



CITY *of* CLOVIS

AGENDA • CITY COUNCIL MEETING

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

August 1, 2022

6:00 PM

Council Chamber

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.

The Clovis City Council meetings are open to the public at the physical address listed above. There are numerous ways to participate in the City Council meetings: you are able to attend in person; you may submit written comments as described below; you may participate by calling in by phone (see “Verbal Comments” below); and you may view the meeting which is webcast and accessed at www.cityofclovis.com/agendas.

Written Comments

- Members of the public are encouraged to submit written comments at: www.cityofclovis.com/agendas at least two (2) hours before the meeting (4:00 p.m.). You will be prompted to provide:

- Council Meeting Date
- Item Number
- Name
- Email
- Comment



- Please submit a separate form for each item you are commenting on.
- A copy of your written comment will be provided to the City Council noting the item number. If you wish to make a verbal comment, please see instructions below.
- Please be aware that any written comments received that do not specify a particular agenda item will be marked for the general public comment portion of the agenda.
- If a written comment is received after 4:00 p.m. on the day of the meeting, efforts will be made to provide the comment to the City Council during the meeting. However, staff cannot guarantee that written comments received after 4:00 p.m. will be provided to City Council during the meeting. All written comments received prior to the end of the meeting will be made part of the record of proceedings.

Verbal Comments

- If you wish to speak to the Council on an item by telephone, you should contact the City Clerk at (559) 324-2060 no later than 4:00 p.m. the day of the meeting.
- You will be asked to provide your name, phone number, and your email. You will be emailed instructions to log into Webex to participate in the meeting. Staff recommends participants log into the Webex at 5:30 p.m. the day of the meeting to perform an audio check.
- All callers will be placed on mute, and at the appropriate time for your comment your microphone will be unmuted.
- In order for everyone to be heard, please limit your comments to 5 minutes or less, or 10 minutes per topic

Webex Participation

- Reasonable efforts will be made to allow written and verbal comment from a participant communicating with the host of the virtual meeting. To do so, a participant will need to chat with the host and request to make a written or verbal comment. The host will make reasonable efforts to make written and verbal comments available to the City Council. Due to the new untested format of these meetings, the City cannot guarantee that these written and verbal comments initiated via chat will occur. Participants desiring to make a verbal comment via chat will need to ensure that they accessed the meeting with audio transmission capabilities.

CALL TO ORDER

FLAG SALUTE - Councilmember Ashbeck

ROLL CALL

PRESENTATIONS/PROCLAMATIONS

1. Presentation introducing the new Salvation Army Officer, Kailah Kim.
2. Presentation of Proclamation recognizing the week of August 7-13, 2022, as International Assistance Dog Week.

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 - 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.

- [3.](#) Administration - Approval - Minutes from the July 18, 2022, Council Meeting.
- [4.](#) Administration - Approval – Agreement Between City of Clovis and the Business Organization of Old Town for Fiscal Year 2022-2023.
- [5.](#) Administration - Receive and File – Business Organization of Old Town (BOOT) Fourth Quarter Report, April through June 2022.
- [6.](#) Finance – Receive and File – Investment Report for the Month of April 2022.
- [7.](#) Finance – Receive and File – Treasurer's Report for the Month of April 2022.
- [8.](#) Fire – Approval – Res. 22-___, Confirming Weed and Rubbish Abatement Charges for 2022.
- [9.](#) Fire - Approval – Res. 22-____, Amending the 2022-2023 FY Fire Department Budget to reflect the \$31,000 awarded in 2021 State Homeland Security Grant Program (SHSGP) to fund Fire Department equipment.
- [10.](#) General Services – Approval - Claim Rejection of the General Liability Claim on behalf of Melanie Villagomez.
- [11.](#) General Services – Approval – Res. 22-___, Authorizing Amendments to the Communications Supervisor Classification in the Police Department.
- [12.](#) General Services – Approval – Res. 22-___, Amending the City's Classification and Compensation Plan by Revising and Retitling the Community & Economic Development Director to the Economic Development, Housing and Communications Director, and Approval – Res. 22-___, Amending the Position Allocation Plan within the Administration Department.
- [13.](#) Planning and Development Services - Approval – Final Acceptance for CIP 20-09 Sewer Replacement 2020.
- [14.](#) Planning and Development Services - Approval - Final Acceptance for CIP 19-03 Hydronic Piping Replacement.
- [15.](#) Planning and Development Services - Approval – Bid Award for CIP 18-15, Villa Avenue Reconstruction – Barstow to Shaw; and authorize the City Manager to execute the contract on behalf of the City.
- [16.](#) Planning and Development Services – Approval – Bid Award for CIP 21-16, Ashlan Avenue Street Improvements; and Authorize the City Manager to Execute the Contract on behalf of the City.
- [17.](#) Planning and Development Services – Approval – Bid Award for CIP 21-03, Villa Avenue Street Improvements; and Authorize the City Manager to Execute the Contract on behalf of the City.
- [18.](#) Planning and Development Services - Approval – Res. 22-___, Supporting the Measure C Renewal Expenditure Plan.
- [19.](#) Public Utilities – Approval – Enter into a Contract with Stantec Consulting Services, Inc. to Provide Consulting Services for Evaluation and Long-Range Planning of the Surface Water Treatment Plant.

PUBLIC HEARINGS - A public hearing is an open consideration within a regular or special meeting of the City Council, for which special notice has been given and may be required. When a public hearing is continued, noticing of the adjourned item is required as per Government Code 54955.1.

20. Consider Approval of items associated with quadrant intersections along the Herndon Avenue Corridor.

a. Consider Approval - Res. 22-____, Elimination of the implementation of the proposed quadrant intersections at Herndon Avenue with Willow and Peach Avenues, and

b. Consider Introduction – Ord. 22-____, Amending various sections of the Clovis Municipal Code relating to the quadrant intersection development fee.

Staff: Ryan C. Burnett, Engineering Program Supervisor

Recommendation: Approve

ADMINISTRATIVE ITEMS - Administrative Items are matters on the regular City Council Agenda other than Public Hearings.

21. Consider Approval – Res. 22-____, Adopting the Clovis Fire Department Master Services Plan.

Staff: John Binaski, Fire Chief

Recommendation: Approve

22. Consider Approval – Res. 22-____, Adopting Amendments to the Executive Management Salary Schedule.

Staff: Shonna Halterman, General Services Director

Recommendation: Approve

COUNCIL ITEMS

23. Consider Approval – Designation of Voting Delegate and Alternate for the League of California Cities' Annual Conference and Business Meeting on September 7-9, 2022.

Staff: John Holt, City Manager

Recommendation: Approve

CITY MANAGER COMMENTS

COUNCIL COMMENTS

CLOSED SESSION - A “closed door” (not public) City Council meeting, allowed by State law, for consideration of pending legal matters and certain matters related to personnel and real estate transactions.

24. Government Code Section 54956.8
CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Properties: 8761 E. Barstow Ave (APN 554-052-26), 1589 Menlo Ave (APN 491-140-30S)
Agency Negotiators: John Holt, Scott Redelfs, Andrew Haussler, Renee Mathis
Negotiating Parties: Darlene A. Millhollin Trustee, Janet Stockton Trustee, Janet Stockton
Under Negotiation: Price & Terms

25. Government Code Section 54956.8
CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: 2791 Serena Ave.
Agency Negotiators: John Holt, Mike Harrison, Andrew Haussler
Negotiating Parties: Legacy Building Company, by Wathen
Under Negotiation: Price & Terms

ADJOURNMENT

MEETINGS AND KEY ISSUES

Regular City Council Meetings are held at 6:00 P.M. in the Council Chamber. The following are future meeting dates:

Aug. 2 (Tue.) - Sep. 5 (Mon.) Summer Recess
Sep. 6, 2022 (Tue.)
Sep. 12, 2022 (Mon.)
Sep. 19, 2022 (Mon.)

CITY of CLOVIS
Proclamation

**Declaring August 7-13, 2022, as
 International Assistance Dog Week**

WHEREAS, assistance dogs transform the lives of their human partners with physical and mental disabilities; they serve as devoted companions, helpers, aides, best friends and close family members; and

WHEREAS, seizure alert response dogs alert or respond to medical conditions, such as heart attack, stroke, diabetes, epilepsy, panic attack, anxiety attack, post-traumatic stress and seizures; and

WHEREAS, guide dogs assist people with vision loss, leading these individuals around physical obstacles and to destinations such as seating, crossing streets, entering or exiting doorways, elevators and stairways, etc.; and

WHEREAS, hearing alert dogs alert people with a hearing loss to the presence of specific sounds such as doorbells, telephones, crying babies, sirens, another person, buzzing timers or sensors, knocks at the door as well as smoke, fire and clock alarms; and

WHEREAS, International Assistance Dog Week provides an opportunity for us to raise awareness of the selfless way all types of assistance dogs assist individuals with mitigating their disability-related limitations.

NOW, THEREFORE, BE IT RESOLVED, that the Clovis City Council does hereby declare the week of August 7-13, 2022, as

International Assistance Dog Week

IN WITNESS THEREOF, I hereunto set my hand and cause the official seal of the City of Clovis to be affixed this 1st day of August, 2022.



Jose S. Flores

 Mayor

CLOVIS CITY COUNCIL MEETING

July 18, 2022

6:00 P.M.

Council Chamber

Meeting called to order by Mayor Flores at 6:04
Flag Salute led by Councilmember Whalen

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

PUBLIC COMMENTS – 6:04

None.

CONSENT CALENDAR – 6:07

Motion by Councilmember Ashbeck, seconded by Councilmember Bessinger, that the items on the Consent Calendar be approved. Motion carried by unanimous vote.

1. Administration - Approved - Minutes from the July 5, 2022, Council Meeting.
2. Administration - Approved – Waive Normal Purchasing Process and Approve the Purchase of Replacement Desktop Computers and Servers using Competitively Bid Contracts with Purchasing Provisions for California State and Local Government Agencies.
3. Finance – Received and Filed – Findings & Recommendations from Community Facilities District Citizens Committee.
4. Finance - Approved - **Res. 22-82**, Measure C Extension Local Transportation Pass Through Revenues Certification and Claim Forms for 2022-23.
5. General Services – Approval - Claim Rejection of the General Liability Claim on behalf of Juan De La Torre.
6. General Services – Approved – **Res. 22-83**, Amending the City’s FY 22-23 Position Allocation Plan by deleting two (2) Principal Office Assistant positions and adding two (2) Staff Analyst positions within the Fire Department.
7. Planning and Development Services – Approved – Bid Award for CIP 21-10 Fowler Avenue Street Improvements and Authorize the City Manager to Execute the Contract on behalf of the City.
8. Planning and Development Services – Approved – Final Acceptance for CIP17-28 Sunnyside Avenue Bike Lane.
9. Planning and Development Services - Approved – **Res. 22-84**, Final Map Tract 6166, located in the southeast area of Highland and Gettysburg Avenues (Lennar Homes of California, LLC).
10. Planning and Development Services - Approved – **Res. 22-85**, Annexation of Proposed Tract 6166, located in the southeast area of Highland and Gettysburg Avenues to the Landscape Maintenance District No. 1 of the City of Clovis (Lennar Homes of California, LLC).

PUBLIC COMMENTS REOPENED – 6:08

Brenda F., resident, shared her concerns on the increased use of marijuana near her apartment complex and made a complaint regarding her call for service from the Police Department and how the officer handled the incident.

COUNCIL ITEMS – 6:17

6:17 – ITEM 13 - APPROVED – APPOINTMENT TO CITY REPRESENTATIVE TO THE GOVERNING BOARD OF THE FRESNO METROPOLITAN FLOOD CONTROL DISTRICT (FMFCD) BOARD OF DIRECTORS.

The City Council presented a plaque honoring Roy Spina for serving on the FMFCD Board of Directors for the last 28 years.

Roy Spina, shared how he was appointed to the position 28 years ago by the late Council Member and Mayor at the time, Harry Armstrong. He also commented on his experience serving on the FMFCD Board and the important work that is done by the staff.

Motion for approval by Councilmember Ashbeck, seconded by Councilmember Bessinger
Motion carried by unanimous vote.

Sargeant Green, commented on the importance FMFCD serving Fresno County residents including the City of Clovis and shared his goals and duties stepping into this new role.

PUBLIC HEARINGS – 6:37

6:37 – ITEM 11 - APPROVED - **RES. 22-86**, SPR2001-018A2, A REQUEST TO APPROVE A SITE PLAN REVIEW AMENDMENT FOR THE CONSTRUCTION OF A NEW ± 2,500 SQUARE FOOT VISITOR CENTER FOR THE BOTANICAL GARDEN LOCATED AT 945 N. CLOVIS AVENUE. CLOVIS BOTANICAL GARDEN, ANNE CLEMONS, APPLICANT; CITY OF CLOVIS, OWNER; DWIGHT KROLL, REPRESENTATIVE.

Anne Clemons, Botanical Garden Representative, commented on the progress of this project leading up to this point and addressed Council's concerns with parking.

Pat Wynne, Botanical Garden Representative, addressed Council's question regarding buses and asked Council to encourage the Clovis Unified School District to have class field trips to the Botanical Garden which offers an educational opportunity.

Motion for approval by Councilmember Whalen, seconded by Councilmember Ashbeck.
Motion carried by unanimous vote.

ADMINISTRATIVE ITEMS – 7:07

7:07 – ITEM 12 - ADOPTED – ORD. 22-06, R2008-007A3, A REQUEST TO AMEND THE LOMA VISTA COMMUNITY CENTERS NORTH AND SOUTH MASTER PLAN TO REMOVE THE PLANNED LOCAL STREET IDENTIFIED AS MARENGO AVENUE WITHIN PLANNING AREA 1 AND PLANNING AREA 2 AND TO ADJUST THE UNDERLYING R-3 ZONE DISTRICT TO REFLECT THE MODIFIED CIRCULATION LAYOUT. AP MULTIFAMILY, LP, PROPERTY OWNER; WATHEN CASTANOS HOMES, APPLICANT; PRECISION CIVIL ENGINEERING, REPRESENTATIVE. (VOTE: 4-0-1 WITH COUNCILMEMBER WHALEN ABSENT)

Motion for approval by Councilmember Ashbeck, seconded by Councilmember Bessinger.
Motion carried by unanimous vote.

COUNCIL ITEMS – 7:09

7:09 – ITEM 14 - APPROVED – A REQUEST FROM THE 500 CLUB CASINO FOR THE CITY COUNCIL TO OPPOSE PROPOSITION 26 WHICH, IF PASSED, WOULD LEGALIZE SPORTS BETTING AT AMERICAN INDIAN GAMING CASINOS AND LICENSED RACETRACKS IN CALIFORNIA.

Tal Eslick, Representative for 500 Club and Taxpayers Against Special Interest Monopolies Coalition, commented on the issue regarding Prop 26 and the Southern California tribal casinos' initiative to remove competitors like card room businesses.

Councilmember Whalen indicated that he will be abstaining from voting on this item as he is a Judge Elect and is bound by Canon 5 of the California Code of Judicial Ethics where a judge or candidate for judicial office shall not engage in political or campaign activity that is inconsistent with the independence, integrity, or impartiality of the judiciary. He indicated that he doesn't refrain from all political activity as a Councilmember but for activities that are not directly impacting the City of Clovis, he will abstain from voting on.

Motion for approval by Councilmember Bessinger, seconded by Councilmember Mouanoutoua. Motion carried 4-0-0-1, with Councilmember Whalen abstaining.

7:19 – ITEM 15 - CONSIDER – TO PROVIDE DIRECTION ON THE MEASURE C RENEWAL, A HALF-CENT SALES TAX DEDICATED TO FUNDING NEW ROADS, FREEWAYS, SIDEWALKS, TRAILS AND PUBLIC TRANSPORTATION IN FRESNO COUNTY RENEWAL BEING CONSIDERED BY THE FRESNO COUNTY TRANSPORTATION AUTHORITY.

Mike Leonardo, Fresno County Transportation Authority Representative, addressed Council's question regarding the allocation of Transit Oriented Development (TOD) funds and commented on the process to redefine TOD in the current Measure C plans. He indicated that there will be an opportunity to redefine TOD from its current definition in the

current plan that was proposed by the City of Fresno, and staff from each agency will work together in this effort to create a plan that is mutually beneficial.

The Council discussed the Measure C process and the events leading up to the current plan which was proposed by the City of Fresno. It was the consensus of Council to support and approve the current plan that will be voted on at the next FCTA meeting.

CITY MANAGER COMMENTS – 8:06

COUNCIL COMMENTS – 8:07

CLOSED SESSION – 8:15

ITEM 16 - GOVERNMENT CODE SECTION 54957.6 CONFERENCE WITH LABOR NEGOTIATORS AGENCY DESIGNATED REPRESENTATIVES: JOHN HOLT, ANDREW HAUSSLER, SHONNA HALTERMAN, AND SCOTT G. CROSS EMPLOYEE ORGANIZATION: UNREPRESENTED EMPLOYEE: MANAGEMENT EMPLOYEES

Mayor Flores adjourned the meeting of the Council to August 1, 2022

Meeting adjourned: 9:10 p.m.

Mayor

City Clerk



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
 FROM: Administration
 DATE: August 1, 2022
 SUBJECT: Administration - Approval – Agreement Between City of Clovis and the Business Organization of Old Town for Fiscal Year 2022-2023.

ATTACHMENTS: 1. Proposed Agreement Between the City of Clovis and Business Organization of Old Town for Fiscal Year 2022-2023

CONFLICT OF INTEREST

None.

RECOMMENDATION

That the City Council approve the request to enter into an agreement between the City of Clovis and Business Organization of Old Town (BOOT).

EXECUTIVE SUMMARY

This agreement will serve as a mechanism for the City of Clovis to process payments to BOOT. This will enable BOOT to continue marketing Old Town as a destination for shopping, dining, and community events.

The amount requested for funding is \$60,000 which is reflected in the 2022-2023 budget.

BACKGROUND

Although many shopping areas exist in the City of Clovis, Old Town showcases as a turn-of-the-century Central Business District, which reflects the unique diversity and positive image of our community. BOOT represents business owners and operators within Old Town Clovis. The City of Clovis and the former Clovis Community Development Agency has invested a great deal of financial assistance in regard to development, sustainability and marketability of Old Town. In 1992, the Agency expanded its promotion of Old Town by entering into annual contracts with BOOT for the following:

- Old Town attractions (Farmer's Market, Antiques and Collectibles Fairs, Old Town Christmas activities, etc.).

- Multi-media advertising (print, radio and television) for special events.
- Participation on the Tourism Committee regarding activities and opportunities in Old Town related to the patronage of retail and restaurants.

Attached is the proposed Agreement between the City of Clovis and Business Organization of Old Town for Fiscal Year 2022-2023. For performance of services described in Section 1, paragraphs (a) through (d), the City of Clovis, subject to the terms and conditions of this agreement, wishes to support BOOT by payment of a sum of \$60,000 during the fiscal year 2022-2023. Payment shall be made as follows: \$15,000 on September 30, 2022, \$15,000 on December 31, 2022, \$15,000 on March 31, 2023, and \$15,000 on June 30, 2023.

FISCAL IMPACT

This funding is included in the City of Clovis 2022-2023 budget.

