt paving, architectural coatings, and land disturbance were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Model defaults for equipment and vehicle trips were utilized based on construction of a 7,000 square foot transit center, a 30,000 square foot library, a ~~25,000~~28,000-square foot senior center, and a parking lot with 259 parking spaces.

Page 3.2-8, 5th complete paragraph is revised as follows:

GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Model defaults for construction equipment types, number of equipment pieces, horsepower, and on-road vehicle trip lengths were utilized based on construction of a 7,000-squarefoot transit center, a 30,000-square-foot library, a ~~25,000~~28,000-square-foot senior center, and a parking lot with 259 parking spaces. Equipment usage per day and haul truck trip data was provided by the City (Haussler pers. comm.). Tier 4 Interim engines were assumed for all construction equipment, pursuant to the City of Clovis General Plan (Haussler pers. comm.).

Chapter 4. Other CEQA Considerations

Page 4-8, 1st paragraph under 4.1.16 Utilities and Service Systems is revised as follows:

The planning area has sufficient capacity in wastewater treatment, stormwater drainage facilities, and water supply including future facilities to be built in conjunction with future development to accommodate the project. Consequently, there would be no cumulative impact for these resources. The project can be accommodated by existing and projected services and would not contribute considerably to an existing cumulative impact, nor would it create a new cumulative impact. Any proposed relocation, construction of proposed or reconstruction of existing storm drainage facilities will need to be reviewed and approved by the Fresno Metropolitan Flood Control District (FMFCD) prior to implementation.