REASON FOR RECOMMENDATION

Approval of this Agreement will allow the City of Clovis to continue its coordinated approach to promote Clovis as an ideal place to conduct business, reside, and promote tourism.

ACTIONS FOLLOWING APPROVAL

After approval, the City Manager will execute the agreement and it will be administered by staff.

Prepared by: Shawn Miller, Business Development Manager

Reviewed by: City Manager *AM*

**AGREEMENT BETWEEN THE CITY OF CLOVIS
AND THE BUSINESS ORGANIZATION OF OLD TOWN
2022 – 2023 FISCAL YEAR
(JULY 1, 2022 THROUGH JUNE 30, 2023)**

WHEREAS, THE CITY OF CLOVIS recognizes the significant role Old Town Clovis has played in creating a favorable image for THE CITY OF CLOVIS; and

WHEREAS, THE CITY OF CLOVIS is committed to advancing economic growth with Old Town Clovis as a priority to ensure the future and well-being of the entire City of Clovis; and

WHEREAS, THE CITY OF CLOVIS has invested considerable time and effort to encourage new business to locate and expand in Old Town Clovis, thereby continuing the economic vitality of the Central Trading district; and

WHEREAS, THE CITY OF CLOVIS recognizes the success of Old Town Clovis is dependent on both private and public sector; and

WHEREAS, the Business Organization of Old Town Clovis (B.O.O.T.) represents many business owners and operators within the Central Business District who will be effected directly or indirectly by future business promotion efforts; and

WHEREAS, THE CITY OF CLOVIS seeks' to strengthen its support of B.O.O.T.'S promotion of Old Town Clovis, thereby assuring its continued influence on economic growth in both Old Town Clovis and *he City at large.

NOW THEREFORE, THE CITY OF CLOVIS and B.O.O.T. agree as follows:

1. B.O.O.T. agrees to assist THE CITY OF CLOVIS in promoting economic expansion in Clovis by providing the following services to THE CITY OF CLOVIS:
 - (a) Maintain a viable organization with membership reflective of the diversity of Old Town Clovis.
 - (b) Maintain Old Town Clovis promotional activity including, but not limited to the following:
 1. Farmers Markets (end of April through last Friday in October)
 - a. Commodity party nights (i.e. Peach Party, Pistachio Party, etc.), Military Night, Art Hop and other special events built into the Farmers Market footprint.
 2. Year-Round Saturday Morning Farmers Market
 3. Two Vintage Market & Antique Shows (March and October)
 4. Old Town Christmas Activities
 5. One Enchanted Evening
 6. Two Wine Walks (May and October)
 7. One Craft Beer Crawl (March)
 8. Two Glorious Junk Days (May and October)
 9. Car Show (April)
 10. Horse Carriage Rides (starting Saturday after Thanksgiving through the Sunday before Christmas).
 - (c) Maintain marketing strategies and advertising techniques to position the image of Clovis through Old Town Clovis' unique character.
 - (1) Promote and provide information to merchants of Old Town on activities that are conducted both within Old Town as well as outside of the Old Town area. Information on such activities shall be provided by the Tourism Committee.

- (2) Participate on the Tourism Committee.
 - (3) Advertising and promotion of event activity in Old Town Clovis through a variety of mediums.
 - (4) Create additional events and participate on committees as requested, (examples of these additional events include, but are not limited to, the Local Organizing Committee for the Amgen Tour of California and the Centennial Planning Committee, Taking it to the Streets etc.).
- (d) Submit quarterly status reports to THE CITY OF CLOVIS, no later than 15 days prior to payment, detailing the progress of B.O.O.T.'s promotional and marketing activities.
2. B.O.O.T. is required to obtain a yearly business license.
 3. For performance of services described in Section 1, paragraphs (a) through (d), THE CITY OF CLOVIS, subject to the terms and conditions of this agreement, wishes to support B.O.O.T. by payment of a sum of \$60,000 during the fiscal year 2022-2023. Payment shall be made as follows: \$15,000 on September 30, 2022, \$15,000 on December 31, 2022, \$15,000 on March 31, 2023, and \$15,000 on June 30, 2023.
 4. To assure collection of business license fees for businesses within the PBIA, THE CITY OF CLOVIS and B.O.O.T. will work toward full compliance of business license issues. B.O.O.T. will notify THE CITY OF CLOVIS when a new business moves into Old Town to determine if the business applied for a proper license. Likewise, THE CITY OF CLOVIS will alert B.O.O.T. of a new business applying for a license so that B.O.O.T. can send a welcome package to the new business and explain the PBIA and benefits of being in Old Town Clovis.
 5. THE CITY OF CLOVIS Business Licensing Division will share reports regarding collection of business license fees for the PBIA.
 6. B.O.O.T. agrees to obey all laws and adhere to all rules, regulations, policies, and procedures during day-to-day operations as well as during special event planning, management, and execution. This includes, but is not limited to, request(s) for street closure, set-up and breakdown of special events, and use of maintenance of CITY OF CLOVIS equipment, utilities, and resources.
 7. B.O.O.T. agrees to work towards informing and educating PBIA businesses about parking. This should include providing information about the importance of business owners and employees parking in designated areas, freeing up "prime" parking areas for customers.
 8. B.O.O.T. agrees to repair damage to landscape, hardscape, hardware and other city-owned property that occurs as a result from B.O.O.T. owned special events.
 9. It is understood and agreed that in the performance of this agreement, B.O.O.T. is an independent contractor. B.O.O.T. shall take out and maintain Workers Compensation, State Disability, and other insurance coverage as required by law and shall in all other respects comply with applicable provisions of Federal, State, and local laws, rules, and regulations.

10. B.O.O.T. shall indemnify, hold harmless and defend THE CITY OF CLOVIS, its officers, agents, members, or employees from all claims for money, damages or other relief arising in any way from the performance of this agreement by B.O.O.T., its officers, agents, members, or employees. B.O.O.T. shall take out and maintain for the full term of this agreement liability insurance providing protection for personal injury, wrongful death, and property damage; such insurance to be in amounts and issued by carriers acceptable to THE CITY OF CLOVIS. B.O.O.T. shall provide THE CITY OF CLOVIS with Certificates of Insurance evidencing such coverage naming THE CITY OF CLOVIS as "additional insured". In respect to "special events" undertaken pursuant to this agreement, B.O.O.T. shall provide THE CITY OF CLOVIS with additional Certificates of Insurance showing THE CITY OF CLOVIS, its officers, agents, and employees as additional named insured under the "special events" policy (ie's) of insurance. All certificates shall show cross liability endorsements. All certificates shall expressly state that the policy (ie's) may not be terminated, cancelled, or modified without (30) days prior written notice received by THE CITY OF CLOVIS at its regular address, 1033 Fifth Street, Clovis, California 93612.
11. The funds provided B.O.O.T. by THE CITY OF CLOVIS pursuant to this agreement shall not be directly or indirectly used for any political purpose whatsoever. This prohibition includes, but is not limited to, campaigns, events, promotions, literature, lobbying or other activities for, against or on behalf of any state, local or federal legislation, issue, candidate(s) or action, whether partisan in nature or not.
12. As part of the annual financial audit of the books and records of B.O.O.T. by B.O.O.T.'s independent auditor, the audit shall include tests for compliance with this Agreement. The tests shall be performed in conformance with the generally accepted auditing standards. The auditor shall prepare a separate written report on the compliance with the provisions of this agreement. THE CITY OF CLOVIS reserves the right to review, during normal business hours, the books and records of B.O.O.T.'s expenditures which are related to the programs required by the provisions of this agreement

DATED: 10/7/22

Heather Frantzich

BUSINESS ORGANIZATION OF OLD TOWN
HEATHER FRANTZICH - EXECUTIVE DIRECTOR

DATED: _____

THE CITY OF CLOVIS

APPROVED AS TO FORM:

CLOVIS CITY ATTORNEY



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Administration

DATE: August 1, 2022

SUBJECT: Administration - Receive and File – Business Organization of Old Town (BOOT) Fourth Quarter Report, April through June 2022.

ATTACHMENTS: 1. Business Organization of Old Town (BOOT) Fourth Quarter Report, April through June 2022

CONFLICT OF INTEREST

None.

RECOMMENDATION

That the City Council receive and file the Business Organization of Old Town (BOOT) Fourth Quarter Report, April through June 2022.

EXECUTIVE SUMMARY

According to the 2021–2022 agreement between the City of Clovis and BOOT, BOOT is to submit quarterly reports to the City Manager and City Council. The amount to be funded is \$15,000.

BACKGROUND

According to the 2021-2022 agreement between the City of Clovis and BOOT, BOOT is to submit quarterly reports to the City Manager and City Council detailing progress of BOOT's promotional and marketing activities. Attached as Attachment "1" is the Fourth Quarter Report covering April through June 2022 activities. The amount to be funded is \$15,000.

FISCAL IMPACT

The amount to be funded is \$15,000 which is stated in the 2021-2022 Budget.

REASON FOR RECOMMENDATION

The attached report meets the requirements established in the 2021-2022 agreement between the City of Clovis and BOOT.

ACTIONS FOLLOWING APPROVAL

Staff will process payment to BOOT.

Prepared by: Shawn Miller, Business Development Manager

Reviewed by: City Manager *AM*

Boot Quarterly Report: Quarter 4 April 1 – June 30, 2022

In accordance with the Agreement between City of Clovis/community & Economic Development Department and the Business Organization of Old Town Clovis for the fiscal year 2021-2022, the following items have been accomplished to date.

Goal #1:

Maintain a viable organization with membership reflective of the diversity of Old Town Clovis.

Objective:

- To maintain current level of membership and seek new members each year.
- To unite the merchants of Old Town as a group of businesses working together for the betterment of the whole downtown district.

Strategy:

- Provide information on the website about B.O.O.T., B.O.O.T. membership, benefits of membership and application forms year-round.
- Personal visits to businesses in the PBIA to recruit and retain memberships.
- Contact with businesses outside the PBIA to recruit and retain Associate Memberships, AKA "Friends of B.O.O.T."
- Allow members to pay dues monthly, quarterly, or semi-annually based on their finances.
- Create a benefits package to attract both regular and associate members.
- Design benefits that will be exclusive to B.O.O.T. membership.
- Created monthly auto draft by using credit card for membership. Credit card can rollover to the following year for automatic membership renewal.
- Provide information to merchants of Old Town regarding activities conducted in and around Old Town through the BOOT social media accounts & email blasts.
- Communicate information to merchants on activities at the monthly B.O.O.T. membership meetings and through E-Blasts. Post events for all organizations in Clovis on B.O.O.T. Website and ensure that if someone searches for an event, B.O.O.T.'s website is in the top results.
- Plan and post meeting notices via email for monthly B.O.O.T. membership meetings.
- Advertise frequently to promote Old Town Clovis on behalf of all merchants.
- Enhance existing programs to draw more people to Old Town Clovis.

Results:

- A membership and organization characteristic of Old Town Clovis.
- Created a member only page on Facebook to keep the merchants involved and active in our events
- Members are sought throughout the year and new businesses are invited to join.

- Members meet at American Legion Hall on the 4th Wednesday of each month. We continue to offer zoom during as an alternative to attending in person. As of 5/31/2022 we have 130+ members.
- Board of Directors meet monthly at Noon, on the 3rd Wednesday of each month at the B.O.O.T. Conference Room to discuss issues pertinent to the organization, i.e. past and future events, review finances and other pertinent information to the organization.
- Board members represent our diverse merchant groups: office professional, property owners, restaurants, bars, antique, gift, and specialty stores. The 2021 Board of Directors is as follows:

- *Cora Shipley, President (through 2022)
- * Karen Chisum, Vice President (through 2022)
- * Bradley Warner, Secretary (through 2023)
- * Dave Shivers, Director at Large (through 2022)
- * Julie Glenn, Director at Large (through 2023)
- * Mark Smith, Director at Large (through 2023)
- * Ronnie Silva, Director a Large (through 2022)

* The Marketing/Events Committee continue to improve existing events, create new events and activities specifically designed to bring customers directly into the businesses.

Goal #2

Maintain Old Town Clovis' promotional activities

Objective:

- Successfully manage, promote, and operate events in Old Town Clovis, as well as create new events on an ongoing basis that attract visitors to Old Town Clovis. We kicked off our Friday Night Farmers Market on April 29th. We had over 80+ vendors which is the most we have started off with in years. The number of vendors and attendees have been consistent each week. We had our Spring Wine Walk on Saturday, May 14th. We had a record-breaking merchant participation with 23 merchants that were paired with 23 wineries! We sold 750 tickets. Due to popular demand, we brought back Glorious Junk Days which was held Sunday, May 29th. We had a wonderful turnout with the vendors and attendees. We added another Glorious Junk Days in September which we are excited about. We are continuing to hold our weekly Saturday morning Farmer's Market with success and growth.
- To provide a quality events giving people a reason to visit the downtown district.
- To develop marketing strategies to keep Old Town competitive with malls and other shopping areas.
- To attract customers and visitors, both old and new to the downtown district.
- To present Old Town Clovis as an attractive, appealing, friendly and inviting business community.

Strategy:

- Develop, operate, promote, maintain, and pay for events that bring people to Old Town Clovis.

- Establish and maintain events that highlight Old Town Clovis locally, nationally, and internationally.
- Meet all requirements set by City, State and other agencies for activities, events, and attractions.
- Develop new events and activities to help bring visitors to Old Town Clovis while maintaining a safe and inviting atmosphere.
- Create and pay for multi-media advertising campaigns for general advertising such as generic "Shop Local in Old Town Clovis."
- Continue to evolve events so they continue to attract new people.

Results

- This quarters events included the Year-Round Saturday Morning Farmers Market, Friday Night Farmers Markets, Spring Wine Walk and Glorious Junk Days.

Goal #3

Maintain marketing strategies, including safety and appearance and advertising techniques to position the image of Clovis through Old Town Clovis' unique character.

Objective:

- Create a broad awareness of Old Town Clovis.
- Establish Old Town Clovis as an immediate, intermediate and end destination.
- Retain the established customer base.
- Reach out to Central California so that more people become aware of what Clovis offers.
- Work with City Officials to maintain a safe, crime free area where people feel safe and like bringing their families to Old Town Clovis.

Strategy:

- Secure multi-media advertising campaigns to promote Old Town Clovis along with event generated promotions
- Submit calendar of events to community and online calendars
- Use Website, Instagram, Pinterest, Facebook to promote Old Town Clovis in general, as well as merchant businesses and specific events.
- Contribute to the cost of the Clovis Appliance/General Electric ABC/30 Skycam at 5th and Pollasky when B.O.O.T. has sufficient funds (co-op advertising).
- Advertise antique events in focused publications that are regional and national in scope for our annual antique events.
- Ongoing outreach to businesses to locate to Old Town Clovis.
- Work with City of Clovis Police Department to create a safe atmosphere in Old Town Clovis.
- Work with City of Clovis staff to create a clean, well-maintained streetscape in Old Town Clovis.

Results:

- We continued to work on traditional TV opportunities with “stories” that were carried by local TV and Radio Social Media and Print.
- Our new executive director came from a TV and radio background and has used her resources to beef up the PR with our events in Old Town Clovis.
- Facilitated wide exposure for Old Town Clovis, it’s events, character, and appeal
- Assured Old Town Clovis has a strong presence in local TV, especially during the news hours.
- The Clovis Appliance/General Electric Skycam with ABC/30 Action News reaches approximately 684,700 people every week and approximately 400,000 monthly unique visitors online at abc30.com. Old Town Clovis is mentioned a minimum of 3 to 4 times per day on the news program during weather reports and if we have anything special going on in Old Town, i.e. Farmers Market, the camera will show the activity. B.O.O.T. contributes co-op advertising dollars when available.
- Stimulated customer and visitor traffic in Old Town Clovis, as evidence by increased number of customers in town for all our events.
- Promoted individual B.O.O.T. Member businesses, created event pages on Facebook & Instagram for upcoming events in Old Town, thereby giving excellent exposure.
- Communicate information to sources essential for tourism opportunities, capturing disposable money from customers who have an option to spend it elsewhere.
- Completed a complete web-site overhaul in March 2021 with new members page, event information, and Old Town Clovis resources.

Goal #4:**Provide information on activities to the Tourism Advisory Committee**Strategy:

- Participate as an active member of the Tourism Advisory Committee -
- Supply the Clovis Visitors Center with Information regarding events, activities and leads for tour groups.
- Provide event information for visitclovis.com
- Actively promote Old Town Clovis and Member Businesses on Facebook, Instagram, Pinterest and B.O.O.T.’s website.

Results:

- Ensured Old Town Clovis is recognized as a tourism destination.
- Businesses in Old Town showcased Old Town as a friendly and inviting throughout the spring and summer months.
- B.O.O.T. works directly with the Visitors Center to be sure they have current event information, including Event Cards with all street events listed

Goal #5:

Obtain and maintain Workers Compensation, State Disability and Directors and Officers Policy as well as any other insurance coverage as required by law.

Objective:

- Qualify for Workers Compensation, State Disability coverage, General Liability, and all required Insurances.

Strategy:

- To meet all requirements of renewal; indemnify, hold harmless and defend the City of Clovis, Community and Economic Development Department, its officers, agents or employees.
- Submit for renewal Directors and Officers Insurance Policy through Philadelphia Insurance.
- Complete and submit for renewal the State Fund Compensation Insurance Fund policy information update to Valley Regional Insurance Services, Agent Ron Petersen.
- Submit for approval General Liability Insurance through Charity First an "A" rated insurance company through Agent Ron Petersen, Valley Regional Insurance Services.

Results:

- Obtained General Liability Policy coverage period April 21, 2022 to April 21, 2023.
- State Fund Compensation Policy renewed for period April 1, 2022 to March 31, 2023.
- Directors and Officers Policy will renew for period August 4, 2022 to August 4, 2023.
- Certificates of Insurance with Endorsements provided to the City of Clovis.

Goal #6:

Annual Compliance Audit

Objective

- To successfully complete a compliance audit conducted by an independent auditor - We will be providing a quarterly P&L statement and an annual complete P&L report prepared by Krikorian & Company, 1715 N. Fine Avenue, Fresno, CA 93727.

Strategy:

- Efficiently maintain and preserve all records needed to demonstrate full compliance.

Results:

Financial Status:

- See Q4 Balance Sheet Attached as prepared by CPA Firm Krikorian & Co.

Summary:

Old Town Clovis plays a significant role in creating a favorable image for the City of Clovis. Growth within Old Town Clovis is one of the more important priorities to ensure the future and well-being of Clovis' Redevelopment Project Area. In order to continue the economic vitality of the central trading district, considerable time and effort has been invested in an effort to encourage new businesses to locate and expand in Old Town Clovis. Old Town Clovis has seen many new businesses come into the area in the past few years and many more that are looking for space.

Updates to the PBIA:

- The Business Organization of Old Town represents many business and property owners and operators, within the central business district, who will be affected directly or indirectly by future business promotion efforts and seeks to strengthen the promotion of Old Town Clovis thereby assuring its continued influence on economic growth in both Old Town Clovis and the City as a whole.
- Garbage and recycling needs must be addressed as more people in Old Town equals more garbage and recycling. Inadequate garbage/recycling cans are having an impact on Old Town.
- There are always changes taking place in Old Town Clovis. The following details most of these changes:
 - **New Businesses within Old Town Clovis:** West Coast Barbel Apparel went mobile, and Eye Candy Boutique moved into there location.
 - **Business Closures within the PBIA**
 - All businesses are open with full capacity
- **Properties that remain vacant:**
 - 311 Pollasky Avenue – La Posada remains vacant.
 - 339 Pollasky Avenue, the former Quilters Paradise is sitting still – no activity.



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
FROM: Finance Department
DATE: August 1, 2022
SUBJECT: Finance – Receive and File – Investment Report for the Month of April 2022.

ATTACHMENTS:

1. Distribution of Investments
2. Monthly Investment Transactions
3. Certificates of Deposit
4. Municipal Securities
5. Graph of April 30, 2022 Treasury Rates

Attached is the Investment Report for the month of April 2022. Shown in Attachment 1 is the distribution of investments which lists all the individual securities owned by the City with the book and market values. Book value is the actual price paid for the investment. Market value is the amount that the investment is worth if sold in the open market. The market value (which fluctuates daily) that is used in the report is as of the last working day of the month. Attachment 2 reflects the monthly investment transactions for the month of April 2022. Attachment 3 lists the certificates of deposit. Attachment 4 lists the municipal securities. Attachment 5 is a graph of Treasury rates on April 30, 2022.

The investment of the City's funds is performed in accordance with the adopted Investment Policy. Funds are invested with the following objectives in mind:

1. Assets are invested in adherence with the safeguards and diversity of a prudent investor.
2. The portfolio is invested in a manner consistent with the primary emphasis on preservation of the principal, while attaining a high rate of return consistent with this guideline. Trading of securities for the sole purpose of realizing trading profits is prohibited.
3. Sufficient liquidity is maintained to provide a source for anticipated financial obligations as they become due.

4. Investments may be made, consistent with the Investment Policy Guidelines, in fixed income securities maturing in three years or less and can be extended to five years with the City Manager's approval.

The Finance Department invests the City's assets with an expectation of achieving a total rate of return at a level that exceeds the annualized rate of return on short-term government guaranteed or insured obligations (90-day Treasury bills) and to assure that the principal is preserved with minimal risk of depreciation or loss. In periods of rising interest rates, the City of Clovis portfolio return may be less than that of the annualized 90-day Treasury bill. In periods of decreasing interest rates, the City of Clovis portfolio return may be greater than the annualized 90-day Treasury bill. The current 90-day Treasury bill rate (annualized) is 0.13%. The rate of return for the City of Clovis portfolio is 0.93%. The goal for the City of Clovis investment return is 120% of the 90-day Treasury bill rate. The current rate of return is 712% of the Treasury bill rate.

In accordance with the Investment Policy, the investment period on each investment does not exceed three years and can be extended to five years with the City Manager's approval. As of April 2022, the average investment life of the City's investment portfolio is 1.18 years.

Current Investment Environment and Philosophy

During the month of April 2022, the federal funds rate remained at 0.25%-0.50%. On April 30, 2022, the Treasury yield curve increased from 3-month to 5-year notes, then decreased slightly to 10-year notes.

Certificates of Deposit (CD's)

The City purchases both negotiable and non-negotiable Certificates of Deposit (CD's). Although negotiable CD's can be traded, it is the City's policy to buy and hold all CD's. Negotiable CD's are held by U.S. Bank, a third party custodian. Non-negotiable CD's are held in the City's safe.

Purchases and Maturities

- 1 government security totaling \$4,000,000 was purchased.
- 0 government securities were called or matured.
- 4 certificates of deposit totaling \$1,000,000 were purchased.
- 1 certificate of deposit totaling \$250,000 matured.
- 4 municipal securities totaling \$8,720,000 were purchased.

Market Environment

- During April the federal funds rate remained at 0.25%-0.50%.
- On April 30, the yield curve increased from 3-month to 5-year notes, then decreased slightly to 10-year notes. See Attachment 5, Graph of Treasury Rates on April 30, 2022.

Prepared by: Jeffrey Blanks, Deputy Finance Director

Reviewed by: City Manager *AK*

**City of Clovis
Distribution of Investments
As of April 30, 2022**

AGENDA ITEM NO. 6.

	<u>COST</u>	<u>NET BOOK VALUE</u>	<u>MARKET VALUE *</u>	<u>YIELD TO MATURITY</u>	<u>STATED INTEREST RATE</u>	<u>INVEST DATE</u>	<u>MATURITY DATE</u>	<u>DAYS TO MATURITY FROM 4/30/2022</u>
<u>GOVT SECURITIES</u>								
FFCB	6,017,400	6,005,232	6,007,440	1.875%	1.875%	06/27/19	06/14/22	45
FAMCMTN	6,024,900	6,007,803	6,009,300	1.950%	1.950%	07/25/19	06/21/22	52
FFCB	3,005,250	3,002,074	3,005,730	1.625%	1.625%	11/27/19	08/22/22	114
FHLB	6,065,100	6,025,738	6,016,440	2.000%	2.000%	10/31/19	09/09/22	132
FFCB	2,984,460	2,993,412	2,998,860	1.375%	1.375%	11/27/19	10/11/22	164
FFCB	5,008,500	5,003,819	4,997,400	1.600%	1.600%	01/23/20	10/13/22	166
FHLB	8,045,600	8,021,152	6,509,685	1.875%	1.875%	12/19/19	12/09/22	223
FHLB	5,047,500	5,022,769	6,509,685	1.875%	1.875%	01/23/20	12/09/22	223
FAMCMTN	8,544,965	8,523,948	8,453,165	1.350%	1.350%	02/27/20	02/27/23	303
FHLB	5,255,000	5,145,268	5,016,236	2.125%	2.125%	03/26/20	03/10/23	314
FHLB	13,579,800	13,319,589	12,985,564	2.125%	2.125%	04/30/20	03/10/23	314
FFCB	5,000,000	5,000,000	4,778,350	0.250%	0.250%	03/01/21	03/01/24	671
FFCB	1,999,000	1,999,111	1,919,220	0.300%	0.300%	03/24/21	03/18/24	688
FHLB	5,000,000	5,000,000	4,776,450	0.350%	0.350%	06/07/21	06/07/24	769
FHLB	4,969,000	4,970,369	4,773,000	1.050%	1.050%	01/20/22	11/15/24	930
FHLB	3,980,000	3,980,830	3,867,000	1.750%	1.750%	02/28/22	02/28/25	1,035
FHLB	4,000,000	4,000,000	3,980,320	2.750%	2.750%	04/25/22	04/25/25	1,091
FAMCMTN	3,947,600	3,950,319	3,739,040	0.750%	0.750%	12/16/21	07/28/25	1,185
FAMCMTN	4,948,500	4,950,975	4,631,300	0.600%	0.600%	10/14/21	09/08/25	1,227
FHLB	4,963,000	4,965,093	4,577,800	0.580%	0.580%	09/08/21	02/11/26	1,383
FHLB	3,922,000	3,925,490	3,663,160	0.750%	0.750%	12/16/21	02/24/26	1,396
FFCB	4,967,500	4,968,730	4,579,550	0.940%	0.940%	10/14/21	09/28/26	1,612
FHLB	5,988,000	5,988,450	5,597,700	1.250%	1.250%	11/24/21	11/24/26	1,669
FHLB	5,127,757	5,124,502	4,813,750	2.125%	2.125%	01/20/22	12/11/26	1,686
FHLB	3,695,200	3,702,935	3,612,840	0.900%	0.900%	03/31/22	02/26/27	1,763
FHLB	4,000,000	4,000,000	3,855,880	2.375%	2.375%	03/08/22	03/08/27	1,773
SECURITIES TOTAL	<u>\$ 136,086,032</u>	<u>\$ 135,597,608</u>	<u>\$131,674,865</u>					
LAIF		<u>\$ 74,511,731</u>	<u>\$ 74,511,731</u>					
Municipal Issuance		<u>\$ 18,185,000</u>	<u>\$ 17,212,328</u>					
Sweep Account (Union Bank)		<u>\$ 46,053,688</u>	<u>\$ 46,053,688</u>					
TOTAL CD'S		<u>\$ 11,745,000</u>	<u>\$ 11,541,842</u>					
TOTAL INVESTMENTS		<u>\$ 286,093,027</u>	<u>\$ 280,994,454</u>					

* Market values for securities obtained from US Bank.

City of Clovis
Monthly Investment Transactions
As of April 30, 2022

AGENDA ITEM NO. 6.

Institution	Description	Activity	Amount	Market Value	Rate	Activity Date	Maturity Date
FHLB	Gov Sec.	Purchase	4,000,000	4,000,000	2.750%	04/25/22	04/25/25
CALI ST UNIV	Mun Iss.	Purchase	3,455,000	3,365,861	0.475%	04/01/22	11/01/23
CHABOT LAS POSITAS	Mun Iss.	Purchase	1,490,000	1,395,832	0.880%	04/29/22	08/01/25
HUNTINGTON BEACH	Mun Iss.	Purchase	3,305,000	3,075,633	1.208%	04/29/22	08/01/26
SAN DIEGO CMNTY	Mun Iss.	Purchase	470,000	454,725	2.299%	04/29/22	08/01/26
BEAL BK	CD	Purchase	250,000	250,000	2.200%	04/06/22	04/02/25
FIRST NATL BK	CD	Purchase	250,000	250,000	2.200%	04/12/22	04/11/25
JP MORGAN CHASE	CD	Purchase	250,000	250,000	2.500%	04/08/22	04/08/25
ONE CMNTY BK	CD	Purchase	250,000	250,000	2.700%	04/29/22	04/29/25
COMENITY CAP BK	CD	Maturity	250,000	250,000	2.550%	04/29/22	04/29/22

PORTFOLIO DATA

Current Month (04/22)

	Book	Market
CD'S	\$ 11,745,000	\$ 11,541,842
Gov't Securities*	135,597,608	131,674,865
Municipal Securities	18,185,000	17,212,328
LAIF	74,511,731	74,511,731
Sweep Account (Union Bank)	46,053,688	46,053,688
TOTAL	\$ 286,093,027	\$ 280,994,454

Prior Month (03/22)

	Book	Market
CD'S	\$ 10,995,000	\$ 10,863,747
Gov't Securities*	131,597,608	128,547,760
Municipal Securities	9,465,000	9,118,120
LAIF	74,453,060	74,453,060
Sweep Account (Union Bank)	53,645,114	53,645,114
TOTAL	\$ 280,155,782	\$ 276,627,801

Three Months Previous (01/22)

	Book	Market
CD'S	\$ 10,485,000	\$ 10,501,351
Gov't Securities*	137,948,058	137,093,595
Municipal Securities	9,465,000	9,313,433
LAIF	74,453,060	74,453,060
Sweep Account (Union Bank)	42,660,508	42,660,508
TOTAL	\$ 275,011,626	\$ 274,021,947

Six Months Previous (10/21)

	Book	Market
CD'S	\$ 10,485,000	\$ 10,576,750
Gov't Securities*	125,551,804	125,987,047
Municipal Securities	5,900,000	5,880,960
LAIF	74,410,223	74,410,223
Sweep Account (Union Bank)	34,467,569	34,467,569
TOTAL	\$ 250,814,596	\$ 251,322,549

One Year Previous (04/21)

	Book	Market
CD'S	\$ 10,485,000	\$ 10,677,177
Gov't Securities*	115,733,857	117,344,003
Municipal Securities	5,900,000	5,898,883
LAIF	74,304,273	74,304,273
Sweep Account (Union Bank)	45,578,631	45,578,631
TOTAL	\$ 252,001,761	\$ 253,802,967

*Adjusted Quarterly for Premium/Discount Amortization

**City of Clovis
Certificates of Deposit
As of April 30, 2022**

AGENDA ITEM NO. 6.

<u>Negotiable CDs</u>	<u>COST</u>	<u>MARKET PRICE</u>	<u>INTEREST RATE</u>	<u>INVEST DATE</u>	<u>MATURITY DATE</u>	<u>MATURITY FROM 04/30/22</u>	<u>INTEREST FREQUENCY</u>
Synchrony Bank	250,000	250,230.00	2.450%	05/17/19	05/17/22	17	QUARTERLY
First State Bank of Dequeen	250,000	250,262.50	2.000%	07/26/19	05/26/22	26	QUARTERLY
Flagstar Bank	250,000	250,592.50	2.500%	06/12/19	06/13/22	44	QUARTERLY
Capital One Bank	250,000	250,630.00	2.350%	06/19/19	06/20/22	51	QUARTERLY
Morgan Stanley Bk	250,000	250,885.00	2.100%	07/25/19	07/25/22	86	QUARTERLY
Capital One Nntl Assn	250,000	251,032.50	2.150%	08/07/19	08/08/22	100	QUARTERLY
Everbanke USA Salt Lake City	250,000	250,965.00	2.050%	08/07/19	08/08/22	100	QUARTERLY
Raymond James Bank	250,000	250,945.00	1.900%	08/23/19	08/23/22	115	QUARTERLY
Ally Bank	250,000	251,022.50	1.850%	09/19/19	09/19/22	142	QUARTERLY
Usalliance Federal Credit Union	250,000	251,147.50	2.850%	09/30/19	09/30/22	153	QUARTERLY
Morgan Stanley Bank	250,000	251,107.50	2.100%	10/17/19	10/17/22	170	MONTHLY
Lafayette Fed Cr Un	250,000	250,902.50	1.700%	11/22/19	11/22/22	206	MONTHLY
Live Oak Banking Co.	250,000	250,937.50	1.750%	12/11/19	12/12/22	226	QUARTERLY
Wells Fargo Natl Bk West	250,000	251,012.50	1.800%	12/13/19	12/13/22	227	QUARTERLY
Valley Cent Svgs Bk	250,000	250,722.50	1.700%	01/15/20	01/17/23	262	QUARTERLY
Sallie Mae Bank	250,000	251,055.00	1.900%	01/23/20	01/23/23	268	QUARTERLY
Servisfirst Bank	250,000	250,282.50	1.600%	02/21/20	02/21/23	297	MONTHLY
Celtic Bank	250,000	249,985.00	1.550%	03/13/20	03/13/23	317	MONTHLY
Axos Bank	250,000	249,832.50	1.550%	03/26/20	03/27/23	331	MONTHLY
Nicolet Natl Bank	250,000	248,702.50	0.900%	03/27/20	03/27/23	331	MONTHLY
Centerstate Bank	250,000	248,307.50	0.900%	03/30/20	03/30/23	334	MONTHLY
Bank Leumi	250,000	249,555.00	1.450%	03/31/20	03/31/23	335	MONTHLY
Discover Bank	250,000	249,520.00	1.350%	04/02/20	04/03/23	338	MONTHLY
Berkshire Bank	250,000	249,125.00	1.300%	04/08/20	04/06/23	341	MONTHLY
American Express	250,000	248,432.50	1.100%	04/21/20	04/21/23	356	MONTHLY
New York Cmnty Bank	250,000	242,097.50	0.350%	12/11/20	12/11/23	590	QUARTERLY
Transportation Alliance Bk	250,000	239,382.50	0.250%	03/12/21	03/12/24	682	QUARTERLY
Preferred Bank	250,000	239,032.50	0.250%	03/25/21	03/25/24	695	QUARTERLY
Bankunited Natl Assn	245,000	234,977.05	0.450%	03/31/21	04/01/24	702	QUARTERLY
Greenstate Credit Union	250,000	238,160.00	0.450%	06/16/21	06/17/24	779	QUARTERLY
Eaglemark Savings Bank	250,000	237,712.50	0.400%	06/30/21	06/28/24	790	QUARTERLY
Texas Exchange Bk	250,000	238,010.00	0.500%	07/09/21	07/09/24	801	QUARTERLY
BMW Bk North Amer	250,000	237,937.50	0.550%	07/30/21	07/30/24	822	QUARTERLY
Toyota Finl Svgs	250,000	237,742.50	0.650%	09/09/21	09/09/24	863	QUARTERLY
State Bk India	250,000	237,597.50	0.650%	09/17/21	09/17/24	871	QUARTERLY
Ubs Bank Usa	250,000	237,047.50	0.750%	11/17/21	11/18/24	933	QUARTERLY
Webbank Salt Lake City	250,000	236,922.50	0.750%	11/29/21	11/29/24	944	QUARTERLY
Medallion Bank Salt Lake City	250,000	237,412.50	0.900%	12/20/21	12/20/24	965	QUARTERLY
Beal Bank	250,000	244,672.50	0.950%	01/19/22	01/15/25	991	QUARTERLY
Barclays Bk	250,000	241,490.00	1.700%	03/09/22	03/10/25	1,045	QUARTERLY
Goldman Sachs Bk	250,000	241,147.50	1.650%	03/09/22	03/10/25	1,045	QUARTERLY
Safra National Bk	250,000	243,392.50	2.000%	03/23/22	03/24/25	1,059	QUARTERLY
Pentagon Federal Cr Un	250,000	243,320.00	2.000%	03/28/22	03/28/25	1,063	QUARTERLY
Beal Bank	250,000	237,302.50	2.200%	04/06/22	04/02/25	1,068	QUARTERLY
JP Morgan Chase	250,000	246,737.50	2.500%	04/08/22	04/08/25	1,074	QUARTERLY
First Natl Bank	250,000	244,582.50	2.200%	04/12/22	04/11/25	1,077	QUARTERLY
One Community Bank	250,000	247,972.50	2.700%	04/29/22	04/29/25	1,095	QUARTERLY
Negotiable CD TOTAL	<u>\$ 11,745,000</u>	<u>\$ 11,541,842</u>					
CD TOTAL	<u>\$ 11,745,000</u>	<u>\$ 11,541,842</u>					

**City of Clovis
Municipal Securities
As of April 30, 2022**

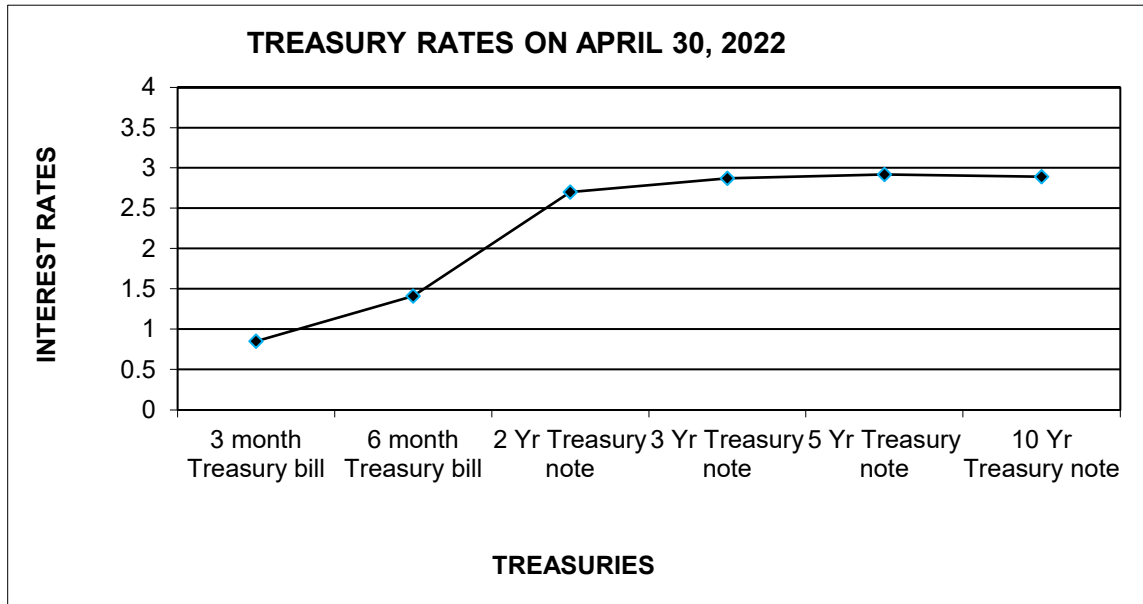
<i>AGENDA ITEM NO. 6.</i>

<u>Municipal Securities</u>	<u>COST</u>	<u>MARKET PRICE</u>	<u>INTEREST RATE</u>	<u>INVEST DATE</u>	<u>MATURITY DATE</u>	<u>MATURITY FROM 04/30/22</u>	<u>INTEREST FREQUENCY</u>
Huntington Beach Pension Bond	1,000,000	974,500.00	0.381%	04/01/21	06/15/23	411	QUARTERLY
Fresno Unified Taxable Go Ref Bond	500,000	486,745.00	0.462%	09/30/20	08/01/23	458	QUARTERLY
Pomona Cali Uni Sch Dist Go Bond	815,000	794,788.00	0.534%	10/20/20	08/01/23	458	QUARTERLY
William Hart Cali HS Go Bond	1,000,000	970,890.00	0.366%	12/23/20	08/01/23	458	QUARTERLY
San Jose CA USD Ref Bond	775,000	753,106.25	0.221%	01/20/21	08/01/23	458	QUARTERLY
Vista CA USD Ref Bond	750,000	730,515.00	0.221%	01/20/21	08/01/23	458	QUARTERLY
Jefferson Cali Elem Sch Dist Go Bond	710,000	690,226.50	0.399%	10/27/20	09/01/23	489	QUARTERLY
Santa Rosa Calif Watr Ref Bond	350,000	341,152.00	0.578%	12/01/20	09/01/23	489	QUARTERLY
California St Univ Ref Bond	3,455,000	3,334,938.75	0.475%	04/01/22	11/01/23	550	QUARTERLY
Santa Ana CCD Ref Bond	440,000	416,930.80	0.644%	12/17/21	08/01/24	824	QUARTERLY
Chabot Las Positas Cmnty Clg Bond	1,490,000	1,380,052.90	0.880%	04/29/22	08/01/25	1,189	QUARTERLY
Los Angeles CA USD Ref Bond	1,000,000	917,110.00	1.455%	11/15/21	07/01/26	1,523	QUARTERLY
San Ramon Valley CA USD Ref Bond	2,125,000	1,930,902.50	1.147%	11/03/21	08/01/26	1,554	QUARTERLY
Huntington Beach HS Dist Ref Bond	3,305,000	3,040,600.00	1.208%	04/29/22	08/01/26	1,554	QUARTERLY
San Diego CA Cmnty Ref Bond	470,000	449,869.90	2.299%	04/29/22	08/01/26	1,554	QUARTERLY
Mun. Securities TOTAL	<u>\$ 18,185,000</u>	<u>\$ 17,212,328</u>					
Municipal Securities TOTAL	<u><u>\$ 18,185,000</u></u>	<u><u>\$ 17,212,328</u></u>					

**CITY OF CLOVIS
FINANCE DEPARTMENT
APRIL 30, 2022 TREASURY RATES**

Treasury Rates as of April 30, 2022

3 month Treasury bill	0.85
6 month Treasury bill	1.41
2 Yr Treasury note	2.70
3 Yr Treasury note	2.87
5 Yr Treasury note	2.92
10 Yr Treasury note	2.89



As indicated in the above graph, treasuries increase from 3-month to 5-year notes, then decrease slightly to 10-year notes.



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
FROM: Finance Department
DATE: August 1, 2022
SUBJECT: Finance – Receive and File – Treasurer’s Report for the Month of April 2022.

ATTACHMENTS: 1. Summary of Cash Balances
2. Summary of Investment Activity
3. Investments with Original Maturities Exceeding One Year

Attached for the Council’s information is the Treasurer’s Report for the month ended April 30, 2022.

Pursuant to Section 41004 of the Government Code of the State of California, the City Treasurer is required to submit a monthly report of all receipts, disbursements, and fund balances. Attachment 1 provides a summary of the beginning balance, total receipts, total disbursements, ending balance for all funds, and a listing, by fund, of all month end fund balances. Attachment 2 summarizes the investment activity for the month and distribution, by type of investment, held by the City. Attachment 3 lists all investments with original maturities exceeding one year as of the month ended April 30, 2022.

Prepared by: Jeffrey Blanks, Deputy Finance Director

Reviewed by: City Manager *AA*

City of Clovis
Statement of Cash Balances
As of April 30, 2022

Previous Balance	\$	5,018,490.31
Deposits		37,798,468.01
Disbursements		<u>(37,589,379.35)</u>
Current Balance	\$	<u><u>5,227,578.97</u></u>

<u>FUNDS</u>	<u>BALANCE</u>
100 General Fund	\$ 11,797,681.96
201 Local Transportation	21,435,611.96
202 Parking and Business Improvements	184,337.93
203 Off Highway Use	71,113.64
204 Community Facilities District 2020-1	78,663.13
205 Senior Citizen Memorial Trust	55,038.01
207 Landscape Assessment District	5,603,180.15
208 Blackhorse III (95-1) Assessment District	103,252.24
301 Park & Recreation Acquisition	10,044,271.99
305 Refuse Equipment Reserve	1,923,481.96
310 Special Street Deposit Fund	36,070,081.99
313 Successor Agency	24,303.80
314 Housing Successor Agency	1,300,765.55
402 1976 Fire Bond Redemption	25,475.23
404 1976 Sewer Bond Redemption Fund	410,458.16
501 Community Sanitation Fund	15,115,438.50
502 Sewer Service Fund	34,457,632.04
504 Sewer Capital Projects-Users	772,333.26
506 Sewer Capital Projects-Developer	5,487,723.68
507 Water Service Fund	50,066,958.26
508 Water Capital Projects-Users	7,064,554.65
509 Water Capital Projects-Developer	9,459,000.96
515 Transit Fund	6,522,804.51
540 Planning & Development Services	16,767,405.49
601 Property & Liability Insurance	1,455,100.69
602 Fleet Maintenance	20,959,924.17
603 Employee Benefit Fund	10,906,701.72
604 General Government Services	21,835,054.77
701 Curb & Gutter Fund	162,230.26
703 Payroll Tax & Withholding Fund	743,157.81
712 Temperance/Barstow Assmt Dist (98-1)	76,562.78
713 Shepherd/Temperance Assmt Dist (2000-1)	5,788.15
715 Supp Law Enforcement Serv	296,854.08
716 Asset Forfeiture	195,785.28
720 Measure A-Public Safety Facility Tax	1,607.26
736 SA Admin Trust Fund	1,421.40
741 SA Debt Service Trust Fund	(162,290.81)
747 Housing Successor Trust Fund	1,137.98
SUBTOTALS	<u>\$ 291,320,604.59</u>
999 Invested Funds	<u>(286,093,025.62)</u>
TOTAL	<u><u>\$ 5,227,578.97</u></u>

**City of Clovis
Summary of Investment Activity
For the month of April 30, 2022**

<hr/> <hr/>		
<u>Balance of Investments Previous Month End</u>		<u>\$280,155,781.25</u>
 <u>Time Certificates of Deposit Transactions</u>		
Investments	1,000,000.00	
Withdrawals	<u>(250,000.00)</u>	
Total CD Changes		750,000.00
 <u>Other Changes</u>		
Government Securities	4,000,000.00	
Local Agency Investment Fund	58,670.94	
Municipal Securities	8,720,000.00	
Sweep Account	<u>(7,591,426.57)</u>	
Total Other Changes		<u>5,187,244.37</u>
Balance of Investments Current Month End		<u>\$ 286,093,025.62</u>

**City of Clovis
Distribution of Investments
As of April 30, 2022**

<hr/> <hr/>	
Insured CD's	11,745,000.00
Government Securities	135,597,606.85
US Treasury Notes	0.00
Local Agency Investment Fund	74,511,731.22
Municipal Securities	18,185,000.00
Sweep Account	<u>46,053,687.55</u>
Investment Total	<u>\$ 286,093,025.62</u>

**City of Clovis
Original Maturities Exceeding One Year
As of April 30, 2022**

Institution	Face Value	Investment Balance At Amortized Cost	Maturity	Stated Rate
FFCB	6,000,000.00	6,005,232	6/14/2022	1.875%
FAMCMTN	6,000,000.00	6,007,803	6/21/2022	1.950%
FFCB	3,000,000.00	3,002,074	8/22/2022	1.625%
FHLB	6,000,000.00	6,025,738	9/9/2022	2.000%
FFCB	3,000,000.00	2,993,412	10/11/2022	1.375%
FFCB	5,000,000.00	5,003,819	10/13/2022	1.600%
FHLB	5,000,000.00	5,022,769	12/9/2022	1.875%
FHLB	8,000,000.00	8,021,152	12/9/2022	1.875%
FAMCMTN	8,500,000.00	8,523,948	2/27/2023	1.350%
FHLB	13,000,000.00	13,319,589	3/10/2023	2.125%
FHLB	5,000,000.00	5,145,268	3/10/2023	2.125%
FFCB	5,000,000.00	5,000,000	3/1/2024	0.250%
FFCB	2,000,000.00	1,999,111	3/18/2024	0.300%
FHLB	5,000,000.00	5,000,000	6/7/2024	0.350%
FHLB	5,000,000.00	4,970,369	11/15/2024	1.050%
FHLB	4,000,000.00	3,980,830	2/28/2025	1.750%
FHLB	4,000,000.00	4,000,000	4/25/2025	2.750%
FAMCMTN	4,000,000.00	3,950,319	7/28/2025	0.750%
FAMCMTN	5,000,000.00	4,950,975	9/8/2025	0.600%
FHLB	5,000,000.00	4,965,093	2/11/2026	0.580%
FHLB	4,000,000.00	3,925,490	2/24/2026	0.750%
FFCB	5,000,000.00	4,968,730	9/28/2026	0.940%
FHLB	6,000,000.00	5,988,450	11/24/2026	1.250%
FHLB	5,000,000.00	5,124,502	12/11/2026	2.125%
FHLB	4,000,000.00	3,702,935	2/26/2027	0.900%
FHLB	4,000,000.00	4,000,000	3/8/2027	2.375%



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Fire Department

DATE: August 1, 2022

SUBJECT: Fire – Approval – Res. 22-___, Confirming Weed and Rubbish Abatement Charges for 2022.

ATTACHMENTS: 1. Res. 22-
2. 2022 Weed Abatement Contractor Charges
3. 2022 Weed Abatement Charges Assessed
4. Authorization Letter

CONFLICT OF INTEREST

None.

RECOMMENDATION

For the City Council to confirm abatement charges for 2022 as listed in Attachment 3, authorize staff to remove names from the adopted list if payment is received prior to submittal to the Fresno County Auditor's Office, to modify changes as needed due to an appeal hearing conducted through the proper procedures, and authorize payment of the contractor charges as listed in Attachment 2.

EXECUTIVE SUMMARY

Weed Abatement Posting Notices were mailed out to 261 property owners in April 2022. Of those Notices, 57 cases were created, and ultimately the City of Clovis contracted with Mark Newton to clean 48 of those properties. Attachment 3 lists those properties that were cleaned and the cost of cleanup plus the administrative fee not included, and the property owners that have already paid their fees.

Before the weed abatement charges can be submitted to the County Auditor Controller for collection, the charges must be confirmed by the City Council in resolution form.

BACKGROUND

The Weed and Rubbish Abatement Program has proven to be an effective tool in reducing open land fires, controlling possible habitats for rodents and insects, and maintaining property values throughout Clovis.

The Fire Department incorporates weed and rubbish abatement into its Fire Prevention Bureau, providing the opportunities to stop many small fires and reduce the potential for larger ones. In addition, abatement is instrumental in decreasing calls for service, so units are available for higher priority calls. Properties are surveyed and hazards identified for removal, the result of which is a much cleaner, safer environment for our citizens.

The weed abatement process started in April 2022 with the first letters being sent to the property owners of large vacant parcels. Additional letters were mailed to properties where staff received specific complaints from citizens. These letters were mailed between April and June requesting abatement within a specified time frame according to Clovis Municipal Code.

Continuous inspections were performed throughout June and July 2022. If abatement had not been accomplished within the specified date for a particular parcel, work orders were prepared and forwarded to the City's private contractor for action.

The below average rains for the year increased the number of complaints regarding dry and dead vegetation, with many of the complaints not requiring fire intervention. With continued infill development, hazardous conditions within the City limits have been significantly reduced.

Breakdown of cleanup:

Properties identified for abatement:	261
Properties cleaned by City Contractors:	26

Property owners who had their properties abated by the City have until 4:00 p.m. on August 29, 2022, to appeal the costs of abatement to the City Manager. After an administrative hearing conducted by the City Manager or his designee, the charges could be approved, modified, or disallowed, all based on the evidence presented.

FISCAL IMPACT

The cost of abatement plus a \$300.00 administrative fee has been billed directly to the property owner. If the cost is not paid to the City by July 29, 2022, the cost is recovered through billing on the owner's property tax statement through the County of Fresno.

REASON FOR RECOMMENDATION

Before the weed abatement charges can be submitted to the County Auditor Controller for collection, the charges must be confirmed by the City Council in resolution form.

ACTIONS FOLLOWING APPROVAL

1. The City Clerk will forward a list of all assessments not paid by July 29, 2021, to the County Auditor-Controller for collection by tax lien.
2. A check will be issued to Mark Newton for services rendered as the City's weed and rubbish abatement contractor.

3. A signed authorization from the Fire Chief will be submitted to the Fresno County Auditor-Controller authorizing the names and titles of those persons who can add, delete, or change any special assessments (Attachment 4).

Prepared by: Katie Krahn, Management Analyst

Reviewed by: City Manager AK

RESOLUTION 22-__**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING THE COST OF WEED AND RUBBISH ABATEMENT AND PROVIDING FOR COLLECTION**

WHEREAS, the Council by ordinance, adopted Article 102 of Chapter 27 of Title 5 of the Clovis Municipal Code, declaring as a public nuisance, weeds and rubbish upon public or private property in the City; and

WHEREAS, the Fire Chief has caused the removal of weeds and rubbish and abated nuisance declared by said Article 102 of Chapter 27 of Title 5 of said Municipal Code; and

WHEREAS, the Fire Chief has kept an itemized account of the work done in the removal of such weeds and rubbish and has prepared a report thereon and submitted the same to this Council for confirmation; and

WHEREAS, the Council has set August 1, 2022, at the hour of 6:00 o'clock p.m., at the Council Chambers, Clovis, California, as the time and place when this Council would receive and consider the said report and make and confirm assessments against each parcel of land subject to assessment to pay the cost of each abatement.

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

a. The itemized report of the cost of remove of weeds and rubbish submitted to this Council by the Fire Chief pursuant to Article 103 of Chapter 28 of Title 5 of the Clovis Municipal Code is confirmed and approved.

b. The cost of abatement for each parcel of real property subject to assessment to pay the cost of removal of weeds and rubbish as listed under "Weed Abatement Assessments" on Attachment 2, attached hereto.

c. The cost of such abatement for each such parcel of real property as shown under "Weed Abatement Assessments" therefore on said Attachment 2 constitutes a special assessment against the parcel and is a lien on the parcel.

d. The City Clerk is directed to transmit a certified copy of this resolution to the Fresno County Recorder and the Fresno County Auditor Controller. The said County Auditor Controller is requested to enter the assessment on the county tax roll and to collect the total amount of the assessment at the time and in the manner as other ordinary municipal taxes.

e. The City of Clovis Finance Department is authorized to accept payment of the assessment until 4:00 p.m. on July 29, 2022.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote, to wit.

AYES:
NOES:
ABSENT:
ABSTAIN:

DATED: August 1, 2022

Mayor

City Clerk

CITY OF CLOVIS 2022 WEED ABATEMENT ASSESSMENTS				
APN	AMOUNT	Tax Code	OWNER	OWNER ADDRESS
410-031-16	\$1,191.50	6905	ANTON CARATAN	1476 PASEO DE ORO PACIFIC PALISADES, CA 90272
430-500-19	\$600.00	6905	JAY VIRK HOLDINGS, LLC	P.O. BOX 1095 CLOVIS, CA 93613
491-030-23	\$758.80	6905	CLOVIS HERNDON VENTURES, LLC	6121 N THESTA AVE. #204 FRESNO, CA 93710
491-320-84	\$705.00	6905	STOCK FIVE HOLDINGS, LLC	2972 LARKIN CLOVIS, CA 93612
497-112-04	\$595.00	6905	MELVIN M & LESLIE J RICHTEL TRUST	1850 N DUKE CLOVIS, CA 93619
497-113-11	\$595.00	6905	MELVIN M & LESLIE J RICHTEL TRUST	1850 N DUKE CLOVIS, CA 93619
499-421-13	\$595.00	6905	SANTEK COMPONENTS, LLC	1060 HOLLAND AVE. CLOVIS, CA 93612
499-421-14	\$595.00	6905	SANTEK COMPONENTS, LLC	1060 HOLLAND AVE. CLOVIS, CA 93612
550-020-18	\$1,265.00	6905	KESWANI SATWANT CILL & SAWHNEY RAJINDER K	176 W. MT PLEASE AVE. LIVINGSTON, NJ 07039
551-280-05	\$1,265.00	6905	KESWANI SATWANT CILL & SAWHNEY RAJINDER K	176 W. MT PLEASE AVE. LIVINGSTON, NJ 07039
558-290-22	\$495.00	6905	BILL CAM & SHERRY LI TANG TRUST	325 W LESTER CLOVIS, CA 93619
560-081-04	\$595.00	6905	DARLOW & JACQUELINE SAFLEY	881 E LOCUST AVE FRESNO, CA 93720
562-260-12	\$595.00	6905	PENSCO TRUST COMPANY, LLC	P.O. BOX 173859 DENVER, CO 80217
563-270-02	\$691.70	6905	JESPER HYE PROPERTIES, CO	4916 N THORNE FRESNO, CA 93704
564-033-11S	\$1,648.60	6905	CHERI L RIDDLE TRUSTEE	113 2ND STREET CLOVIS, CA 93612
564-033-16	\$991.30	6905	BEAL PROPERTIES, LLC	1175 SHAW AVE., PMB 372 CLOVIS, CA 93612
564-042-41S	\$1,066.20	6905	FRESNO COMMUNITY HOSPITAL/MEDICAL CENTER	P.O. BOX 1232 FRESNO, CA 93715
564-050-11	\$495.00	6905	JILL BURFORD-MINNICK TRUSTEE	1443 W SAMPLE FRESNO, CA 93711
564-050-22	\$680.50	6905	VALLEY HEALTH TEAM, INC	21890 W COLORADO SAN JOAQUIN, CA 93660
564-050-49	\$495.00	6905	JILL BURFORD-MINNICK TRUSTEE	1443 W SAMPLE FRESNO, CA 93711
564-090-52	\$495.00	6905	GREYHAWK, LLC C/O H MATA	580 E CHESAPEAKE FRESNO, CA 93730
564-090-59	\$495.00	6905	GREYHAWK, LLC C/O H MATA	580 E CHESAPEAKE FRESNO, CA 93730
564-090-61	\$518.80	6905	GREYHAWK, LLC C/O H MATA	580 E CHESAPEAKE FRESNO, CA 93730
564-090-70	\$500.60	6905	GREYHAWK, LLC C/O H MATA	580 E CHESAPEAKE FRESNO, CA 93730
564-090-93	\$495.00	6905	GREYHAWK, LLC C/O H MATA	580 E CHESAPEAKE FRESNO, CA 93730
564-090-95	\$495.00	6905	GREYHAWK, LLC C/O H MATA	580 E CHESAPEAKE FRESNO, CA 93730
TOTAL FEE:	\$18,918.00			

2022 Weed Abatement Charges by APN

Case # DELETE BEFORE GOING TO COUNCIL	APN	Location	Contractor Cost	Admin. Cost	Total cost Payable to City of Clovis	Owner
1 22-00372	410-031-16	N PEACH AVE	\$891.50	\$300.00	\$1,191.50	CARATAN ANTON
2 22-00493	430-500-19	2355 WILLOW AVE	\$300.00	\$300.00	\$600.00	JAY VIRK HOLDINGS, LLC
3 22-00443	491-030-23	230 N CLOVIS AVE	\$458.80	\$300.00	\$758.80	CLOVIS HERNDON VENTURES, LLC
4 22-00447	491-320-84	1345 MAGILL AVE	\$405.00	\$300.00	\$705.00	STOCK FIVE HOLDINGS, LLC
5 22-00422	497-112-04	BETWEEN 930-946 POLLASKY	\$295.00	\$300.00	\$595.00	MELVIN M & LESLIE J RICHTEL TRUST
6 22-00425	497-113-11	BETWEEN 931-947 POLLASKY	\$295.00	\$300.00	\$595.00	MELVIN M & LESLIE J RICHTEL TRUST
7 22-00503	499-421-13	2985 PHILLIP AVE	\$295.00	\$300.00	\$595.00	SANTEK COMPONENTS, LLC
8 22-00504	499-421-14	2975 PHILLIP AVE	\$295.00	\$300.00	\$595.00	SANTEK COMPONENTS, LLC
9 22-00398	550-020-18	ARMSTRONG, SOUTH OF HERNDON	\$965.00	\$300.00	\$1,265.00	KESWANI SATWANT CILL & SAWHNEY RAJINDER K
10 22-00519	551-280-05	1859 SHAW AVE	\$965.00	\$300.00	\$1,265.00	KESWANI SATWANT CILL & SAWHNEY RAJINDER K
11 22-00430	558-290-22	3323 LOYOLA AVE	\$195.00	\$300.00	\$495.00	BILL CAM & SHERRY LI TANG TRUST
12 22-00416	560-081-04	515 W LEXINGTON AVE	\$295.00	\$300.00	\$595.00	DARLOW & JACQUELINE SAFLEY
13 22-00429	562-260-12	663 N POLLASKY AVE	\$295.00	\$300.00	\$595.00	PENSCO TRUST COMPANY, LLC
14 22-00399	563-270-02	1505 HERNDON AVE	\$391.70	\$300.00	\$691.70	JESPER HYE PROPERTIES, CO
15 22-00469	564-033-11S	1038 N TEMPERANCE AVE	\$1,348.60	\$300.00	\$1,648.60	CHERI L RIDDLE TRUSTEE
16 22-00451	564-033-16	1180 N TEMPERANCE AVE	\$691.30	\$300.00	\$991.30	BEAL PROPERTIES, LLC
17 22-00492	564-042-41S	2550 HERNDON AVE	\$766.20	\$300.00	\$1,066.20	FRESNO COMMUNITY HOSPITAL/MEDICAL CENTER
18 22-00488	564-050-11	2371 TOLLHOUSE RD	\$195.00	\$300.00	\$495.00	JILL BURFORD-MINNICK TRUSTEE
19 22-00490	564-050-22	2408 TOLLHOUSE RD	\$380.50	\$300.00	\$680.50	VALLEY HEALTH TEAM, INC

20	22-00489	564-050-49	2351 TOLLHOUSE RD	\$195.00	\$300.00	\$495.00	JILL BURFORD-MINNICK TRUSTEE
21	22-00496	564-090-52	N. TEMPERANCE	\$195.00	\$300.00	\$495.00	GREYHAWK, LLC C/O H MATA
22	22-00494	564-090-59	NW OF 948 N TEMPERANCE	\$195.00	\$300.00	\$495.00	GREYHAWK, LLC C/O H MATA
23	22-00452	564-090-61	958 N TEMPERANCE AVE	\$218.80	\$300.00	\$518.80	GREYHAWK, LLC C/O H MATA
24	22-00453	564-090-70	968 N TEMPERANCE AVE	\$200.60	\$300.00	\$500.60	GREYHAWK, LLC C/O H MATA
25	22-00495	564-090-93	NE OF 948 N TEMPERANCE	\$195.00	\$300.00	\$495.00	GREYHAWK, LLC C/O H MATA
26	22-00463	564-090-95	948 N TEMPERANCE AVE	\$195.00	\$300.00	\$495.00	GREYHAWK, LLC C/O H MATA
			Grand Total Cost	\$11,118.00	\$7,800.00	\$18,918.00	



CITY OF CLOVIS FIRE DEPARTMENT

1233 Fifth Street, Clovis, CA 93612 · (559) 324-2200

AGENDA ITEM NO. 8.



August 2, 2022

Fresno County Auditor Controller
Treasurer-Tax Collector
Attn: Oscar J. Garcia, CPA

Dear Auditor-Controller:

Please accept all instructions for adding, changing, and deleting Special Assessments on behalf of the City of Clovis Fire Department from the following individuals:

1. John Holt, City Manager
2. John Binaski, Fire Chief
3. Jay Schengel, Finance Director
4. Chad Fitzgerald, Life Safety Enforcement Manager
5. Katie Krahn, Management Analyst

This shall remain in effect through June 30, 2023, unless notified differently. If you should have any questions, please contact Chad Fitzgerald, Life Safety/Enforcement Manager at 559-324-2218.

Sincerely,

John Binaski, Fire Chief



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Fire Department

DATE: August 1, 2022

SUBJECT: Fire - Approval – Res. 22-____, Amending the 2022-2023 FY Fire Department Budget to reflect the \$31,000 awarded in 2021 State Homeland Security Grant Program (SHSGP) to fund Fire Department equipment.

ATTACHMENTS: 1. Res. 22-____

CONFLICT OF INTEREST

None.

RECOMMENDATION

For the City Council to amend the 2022-2023 FY Fire Department Budget to reflect \$31,000 in SHSGP award.

EXECUTIVE SUMMARY

The State Homeland Security Grant Program (SHSGP) awards monies to enhance the ability of states, territories, and urban areas to prepare for, prevent, and respond to terrorist attacks and other major disasters. These funds are used for preparedness planning, equipment acquisition, training, exercises, management, and administration.

Within this grant, extrication tools are specifically identified and funded as a method for communities to better prepare for and respond to emergencies. The City of Clovis Fire Department will utilize the \$31,000 from 2021 for rescue tools, ventilation fans, thermal imaging cameras, and mobile radios in accordance with established SHSGP guidelines.

BACKGROUND

As a member of the Local Area Approval Authority, Clovis Fire Department has received \$31,000 awarded in FY 2021 for rescue tools, ventilation fans, thermal imaging cameras, and mobile radios.

FISCAL IMPACT

The Fire Department Emergency Preparedness, 63000-68420 Section, budget would be increased by \$31,000.

REASON FOR RECOMMENDATION

The SHSGP award has enabled the Fire Department to continue placing essential equipment into front-line service as outlined by the Governor’s Office of Emergency Services.

ACTIONS FOLLOWING APPROVAL

Staff will proceed to process the purchase request under SHSGP.

Prepared by: Chad Fitzgerald, Life Safety Enforcement Manager

Reviewed by: City Manager *AA*

RESOLUTION 22-__

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS
APPROVING THE AMENDMENT OF THE 2022-2023 FY FIRE DEPARTMENT BUDGET**

WHEREAS, the City Council previously approved the 2022-2023 FY budget on June 13, 2022; and

WHEREAS, the budget for the Fire Department did not include revenues associated with the State Homeland Security Grant Program (also known as SHSGP); and

WHEREAS, the Fire Department is responsible for providing public safety services including fire suppression; and

WHEREAS, the SHSGP provides an effective avenue to secure the necessary equipment needed by the Fire Department to effectively minimize the life/property loss and improve crew safety during fire suppression operations; and

WHEREAS, the purchase expense incurred by the Fire Department for equipment will be paid by SHSGP at a rate of 100% to meet the obligations of the SHSGP.

NOW, THEREFORE, BE IT RESOLVED, that the City of Clovis City Council amend the 2022-2023 FY Fire Department budget as provided in Attachment A for the “Summary of Expenditures by Department” and the “Summary of Expenditures by Fund”.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on _____, 2022 by the following vote, to wit.

- AYES:
- NOES:
- ABSENT:
- ABSTAIN:

- DATED:

Mayor

City Clerk

SUMMARY OF EXPENDITURE BY DEPARTMENT

Department

Fire (63000-68420)	\$31,000
Total Expenditures by Department	\$31,000

SUMMARY OF EXPENDITURES BY FUND

Fund

General Fund (63000-45043)	\$31,000
Total Expenditures by Fund	\$31,000



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: General Services Department

DATE: August 1, 2022

SUBJECT: General Services – Approval - Claim Rejection of the General Liability Claim on behalf of Melanie Villagomez.

ATTACHMENTS: None.

CONFLICT OF INTEREST

None.

RECOMMENDATION

Reject the General Liability Claim filed on behalf of Melanie Villagomez.

EXECUTIVE SUMMARY

On behalf of Melanie Villagomez (claimant), the City received a general liability claim on July 5, 2022, alleging the City of Clovis and other named government agencies failed to use care and diligence for the claimant's safe carriage and failed to ensure that the school bus was safe and hazard free. The claim alleges that Ms. Villagomez sustained injuries to her body and seeks compensation. It is recommended that the City reject the claim at this time, send notice of rejection, and send a memorandum to the attorney stating the City had no involvement with the Clovis Unified School District bus.

BACKGROUND

On July 5, 2022, a general liability claim was received by the City of Clovis on behalf of Melanie Villagomez by B&D Law Group in Los Angeles. The claim was considered legally sufficient and timely. The claim alleges Ms. Villagomez was injured while traveling on the school bus as a passenger, which the bus was subsequently involved in a motor vehicle accident. The claim further states the City and other government agencies failed to ensure safe carriage and maintain a hazard free environment while the bus was in operation, in breach of California Civil Code § 2100.

The claimant seeks damages for injuries to the body, head, back and knee. The claim has been filed as a "civil unlimited case".

FISCAL IMPACT

Rejection of the claim does not result in any fiscal impact.

REASON FOR RECOMMENDATION

It is recommended that the claim be rejected. The facts surrounding this claim and the named government entity are in dispute. In addition, by rejecting this claim, the time in which a lawsuit for various claims may be filed against the City will begin to run.

ACTIONS FOLLOWING APPROVAL

A rejection notice letter will be sent to the claimant informing her that the claim has been rejected.

Prepared by: Charles W. Johnson, Management Analyst

Reviewed by: City Manager AA



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: General Services Department

DATE: August 1, 2022

SUBJECT: General Services – Approval – Res. 22-____, Authorizing Amendments to the Communications Supervisor Classification in the Police Department.

ATTACHMENTS: 1. Resolution 22-____, Amendment to the Classification Plan

CONFLICT OF INTEREST

None.

RECOMMENDATION

For City Council to approve a resolution authorizing amendments to the Communications Supervisor classification in the Police Department.

EXECUTIVE SUMMARY

It is necessary to revise the Communications Supervisor classification in order to update the education and experience sections of the classification and make a few other minor changes. Modification of the City's Classification Plan requires the City Council's approval.

BACKGROUND

An analysis was conducted of the Communications Supervisor classification in advance of an upcoming recruitment. The analysis revealed that the education and experience section needed to be updated to accurately depict the required qualifications necessary for the incumbent to be successful in the position. Other minor revisions to the classification are included in the update shown in Attachment A.

FISCAL IMPACT

None.

REASON FOR RECOMMENDATION

The Communications Supervisor classification is recommended for revision in order to update the education and experience section to better suit the department's needs. The recommended changes to the City's Classification Plan require Council approval.

ACTIONS FOLLOWING APPROVAL

The City's Classification Plan will be updated to include the revised Communications Supervisor classification.

Prepared by: Lori Shively, Personnel/Risk Manager

Reviewed by: City Manager *AS*

RESOLUTION 22-__
A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING
AMENDMENTS TO THE CITY’S CLASSIFICATION PLAN FOR THE COMMUNICATIONS
SUPERVISOR IN THE POLICE DEPARTMENT

WHEREAS, it has been determined that amendments to the classification and updates to the education and experience sections of the Communications Supervisor classification are necessary in order to recruit for this position; and

WHEREAS, modification of the City’s Classification Plan requires authorization by the City Council.

NOW, THEREFORE, BE IT RESOLVED, that the City of Clovis shall modify the City’s Classification Plan to include the revised Communications Supervisor specification in Attachment A.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote, to wit.

- AYES:
- NOES:
- ABSENT:
- ABSTAIN:

DATED: August 1, 2022

Mayor

City Clerk

Yellow Highlight = Verbiage Update
 Strike Out = Delete Verbiage

City of Clovis COMMUNICATIONS SUPERVISOR

DEFINITION

Under direction, to organize and supervise the work of public safety dispatchers and other personnel engaged in computer-aided dispatch for municipal police, fire, and other services on a 24-hour basis; to maintain records; and to perform related work as required.

CLASS CHARACTERISTICS

Positions in this class are responsible for the supervision and operation of the City's central communications center. Positions in this class have considerable independence in selecting work methods from a variety of standard methods or procedures. Instructions given by a supervisor generally do not provide all of the information needed to complete the assignment. Incumbents are expected to resolve most problems confronted through the application of judgment and precedent, referring to the supervisor only those which involve the establishment of new procedures or which involve solutions which are inconsistent with departmental procedures and policies.

EXAMPLES OF DUTIES

Organizes and supervises the work of the day, swing and evening shifts of dispatchers engaged in the receiving and transmitting of routine emergency calls from the public for police, fire, and other services and assistance; plans, organizes, staffs, directs, and controls the operation of the computer-aided dispatch communications center; schedules and assigns shifts and establishes work priorities; develops and implements dispatch training programs; determines need for technical assistance for equipment maintenance, and repair and upgrades; assists in preparation of specifications for equipment; monitors the care and use of equipment; makes work assignments; sets priority **priorities** for, trains and reviews the work of dispatch personnel; conducts performance evaluations; recommends hiring and discipline of subordinate employees; establishes standards of performance for all positions supervised; conducts staff meetings; distributes assigned work to subordinate personnel; instructs assigned staff in work methods; checks and corrects work in progress and upon completion; reports to supervisor problems encountered in the assigned work and progress in completing work assignments; observes and enforces safety regulations; attends meetings and training sessions; acts as relief for public safety dispatcher as needed; occasionally **drives operate** a City vehicle; coordinates activities with other local police/fire agencies; and performs related work as required.

TYPICAL QUALIFICATIONS

LICENSE REQUIRED

- Possession of a valid and appropriate California Driver's License and a good driving record.

EDUCATION AND EXPERIENCE

Education:

~~College-level course work in computer science, criminal justice, public/business administration or closely related fields.~~

- Graduation from an accredited college or university with a Bachelor's Degree in Computer Science, Criminal Justice, Public Administration, Business Administration or a closely related field.
- Experience over and above the years required as stated below may be substituted for the equivalent of up to two years of education in the following manner:
 1. An additional three years of full-time work experience in a law enforcement agency or as a dispatcher utilizing a computer-aided system receiving both routine and emergency dispatch requests may be substituted for one year of education equivalent to 30 semester units (a total of eight years of experience).
 2. An additional six years of full-time work experience in a law enforcement agency or as a dispatcher utilizing a computer-aided system receiving both routine and emergency dispatch requests may be substituted for two years of education equivalent to 60 semester units (a total of eleven years of experience).

Experience:

~~Two years experience as a dispatcher utilizing a computer-aided system receiving both routine and emergency dispatch requests, and supervisory or training experience; A combination of education and experience may be considered qualifying.~~

- Five years of full-time work experience as a dispatcher utilizing a computer-aided system receiving both routine and emergency dispatch requests;
- Five years of full-time work experience in a law enforcement agency including a minimum of three years in a lead or supervisory capacity.

QUALIFICATIONS

Knowledge of:

- Operating principles of computer-aided dispatch for municipal police, fire, and other services;
- Radio and electronic equipment operations and theory;
- Interrelationship of system components forming a communications network including phone systems, radio and antenna systems;
- FCC rules and regulations;
- General principles and practice of supervision and training;
- Appropriate safety precautions and procedures;
- Communications record keeping.

Ability to:

- Assign, supervise and evaluate the work of subordinate personnel;

- Make minor repairs to computer-aided dispatch system;
- Coordinate repairs and expansion of communication system;
- Evaluate current system and recommend future communication needs;
- Evaluate proposals of system designers, vendors, and repair personnel;
- Maintain current knowledge of equipment and procedures utilized in the communications field;
- Keep accurate records and prepare reports;
- Prepare budget;
- Operate a vehicle observing legal and defensive driving procedures;
- Understand and carry out oral and written instructions;
- Establish and maintain effective relationships with those contacted in the course of work.

SUPPLEMENTAL INFORMATION

PHYSICAL DEMANDS AND WORKING CONDITIONS

- Work is primarily sedentary;
- Incumbent is required to work various shifts;
- Incumbent is required to travel within and out of City to attend meetings.



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: General Services

DATE: August 1, 2022

SUBJECT: General Services – Approval – Res. 22-___, Amending the City’s Classification and Compensation Plan by Revising and Retitling the Community & Economic Development Director to the Economic Development, Housing and Communications Director, and Approval – Res. 22-___, Amending the Position Allocation Plan within the Administration Department.

ATTACHMENTS: 1. Resolution Classification Revision
2. Resolution Position Allocation Plan Adjustment

CONFLICT OF INTEREST

None.

RECOMMENDATION

For City Council to approve a resolution authorizing amendments to the City’s Classification and Compensation Plan by revising and retitling the Community & Economic Development Director to the Economic Development, Housing and Communications Director, and to approve a resolution amending the Position Allocation Plan within the Administration Department

EXECUTIVE SUMMARY

It is necessary to revise and retitle the Community & Economic Development Director classification to the Economic Development, Housing and Communications Director and to revise the Community & Economic Development Director Classification. The updates will more clearly define the definition, class characteristics, education, and experience requirements of this position. Modification of the City’s Classification, Compensation and Position Allocation plan requires City Council’s approval.

BACKGROUND

An analysis of the Community & Economic Development Director classification recently conducted identified a need to retitle and revise the Executive Management classification. It is recommended that the Community & Economic Development Director Classification title be changed to the Economic Development, Housing and Communications Director with the same salary range of \$13,689-\$16,639. The classification title of Economic Development, Housing and

Communications Director will be more consistent with the required job responsibilities of this position. The recommended changes include the addition of clarifying verbiage regarding the classification definition, class characteristics, education and experience, and current duties needed to perform in this classification. The updated classification amendments and the new Executive Manager classification title will reflect the current needs of the Department. The desired classification title change and revisions would result in the need to modify the current City's Classification, Compensation and Position Allocation Plan, which requires Council approval.

FISCAL IMPACT

This classification is currently in the fiscal year 2022-23 budget, and there is no additional fiscal impact.

REASON FOR RECOMMENDATION

The Community & Economic Development Director classification is recommended for a title change to Economic Development, Housing and Communications Director. This classification will be revised to reflect an accurate description of the duties, education and experience requirements. Modification of the current City's Classification, Compensation and Position Allocation Plan requires City Council Approval.

ACTIONS FOLLOWING APPROVAL

The City's Classification and Compensation Plan will be updated to reflect the changes which is noted in Attachment A of Attachment 1. The Position Allocation will be modified as noted in Attachment A of Attachment 2.

Prepared by: Lori Shively, Personnel/Risk Manager

Reviewed by: City Manager *AA*

RESOLUTION 22-__

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING AMENDMENTS TO THE CITY'S CLASSIFICATION AND COMPENSATION PLAN FOR THE COMMUNITY & ECONOMIC DEVELOPMENT DIRECTOR IN THE ADMINISTRATION DEPARTMENT

WHEREAS, it has been determined that the Community & Economic Development Director Classification be revised and retitled to Economic Development, Housing and Communications Director; and

WHEREAS, amendments to the classification definition, class characteristics, duties, and education and experience are necessary in order to accurately depict the current scope of duties; and

WHEREAS, modification of the City's Classification Plan requires authorization by the City Council.

NOW, THEREFORE, BE IT RESOLVED, that the City of Clovis shall modify the City's Classification Plan to include the revised and retitled Economic Development, Housing and Communications Director as noted in Attachment A, with a salary range of \$13,689-\$16,639.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote, to wit.

- AYES:
- NOES:
- ABSENT:
- ABSTAIN:

DATED: August 1, 2022

Mayor

City Clerk

City of Clovis

ECONOMIC DEVELOPMENT, HOUSING AND COMMUNICATIONS ~~COMMUNITY AND~~ ~~ECONOMIC DEVELOPMENT~~ DIRECTOR

DEFINITION

Under administrative direction, to plan, organize, direct and coordinate the City's economic development, housing, and communications program; to represent the City in matters of economic development, housing, and communications; and to perform related work as required.

CLASS CHARACTERISTICS

This one-position managerial class serves as administrator and coordinator of the City's efforts in promoting economic development, marketing, housing, and communications. The incumbent reports to the City Manager. ~~who also serves as Executive Director of the Community Development Agency.~~ The incumbent brings various program activities together into a City-wide coordinated and planned economic development strategy, and directs, plans, manages and organizes comprehensive marketing and public relations programs for the City. The incumbent serves as liaison with local, state, and federal economic development agencies. The incumbent may also be assigned related tasks such as directing affordable housing efforts or other city-wide critical programs and/or implementation of the City's General Plan. ~~The Economic Development Coordinator~~ The incumbent acts with a high degree of independence of action in the assigned area of responsibility to attain objectives according to policy guidelines. The incumbent is expected to develop methods and procedures and solve problems encountered. Except where a deviation in policy is involved, most work is not reviewed directly by supervisor and when work is reviewed, the review is directed toward final outcomes and results.

EXAMPLES OF DUTIES

Directs and coordinates the City's economic development efforts that may include ~~financing, site selection, supplemental outreach recruitment~~ business attraction campaigns, tourism campaigns or special events, existing business expansion and development programs, business-start-up programs, and entitlement assistance. ~~Prepares and recommends the City's economic development policy goals and implementation plans. Serves as liaison with other local, state and federal agencies responsible for economic development activities. Administers the sales and leasing program of the municipal industrial park. Manages developer selection process and negotiates developmental agreements for commercial and industrial projects within the redevelopment project area. Directs research and preparation of various reports, proposals, and studies. Chairs ad hoc task forces comprised of key employees from other City departments in order to respond in a coordinated manner to the development needs of applicants. Represents the City at various meetings. Performs related work as required.~~ The position must be able to gain deep knowledge of the City's General Plan, Development Code, and Ordinances to accurately assist prospective businesses in meeting the City's standards while encouraging investment. The incumbent must develop an understanding of the private

sector and various markets to position the City to take advantage of market conditions to reach the City's General Plan goals. Coordinate City departments, City Manager, City Council, and the Mayor regarding internal and external communications, media relations, marketing, advertising and citizen relations and participation. The incumbent may also be assigned related tasks such as directing affordable housing efforts or other city-wide critical programs and/or implementation of the City's General Plan.

TYPICAL QUALIFICATIONS

LICENSE REQUIRED

- Possession of a valid ~~and appropriate~~ California Driver's License and a good driving record.

EDUCATION AND EXPERIENCE

Education:

- Bachelor's degree from an accredited college or university with major course work in business or public administration, urban planning, economics or a closely related field. A Masters degree in one of these fields is desirable.

And

Experience:

- ~~Three~~ Five years increasingly responsible experience in managerial-level work in economic/business development and municipal services.

Desirable:

- The following licenses/certifications are desired but not required:
 - Certified Economic Developer (CEcD) by the International Economic Development Council
 - Accredited California Economic Developer (ACE) by the California Association for Local Economic Development
 - Accreditation in Public Relations (APR) as provided by the California Association for Public Information Officers and others.

QUALIFICATIONS

Knowledge of:

- Principles and practices of economic development and its components, such as ~~financing, site selection, business outreach and recruitment, existing business expansion,~~ business attraction campaigns, tourism campaigns or special events, existing business expansion and development programs, business-start-up programs, and ~~development~~ entitlement assistance;
- Principles and practices of public sector communications;
- Principle and practices of marketing campaigns.

- Laws, ordinances and regulations governing the operation of municipal government ~~and community redevelopment agencies~~;
- Management theory and practice;
- English usage, spelling, grammar and punctuation;
- Appropriate safety precautions and procedures.

Ability to:

- Plan, organize and administer comprehensive economic development, **housing, marketing, and communications** programs;
- Coordinate a task force designed to respond to ~~developmental needs of applicants~~ **communications and economic developmental needs of the City**;
- Prepare comprehensive reports, make effective oral presentation and maintain effective public relations;
- Exercise good judgment in the handling of municipal affairs;
- Formulate and administer budget;
- Operate a vehicle observing legal and defensive driving practices;
- Establish and maintain effective relationships with those contacted in the course of work.

SUPPLEMENTAL INFORMATION

PHYSICAL DEMANDS AND WORKING CONDITIONS

- Strength; Light work – lifting, carrying and/or pushing 25 pounds maximum.
- Incumbents are required to attend periodic evening meetings.
- Incumbents are required to travel within and out of City to attend meetings.

RESOLUTION 22-__

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING AN AMENDMENT TO THE FY22-23 POSITION ALLOCATION PLAN

WHEREAS, the FY22-23 Position Allocation Plan in the Administration Department was approved as part of the FY22-23 City budget adoption process; and

WHEREAS, a review of the staffing needs of the City indicates that it is necessary to revise and retitle Community & Economic Development Director Classification to the newly added Economic Development, Housing and Communications Director Classification; and

WHEREAS, amending the City’s adopted FY22-23 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 FY22-23 Position Allocation Plan shall be amended as noted in Attachment A of Attachment 2, attached.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote, to wit.

- AYES:
- NOES:
- ABSENT:
- ABSTAIN:

DATED: August 1, 2022

Mayor

City Clerk

POSITION ALLOCATION ADJUSTMENT BY DEPARTMENT FY22-23

DEPARTMENT **NUMBER OF POSITIONS**

Administration

Add: Economic Development, Housing and Communications Director 1.0
Delete: Community & Economic Development Director 1.0



CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
 FROM: Planning and Development Services Department
 DATE: August 1, 2022
 SUBJECT: Planning and Development Services - Approval – Final Acceptance for CIP 20-09 Sewer Replacement 2020.

ATTACHMENTS: 1. Vicinity Map

CONFLICT OF INTEREST

None.

RECOMMENDATION

For the City Council to accept the work performed as complete and authorize recording of the notice of completion.

EXECUTIVE SUMMARY

The project consisted of the removal and replacement of existing sewer mains to reduce maintenance costs on the existing sewer mains. There were four locations: Holland Avenue at Paula Dr, alley between Clovis Avenue & Pollasky Avenue from Second Street to First Street, Stanford Avenue at Robinwood Avenue, & Laverne Avenue at Gibson Avenue.

BACKGROUND

The bid opening was December 14, 2021, and the project was awarded by City Council on January 10, 2022, to the lowest responsible bidder, which was determined to be Emmett's Excavation Inc. The project was completed in accordance with the construction documents and within the total contract time allotted.

FISCAL IMPACT

1. Contract Award Amount	\$522,367.00
2. Cost increase resulting from differences between estimated quantities used for award and actual quantities installed	\$0.00
3. Contract Change Orders	\$108,627.09
4. Liquidated Damages Assessed	\$0.00

Final Contract Cost **\$630,994.09**

The contract change order costs were required to modify the existing water mains that conflicted with the sewer at the downtown alley location. This project was supported by the sewer enterprise fund through the City Community Investment Program.

REASON FOR RECOMMENDATION

The Public Utilities Department, City Engineer, Senior Engineering Inspector and Project Engineer agree that the work performed by the contractor is in accordance with the project plans and specifications and has been deemed acceptable. The contractor, Emmett's Excavation Inc. has requested final acceptance.

ACTIONS FOLLOWING APPROVAL

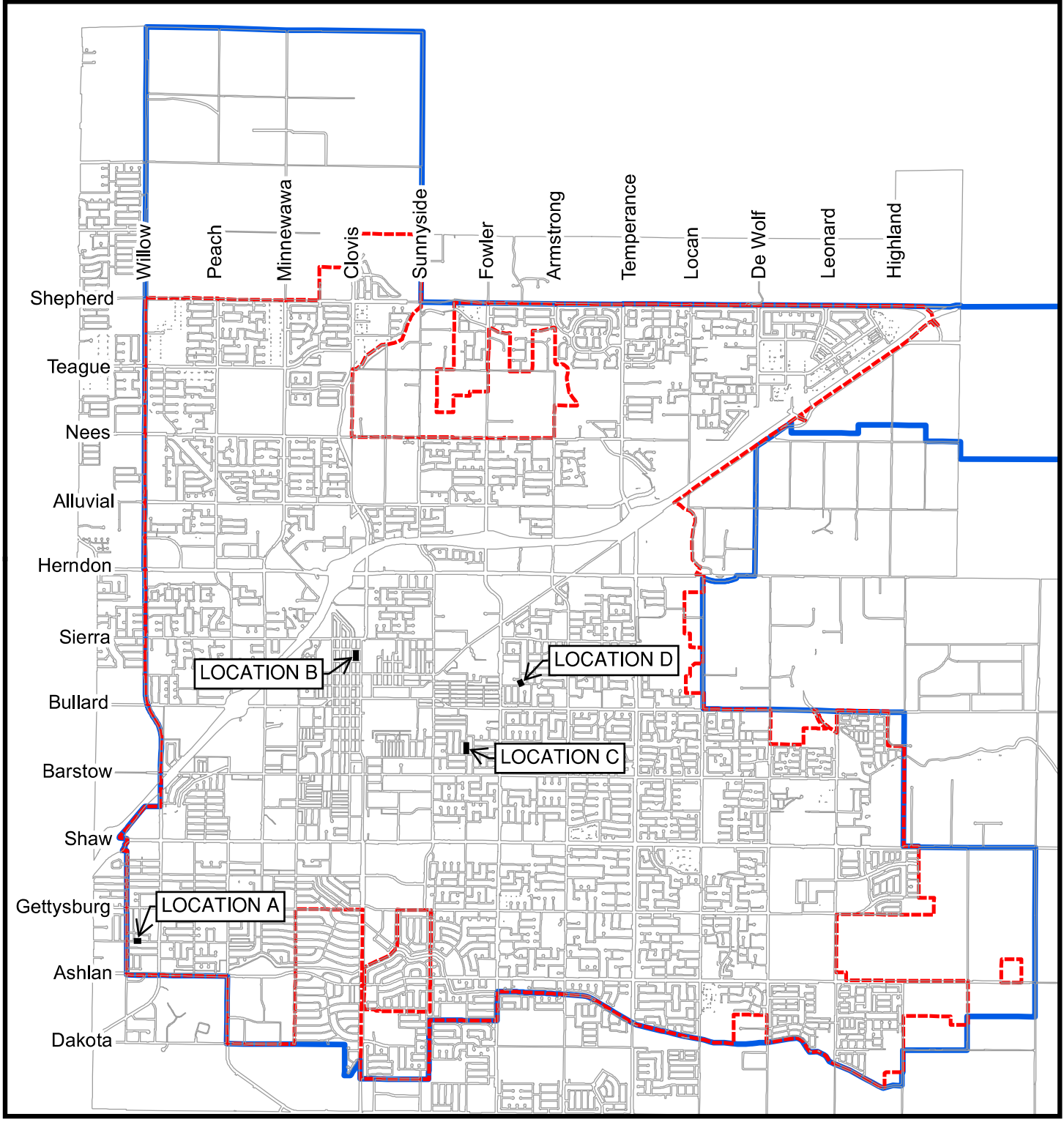
1. The notice of completion will be recorded; and
2. All remaining retention funds will be released no later than 35 calendar days following recordation of the notice of completion, provided no liens have been filed. Retention funds may be released within 60 days after the date of completion, provided no liens have been filed, with "completion" defined as the earlier of either (a) beneficial use and occupancy and cessation of labor, or (b) acceptance by the City Council per Public Contract Code Section 7107(c)(2).

Prepared by: Rami Abunamous, Engineering Inspector

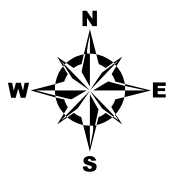
Reviewed by: City Manager *AA*

VICINITY MAP

CIP 20-09 SEWER REPLACEMENT



Attachment 1





CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
 FROM: Planning and Development Services Department
 DATE: August 1, 2022
 SUBJECT: Planning and Development Services - Approval - Final Acceptance for CIP 19-03 Hydronic Piping Replacement.
 ATTACHMENTS: 1. Vicinity Map

CONFLICT OF INTEREST

None.

RECOMMENDATION

For the City Council to accept the work performed as complete and authorize recording of the notice of completion.

EXECUTIVE SUMMARY

The project consisted of the installation of hydronic water lines to heat and cool the County of Fresno Library, Clovis Council Chambers, City Hall, and PDS building. Areas, where the lines were installed, were reconstructed back to the previous site conditions with concrete or landscaping.

BACKGROUND

The bid opening was July 27, 2021, and the project was awarded by the City Council on August 2, 2021, to the lowest responsible bidder, which was New England Sheet Metal and Mechanical Co. The project was completed in accordance with the construction documents and within the total contract, time allotted, though the project start was delayed several months due to supply delays.

FISCAL IMPACT

Contract Award Amount	\$507,500.00
Cost increase resulting from differences between estimated quantities used for award and actual quantities installed	\$0.00
Contract Change Orders	\$26,136.00
Liquidated Damages Assessed	\$0.00
 Final Contract Cost	 \$533,636.00

REASON FOR RECOMMENDATION

The Public Utilities Department, City Engineer, Senior Engineering Inspector, and Project Engineer agree that the work performed by the contractor is in accordance with the project plans and specifications and has been deemed acceptable. The contractor, New England Sheet Metal and Mechanical Co. has requested final acceptance.

ACTIONS FOLLOWING APPROVAL

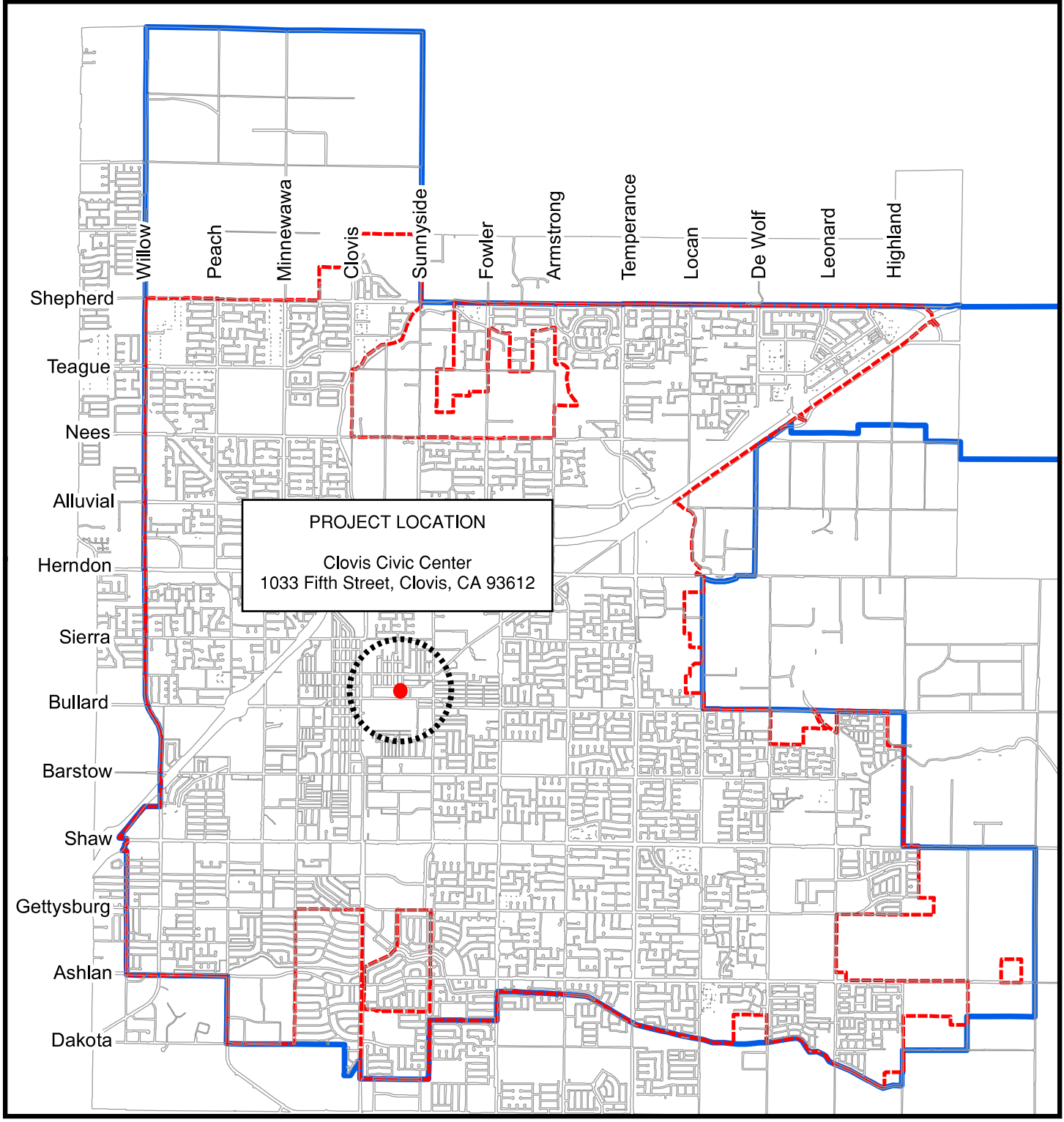
1. The Notice of Completion will be recorded; and
2. All remaining retention funds will be released no later than 35 calendar days following recordation of the Notice of Completion, provided no liens have been filed. Retention funds may be released within 60 days after the date of completion, provided no liens have been filed with "completion" defined as the earlier of either (a) beneficial use and occupancy and cessation of labor, or (b) acceptance by the City Council per Public Contract Code Section 7107(c)(2).

Prepared by: Matt Buller, Senior Engineering Inspector

Reviewed by: City Manager *AA*

VICINITY MAP

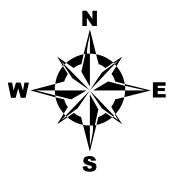
CIP 19-03 Hydronic Piping Replacement



PROJECT LOCATION
 Clovis Civic Center
 1033 Fifth Street, Clovis, CA 93612



Attachment 1





CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Planning and Development Services Department

DATE: August 1, 2022

SUBJECT: Planning and Development Services - Approval – Bid Award for CIP 18-15, Villa Avenue Reconstruction – Barstow to Shaw; and authorize the City Manager to execute the contract on behalf of the City.

ATTACHMENTS: 1. Vicinity Map

CONFLICT OF INTEREST

None.

RECOMMENDATION

1. For the City Council to award a contract for CIP 18-15, Villa Avenue Reconstruction – Barstow to Shaw to Dave Christian Construction Co., Inc., in the amount of \$699,384.50; and
2. For the City Council to authorize the City Manager to execute the contract on behalf of the City.

EXECUTIVE SUMMARY

Staff is recommending that City Council authorize the City Manager to award and execute the contract to Dave Christian Construction Co., Inc., who was the lowest responsible bidder from a bid opening that took place on July 12, 2022.

This project includes rehabilitation of Villa Avenue from Barstow Avenue to Shaw Avenue. The work to be performed includes, but is not limited to, pulverizing/grinding asphalt paving, placing asphalt paving, removing and replacing concrete drive approaches, access ramps, and sidewalk, adjusting existing facilities to grade, installing traffic signal loop detectors, and striping and pavement markings.

BACKGROUND

The following is a summary of the bid results of the July 12, 2022:

BIDDERS	BASE BID
Dave Christian Construction, Inc.	\$699,384.50
Emmett Valley Construction, Inc.	\$819,179.00
Avison Construction, Inc.	\$848,984.00
Bush Engineering, Inc.	\$864,374.00
American Paving Company	\$902,169.00
Emmett’s Excavation, Inc.	\$1,045,091.00
ENGINEER’S ESTIMATE	\$788,207.00

All bids were examined, and the bidder’s submittals were found to be in order. Dave Christian Construction Co., Inc. is the lowest responsible bidder. Staff has validated the lowest bidder contractor’s license status and completeness of federal funding paperwork.

FISCAL IMPACT

This project was budgeted in the 2021-2022 Community Investment Program. The project is funded by Surface Transportation Block Grant (STBG) funding through the City Community Investment Program.

REASON FOR RECOMMENDATION

Dave Christian Construction Co., Inc. is the lowest responsible bidder. There are sufficient funds available for the anticipated cost of this project.

ACTIONS FOLLOWING APPROVAL

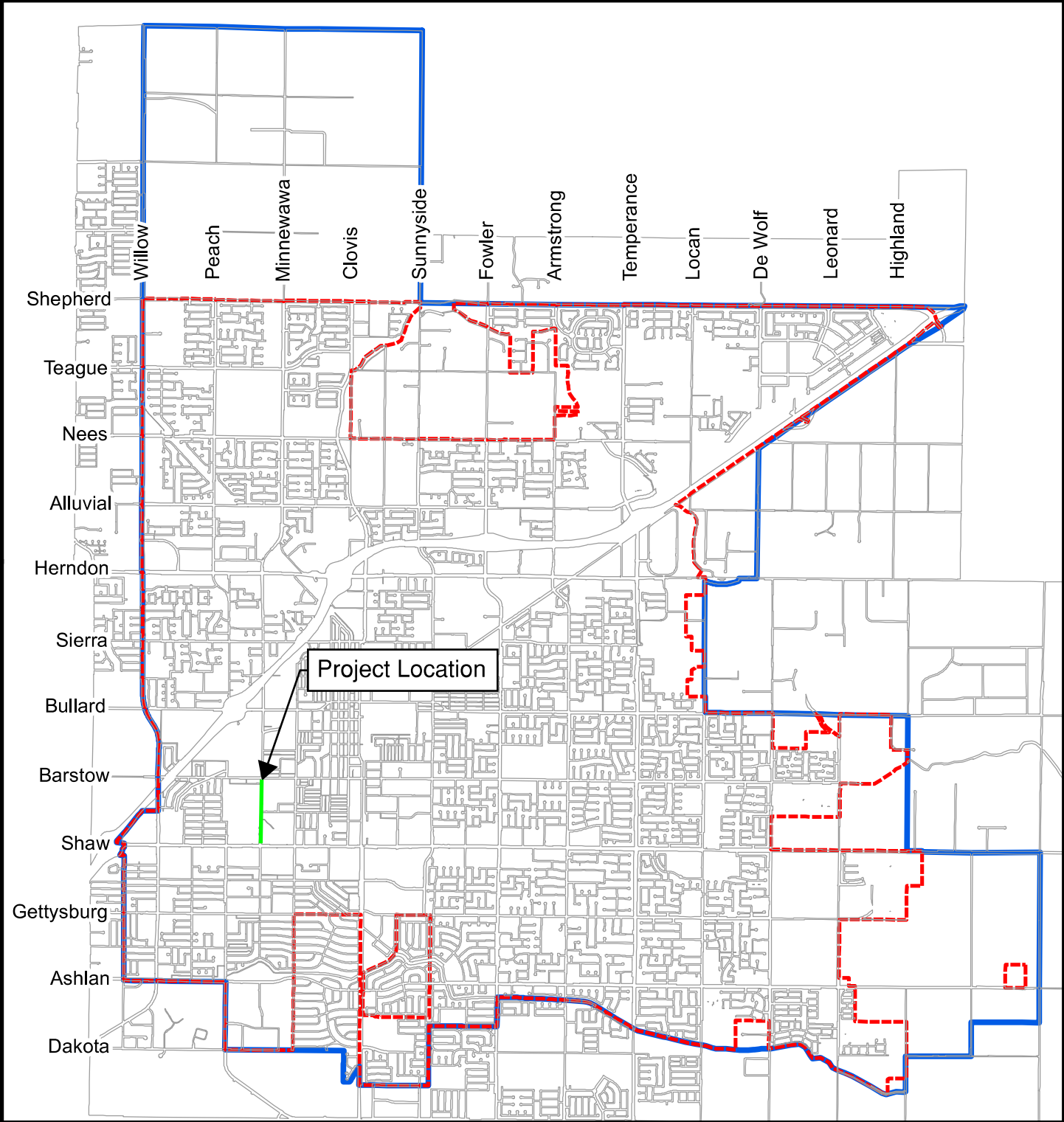
1. The contract will be prepared and executed, subject to the Contractor providing performance security that is satisfactory to the City.
2. Construction shall begin approximately two (2) weeks after contract execution and be completed in forty (40) working days thereafter.

Prepared by: John Cross, Engineer II

Reviewed by: City Manager *AH*

VICINITY MAP

CIP 18-15 Villa Avenue Reconstruction - Barstow to Shaw



Attachment 1



 CITY LIMITS  SPHERE OF INFLUENCE



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Planning and Development Services Department

DATE: August 1, 2022

SUBJECT: Planning and Development Services – Approval – Bid Award for CIP 21-16, Ashlan Avenue Street Improvements; and Authorize the City Manager to Execute the Contract on behalf of the City.

ATTACHMENTS: 1. Vicinity Map

CONFLICT OF INTEREST

Councilmember Vong Mouanoutoua owns property within 1000 feet of subject project. It is recommended that he recuse himself from participation regarding this item.

RECOMMENDATION

1. For the City Council to award a contract for CIP 21-16, Ashlan Avenue Street Improvements to Dave Christian Construction Co, Inc. in the amount of \$598,571.00; and
2. For the City Council to authorize the City Manager to execute the contract on behalf of the City.

EXECUTIVE SUMMARY

Staff is recommending that City Council authorize the City Manager to award and execute the contract to Dave Christian Construction Co, Inc. who was the lowest responsible bidder from a bid opening that took place July 12, 2022.

This project includes rehabilitation of Ashlan Avenue from Locan Avenue to De Wolf Avenue. Rehabilitation consists of, but is not limited to, grinding two inches of existing asphalt pavement and replacing it with three inches of new asphalt concrete, removal and replacement of partial reconstruction of AC paving in full depth, replacing ADA curb ramps, modifying existing median noses, replacing traffic signal loop detectors, adjusting existing traffic signal boxes, traffic and manholes to grade, and re-striping and signing the road to match the existing on Ashlan Avenue.

BACKGROUND

The following is a summary of the bid results of July 12, 2022:

<u>BIDDERS</u>	<u>BASE BIDS</u>
Dave Christian Construction Co, Inc.	\$598,571.00
Agee Construction Corporation	\$677,316.00
Bush Engineering, Inc.	\$682,302.00
Emmett’s Excavation, Inc.	\$685,540.00
Avison Construction, Inc.	\$752,609.00
American Paving Co.	\$774,902.00
 ENGINEER’S ESTIMATE	 \$685,052.00

All bids were examined, and the bidder’s submittals were found to be in order. Dave Christian Construction Co., Inc. is the lowest responsible bidder. Staff has validated the lowest bidder contractor’s license status and bid bond.

FISCAL IMPACT

This project was budgeted in the 2022-2023 Community Investment Program. The project is funded by Senate Bill 1 (SB1) funding through the City Community Investment Program.

REASON FOR RECOMMENDATION

Dave Christian Construction Co, Inc. is the lowest responsible bidder. There are sufficient funds available for the anticipated cost of this project.

ACTIONS FOLLOWING APPROVAL

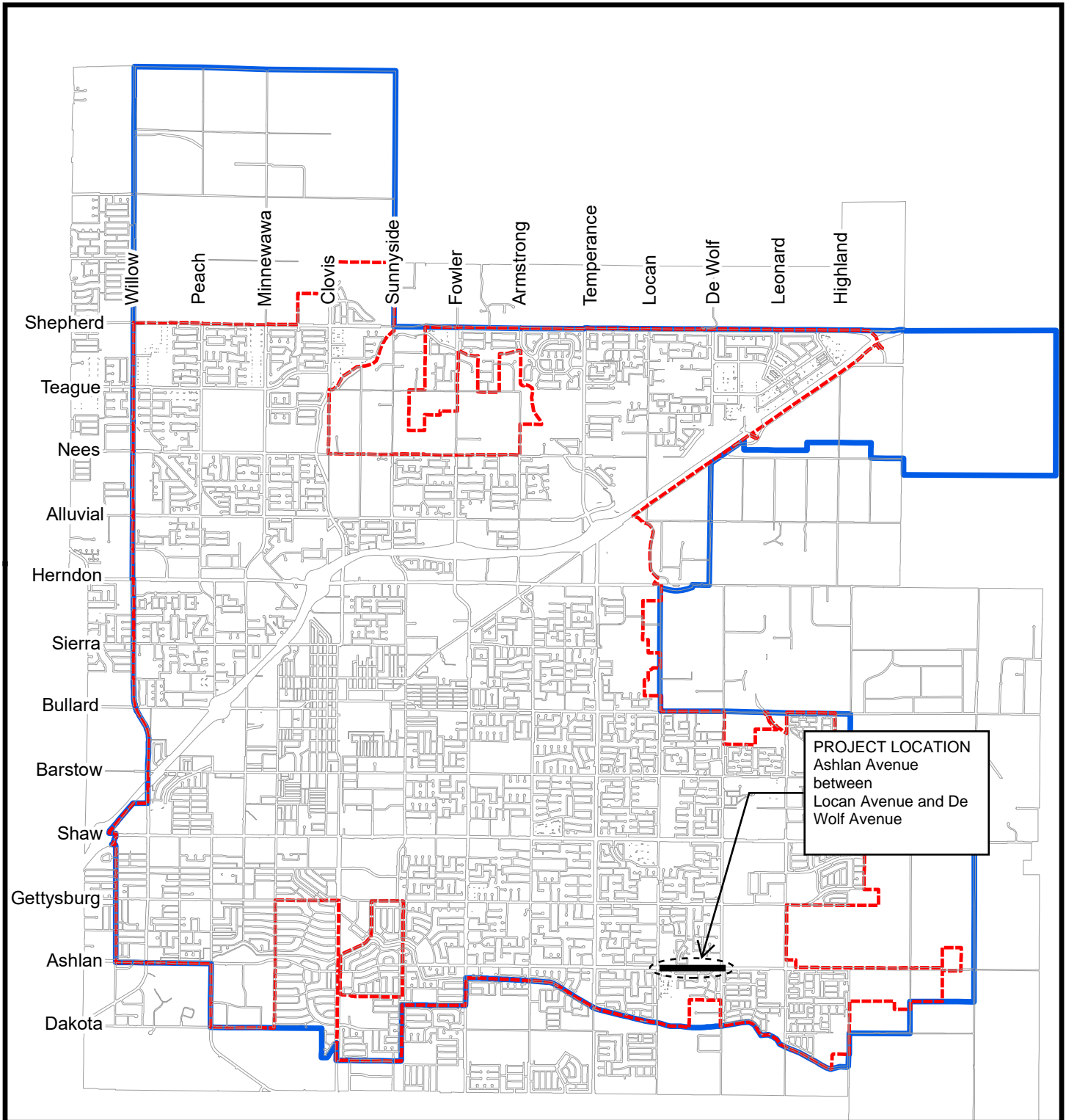
1. The contract will be prepared and executed, subject to the Contractor providing performance security that is satisfactory to the City.
2. Construction will begin approximately one (1) week after contractor execution and be completed in thirty-five (35) working days thereafter.

Prepared by: Steven Gonzales, Engineer II

Reviewed by: City Manager *AH*

VICINITY MAP

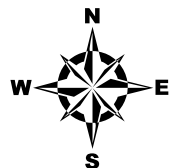
CIP 21-16 ASHLAN AVENUE STREET IMPROVEMENTS



PROJECT LOCATION
 Ashlan Avenue
 between
 Locan Avenue and De
 Wolf Avenue



Attachment 1





CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Planning and Development Services Department

DATE: August 1, 2022

SUBJECT: Planning and Development Services – Approval – Bid Award for CIP 21-03, Villa Avenue Street Improvements; and Authorize the City Manager to Execute the Contract on behalf of the City.

ATTACHMENTS: 1. Vicinity Map

CONFLICT OF INTEREST

None.

RECOMMENDATION

1. For the City Council to pre-authorize the City Manager to award the subject project to the lowest responsible bidder; and
2. For the City Council to authorize the City Manager to execute the contract on behalf of the City.

EXECUTIVE SUMMARY

Staff is recommending that City Council pre-authorize the City Manager to award and execute the contract to the lowest responsible bidder so the contractor may start and complete construction in a timely manner.

The project involves 0.5-mile of street rehabilitation of Villa Avenue from Barstow to Bullard including pulverizing in place the full depth A.C. pavement, replacements of concrete curb returns, adjustments of existing utility boxes, manholes, and utility valve boxes to finish grades, replacements of traffic striping, markings and signage, traffic signal modification, and reinstallation of traffic loop detectors.

BACKGROUND

The project plans and specifications have been made available to prospective bidders. The bid opening is scheduled for August 16, 2022. The construction cost is estimated at \$691,240.00. The apparent low bidder will be determined following the bid opening process, and project award will take place after staff has validated bidder's license status through the California State Contractor's Board and has submitted all the required federal paperwork.

FISCAL IMPACT

This project was budgeted in the 2021-2022 Community Investment Program. The project is supported by Surface Transportation Block Grant Program (STBG) through the City Community Investment Program. The construction cost has been estimated as noted above and funding is available and allocated at this amount. Staff will evaluate the lowest responsible bids in comparison with the estimated construction costs and will execute the contracts only if the lowest bid is financially responsive to the allocated funding. Should the bids come in measurably differently than the engineer's estimate, staff will bring the item back to council for consideration.


REASON FOR RECOMMENDATION

Staff is requesting that the City Council pre-authorize the City Manager to award and execute the contract for the project to the lowest responsible bidder that meets the contract requirements. Pre-authorization for awarding of this project will allow the Engineering Division to continue timely delivery of the project.

ACTIONS FOLLOWING APPROVAL

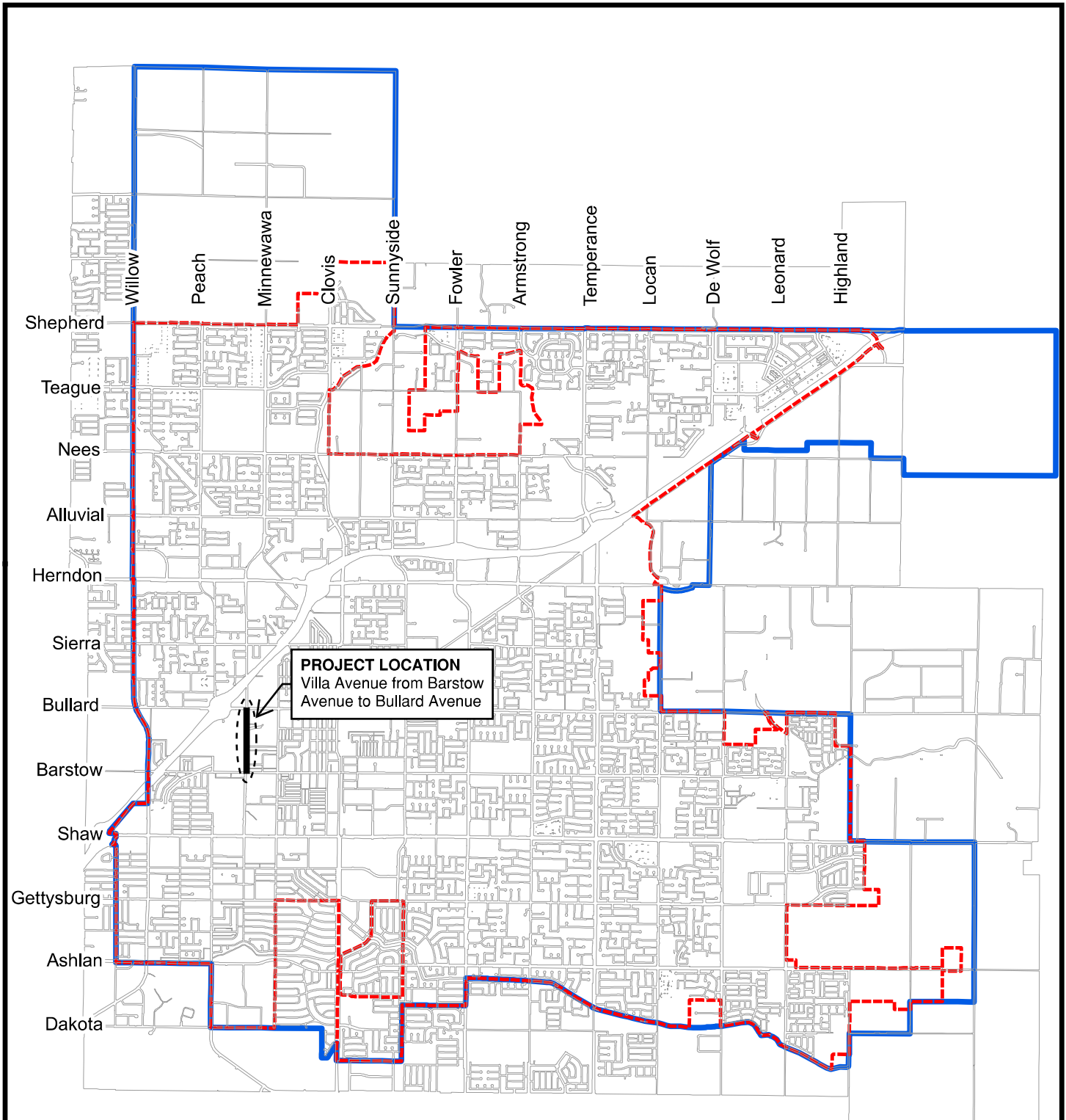
1. Staff will open bids and determine the lowest responsible bidder for the project, and City Council will receive a report of the bid award.
2. The contract will be prepared and executed, subject to the Contractor providing performance security that is satisfactory to the City.
3. Construction will begin approximately one (1) week after contract execution and be completed in thirty (30) working days thereafter.

Prepared by: Nate Stava, Project Civil Engineer

Reviewed by: City Manager 

VICINITY MAP

CIP 21-03 Villa Avenue Bid Award



PROJECT LOCATION
 Villa Avenue from Barstow
 Avenue to Bullard Avenue



Attachment 1





CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Planning and Development Services

DATE: August 1, 2022

SUBJECT: Planning and Development Services - Approval – Res. 22-____, Supporting the Measure C Renewal Expenditure Plan.

ATTACHMENTS: 1. Resolution 22-____
2. FCTA Staff Report for Adoption of the Expenditure Plan and Implementing Guidelines
3. FCTA Approved Measure C Expenditure Plan
4. FCTA Approved Measure C Implementing Guidelines

CONFLICT OF INTEREST

None.

RECOMMENDATION

For the City Council to approve Resolution 22-____, A resolution of the Clovis City Council supporting the Measure C Renewal Expenditure Plan.

EXECUTIVE SUMMARY

After several months of work by two committees with broad representation across Fresno County, the Fresno County Council of Governments (COG) and the Fresno County Transportation Authority (FCTA) have approved an expenditure plan that places significant emphasis on repairing and improving local roads. Staff is in receipt of a request from the FCTA to have the current Measure C Renewal Expenditure Plan approved by resolution by the City Council. The attached FCTA staff report from July 20, 2022 (Attachment 2), provides detailed information relative to the funding allocations included in the plan. Staff actively participated in the development of the plan and recommends approval of the resolution supporting the expenditure plan.

FISCAL IMPACT

The Measure C ½ cent sales tax measure has provided much needed revenues within Fresno County by improving transportation facilities that facilitate the efficient movement of people and goods within and through the region. The continued flow of Measure C revenue for transportation projects, though not nearly sufficient to fund the maintenance and road construction need, is an essential tool allowing the leveraging of other funding sources that require matching funds.

Without the Measure C funding, the ability of the City to provide meaningful maintenance and capture other funding would be severely impaired. The current expenditure plan will provide over \$500 million in direct transportation funding to the City of Clovis over the 30-year extension. In addition, there are significant regional State Highway projects included in the regional tier 1 project list that are within the limits of Clovis and will benefit Clovis residents and visitors.

REASON FOR RECOMMENDATION

The expenditure plan approved by the COG board and the FCTA was developed in collaboration with other agencies and represents the general consensus of the diverse committees that were commissioned to shape it. The program allocation is based on a well-reasoned and objective approach that addresses the unfunded needs in an equitable fashion throughout the County and provides significant and needed local funding with emphasis on repairing roads.

ACTIONS FOLLOWING APPROVAL

The Measure C extension is scheduled for consideration by the Fresno County Board of Supervisors on August 9, 2022, to be placed on the November 8, 2022, ballot.

Prepared by: Mike Harrison, City Engineer

Reviewed by: City Manager *JA*

RESOLUTION NO. 22-__**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS SUPPORTING
THE MEASURE C RENEWAL EXPENDITURE PLAN**

WHEREAS, since 1986 Measure C has provided funds to improve transportation throughout Fresno County, including the City of Clovis; and

WHEREAS, in the 20 years since approved by the voters in 2006, Measure C has or will have provided over \$600 million in Local Control funding that the cities in Fresno County, and Fresno County itself, have used to improve streets, sidewalks, and other transportation facilities and services; and

WHEREAS, Measure C has improved state highways throughout Fresno County, including those used extensively by Clovis residents; and

WHEREAS, Measure C provides or will provide nearly \$300 million for public transit throughout Fresno County including urban services within the Fresno Clovis metro area, and rural services in the smaller communities and unincorporated areas; and

WHEREAS, currently available funding has not been sufficient to address all critical transportation issues in the City of Clovis; and

WHEREAS, two committees with broad representation across Fresno County developed a proposed plan to extend Measure C another 30 years; and

WHEREAS; on July 7, 2022, the Fresno Council of Governments (COG) approved this proposed Expenditure Plan; and

WHEREAS, on July 20, 2022, the Fresno County Transportation Authority (FCTA) adopted the Expenditure Plan approved by COG; and

WHEREAS, this Measure C Renewal Expenditure Plan, upon approval of the ballot measure by voters, is projected to provide nearly \$5 billion over 30 years to the 15 cities and Fresno County for local transportation improvements, as determined by each City Council or the Board of Supervisors; and

WHEREAS, the Expenditure Plan is projected to provide over \$3.5 billion to fix local roads and repair sidewalks, \$812 million for urban and rural public transit, \$76 million for safe bikes and pedestrians, \$998 million for major roads and highways safety improvements and congestion relief, \$144 million for environmental sustainability projects, and over \$1.2 billion in Local Control funding for addition street repairs, enhanced transit, additional bike lanes and sidewalks, and many other transportation projects and services; and

WHEREAS, under this Expenditure Plan, the City of Clovis will receive \$519 million in direct local transportation funding.

NOW, THEREFORE, IT IS HEREBY RESOLVED that the Clovis City Council recognizes the benefits Measure C has brought to the City of Clovis and the region and is in support of renewing Measure C for an additional 30 years in order to continue to improve transportation facilities and services in the City of Clovis, and in Fresno County as a whole; and

IT IS FURTHER RESOLVED that, by adoption of this resolution, the City of Clovis approves the Expenditure Plan previously approved and adopted by COG and FCTA.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote, to wit.

- AYES:
- NOES:
- ABSENT:
- ABSTAIN:

DATED: August 1, 2022

Mayor

City Clerk

MEMORANDUM

TO: Fresno County Transportation Authority

FROM: Mike Leonardo, Executive Director

DATE: July 20, 2022

SUBJECT: Adoption of the Fresno Council of Governments Approved Measure C Renewal Expenditure Plan and Implementing Guidelines

RECOMMENDATION: Staff recommends approval of Resolution 2022-08, adopting the Fresno Council of Governments (COG) approved Expenditure Plan and Implementing Guidelines

BACKGROUND DISCUSSION: On August 7, 2019, the Fresno County Transportation Authority (FCTA) Board authorized staff to begin the process of seeking to renew Measure C with a target of placing the Measure on the November 2022 ballot. Included in this authorization was direction to establish an Executive Committee (EC) and a Technical Working Group (TWG) to develop a draft expenditure plan for presentation to the FCTA Board for final approval.

Staff began contacting the various public and private sector organizations to ask for volunteers to join these two committees. With rare exception, staff did not contact specific individuals but worked through agencies and organizations to identify who would serve on the two committees.

In March of 2020, the COVID epidemic hit the United States. Threat of exposure precluded FCTA and Fresno Council of Governments (Fresno COG) staff from scheduling meetings of these committees for approximately 11 months. During that time period society adapted to meeting in a virtual environment and as a result, the first meetings of these two groups were held virtually in January and February of 2021.

Simultaneous with this effort, the Fresno COG was in the process of updating and adopting their Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). The RTP/SCS is the 20-year transportation planning document for Fresno County, while Measure C is part of how the RTP/SCS plan is implemented. As a result, the RTP/SCS became the framework for Measure C renewal.

The two committees spent much of their early meetings discussing membership and listening to background information about the Original Measure C adopted in 1986, the Measure C Extension adopted in 2006, and developing guiding principles for a potential third measure (MC3). Membership and process discussions consumed much of the committees' time in the initial months, particularly within the EC.

Fresno COG held a number of community meetings where the RTP/SCS was discussed, and public input sought over a year's time. Measure C staff and consultants participated in these RTP meetings with discussions about what the public viewed as the highest priorities for a renewed Measure C.

In March of 2021, FCTA staff commissioned a public opinion poll to determine what County residents thought were the most pressing transportation issues, and whether or not they would support a second extension of Measure C. The results of that poll were shared with the FCTA Board and the two committees. The polling indicated very high support for renewing Measure C (80%), and that fixing local roads was clearly the highest priority, also at 80%.

In October 2021, FCTA conducted a series of in-person and online public forums specific to Measure C renewal. Staff made short presentations while the majority of the time was spent listening to members of the public discuss what they thought were the highest priorities for a third Measure C. Simultaneously, FCTA also launched an online survey for the purpose of gathering similar data. To date staff has received 2,804 responses with very similar results. FCTA staff and consultants also conducted in person door to door contacts with residents in Cantua Creek, Lenare, Tranquility, Orange Cove, Parlier, Kerman, Mendota, Caruthers, Coalinga, Del Rey, Five Points, Huron, Sanger, Kingsburg, and San Joaquin. Approximately 1,070 surveys were completed by Spanish speakers. The public meetings, online surveys, and in-person contacts all conveyed the same basic messages as the polling; fixing roads was the number one priority.

Beginning with the needs assessment performed by Fresno COG through the RTP/SCS process, staff began drafting alternative proposals for Measure C 3 funding. Four alternatives were initially presented to the TWG. Of these four, two had a significant level of support within the TWG. These two alternatives were later refined by the TWG.

During this process FCTA and Fresno COG staff also met with representatives from Fresno County, the City of Fresno and the City of Clovis to discuss the framework of the preferred alternatives the TWG was considering. While by no means diminishing the importance of the small cities, it was felt that Fresno, Clovis, and Fresno County support of a proposed plan was critical in order to obtain its eventual endorsement by both the TWG and EC. Based upon these meetings, modifications were made to the preferred alternative then being considered by the TWG. These modifications increased the Transit and Local Control subprograms. Specifically, the increase in the Local Control Program was intended to allow each agency to best tailor their Measure C expenditures to their unique and specific needs. This flexibility was especially critical for the City of Fresno who wanted to use some of their Local Control Program money to further increase funds dedicated to public transit.

The TWG considered and approved this allocation plan by a substantial majority. This approved plan was then sent to the EC for their consideration.

The EC also considered and approved the plan as submitted by the TWG. During this consideration and approval process, a second series of public meetings were conducted to once again listen to people's concerns about transportation in Fresno County. A second opinion poll was also conducted resulting in nearly identical results from the first poll.

Once the EC adopted the draft allocation plan, staff used the proposed allocation plan as adopted by the EC and TWG, to develop a detailed draft Expenditure Plan and a set of Implementing Guidelines. The Expenditure Plan was posted for public review on May 27, 2022, and the Implementing Guidelines were posted about a week later. Staff received a number of written and verbal comments on the plan and guidelines. Many of the suggested revisions were incorporated while some were not. Comments not included in the plan tended to be in conflict with the allocation plan adopted by the EC and TWG. The public comment period closed on June -27, 2022 and a final draft revision of the draft plan and guidelines was posted on June 29, 2022.

The plan was to be presented to the Fresno Council of Governments Policy Board for their approval, which was then to be followed by presentation to the FCTA Board for their proposed adoption. Fresno COG was scheduled to consider the plan on June 30, 2022 with FCTA following on July 20. The June 30, 2022 meeting of Fresno COG was ultimately cancelled due to technical difficulties and was rescheduled for July 7, 2022.

CITY OF FRESNO PROPOSAL

In mid-June, FCTA and Fresno COG staff made a presentation to the Fresno City Council on the EC/TWG approved plan. Shortly after that presentation, staff was made aware that the City of Fresno would not support the EC/TWG Plan as currently written. Through a series of meetings, the last one held on the morning of June 30, 2022 – a few hours before Fresno COG was to consider adoption of the EC/TWG plan – FCTA and Fresno COG staff agreed that the substantially revised proposal submitted by the City (that morning) had merit as it closely followed the EC/TWG plan with a few minor revisions. These revisions included:

1. Allowing sidewalk repairs to be funded through the Local Neighborhood and Street Repair and Maintenance Program (Street Repair Program)
2. Revising the distribution of these street repairs funds from 75% population – 25% road miles to 80% -- 20% (later revised to 78% -- 22%)
3. Revise the distribution of the Local Control Program funds to 100% population based
4. Establish an annual \$100,000 minimum allocation within the Street Repair Program for each of the 16 agencies in Fresno County
5. Change a few of the projects included in the City of Fresno's portion of the Tier 1 Major Roads and Highway Program
6. Limit Urban Transit Oriented Development (TOD) funding to certain high-density and transit corridor requirements
7. Include local hiring preference language

The end result of these changes was that each of the 15 cities in Fresno County would get slightly more funding (approximately 5% to 20% with the smallest cities experiencing the largest percentage increase) while Fresno County would receive about \$187 million less over the life of the Measure.

After considerable public and Board discussion, the Fresno COG Policy Board approved the EC/TWG plan as modified by the City of Fresno.

On July 12, 2022, the Fresno County Board of Supervisors also considered the plan adopted by Fresno COG. All Board members expressed concern with the lower Fresno County allocation and with the last-minute changes requested by the City of Fresno; however, after much discussion the Board adopted the plan as previously approved by Fresno COG.

APPROVED PLAN

With these approvals in place, it is now incumbent on the FCTA Board to consider adoption of the plan approved by the Fresno COG Policy Board. A full copy of both the Expenditure Plan and Implementing Guidelines are included in this Board package. In summary, the approved plan provides total projected revenue over 30 years of **\$6,835,044,756 or approximately \$7 Billion.**

Distribution by Sub-Program

Subprogram	Percentage	Allocation
Local and Neighborhood Street Repair and Maintenance	51%	\$3,511,000,000
Local Control	18%	\$1,208,794,520
Urban and Rural Public Transit	12%	\$811,953,000
Safe Bikes and Pedestrians	1%	\$75,524,940
Major Roads and Highways, Safety Improvement and Congestion Relief	15%	\$997,713,440
Environmental Sustainability	2%	\$144,000,000
Administration	1.25%	\$86,058,856

Distribution by Agency (as modified by the City of Fresno proposal)

Agency	Allocation (Millions)
Clovis	\$519.2
Coalinga	\$69.2
Firebaugh	\$36.9
Fowler	\$29.4
Fresno	\$2,210.7
Huron	\$28.3
Kerman	\$71.0
Kingsburg	\$61.9

Agency	Allocation (Millions)
Mendota	\$53.8
Orange Cove	\$44.1
Parlier	\$67.6
Reedley	\$67.6
San Joaquin	\$20.6
Sanger	\$120.1
Selma	\$107.4
Fresno County	\$1,130.2

In addition, the other changes proposed by the City of Fresno were incorporated into the Expenditure Plan and Implementing Guidelines except for the revised TOD criteria, which must still be developed by Fresno, Clovis, and Fresno COG staff. This revised criteria will be included in the Strategic Implementation Plan (SIP) to be developed. Specific language on local hiring preferences will also need to be developed and included in the SIP.

CONCLUSION:

The overall transportation needs in Fresno County exceed the revenues that can be generated through a ½ cent sales tax. However, this plan makes substantial progress towards meeting a high percentage of these needs. Specifically, this plan will:

- Allow the entire county to fix potholes and repair streets, reaching an average Pavement Condition Index of 70, which is within the “Good” category, thus reducing future maintenance costs, decreasing user costs, improving safety for vehicles, bicyclists and pedestrians, and improving air quality
- Dedicates funds to disadvantaged communities and areas, including a \$100,000 minimum allocation, which will help the smaller cities in the County, and dedication of no less than 30% of the street repair funds to disadvantaged areas
- Provides over \$1 billion in Local Control sub program funding so that each agency can best meet their transportation needs. This could include additional road repairs, enhanced transit funding, additional Active transportation projects, or any other eligible transportation facility or service
- Provides over \$800 million to the three transit agencies in Fresno County; an increase of 180% over the current transit allocation
- In conjunction with other identified funding sources, meets 95% of the overall active transportation need established through the 2022 RTP/SCS process
- Helps address safety issues and congestion choke points on the urban and rural highways and major road systems
- Dedicates \$144 million specifically for environmental enhancements beyond those specifically included in the other subprograms
- Collectively will improve pavement, improve safety, reduce congestion, improve air quality and reduce greenhouse gas emissions, consistent with the RTP/SCS

This plan will be beneficial for Fresno County as a whole and good for each and every city within Fresno County.

2022

Measure C Renewal Expenditure Plan

FINAL

JULY 20, 2022



PREPARED BY

*Fresno Council
of Governments*
2035 Tulare Street, Suite 201
Fresno, CA 93721

*Fresno County
Transportation Authority*
2220 Tulare Street, Suite 2101
Fresno, CA 93721

IN ASSOCIATION WITH

VRPA Technologies, Inc.
TBWBH Props & Measures
Jeffrey Scott Agency

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INTRODUCTION

The Fresno County Measure C Renewal Expenditure Plan was prepared to:

Guide the expenditure of slightly more than \$6.84 billion in transportation funds generated through continuation of Fresno County's half-cent transportation sales tax over the next 30 years, if approved by voters in the November 2022 election.

Fresno County's current Measure C Program, voter approved in 2006, expires in June 2027. This Renewal Expenditure Plan, developed by an Executive Committee and a Technical Working Group (TWG) consisting of approximate 80 individuals representing diverse community interests (as identified in Table 1 of this Plan), and local, state and regional agencies, will address major local and regional transportation needs in Fresno County through the Year 2057.

Through a series of public meetings, two public opinion polls, and thousands of online and in-person surveys, the Executive Committee and TWG thoroughly considered needs identified by community residents during development of the Plan. To ensure the Plan addressed transportation needs of all county residents, the Committees completed the following tasks:

- Reviewed Measure programs recently passed in other counties (best practices review).
- Listened to presentations by air quality and transportation advocates and agencies.
- Considered recommendations of transportation professionals.
- Heard innovative ideas related to new technologies in transportation.
- Developed Expenditure Plan Goals and Objectives.
- Considered public input.
- Reviewed and considered the entire County's transportation needs by category.

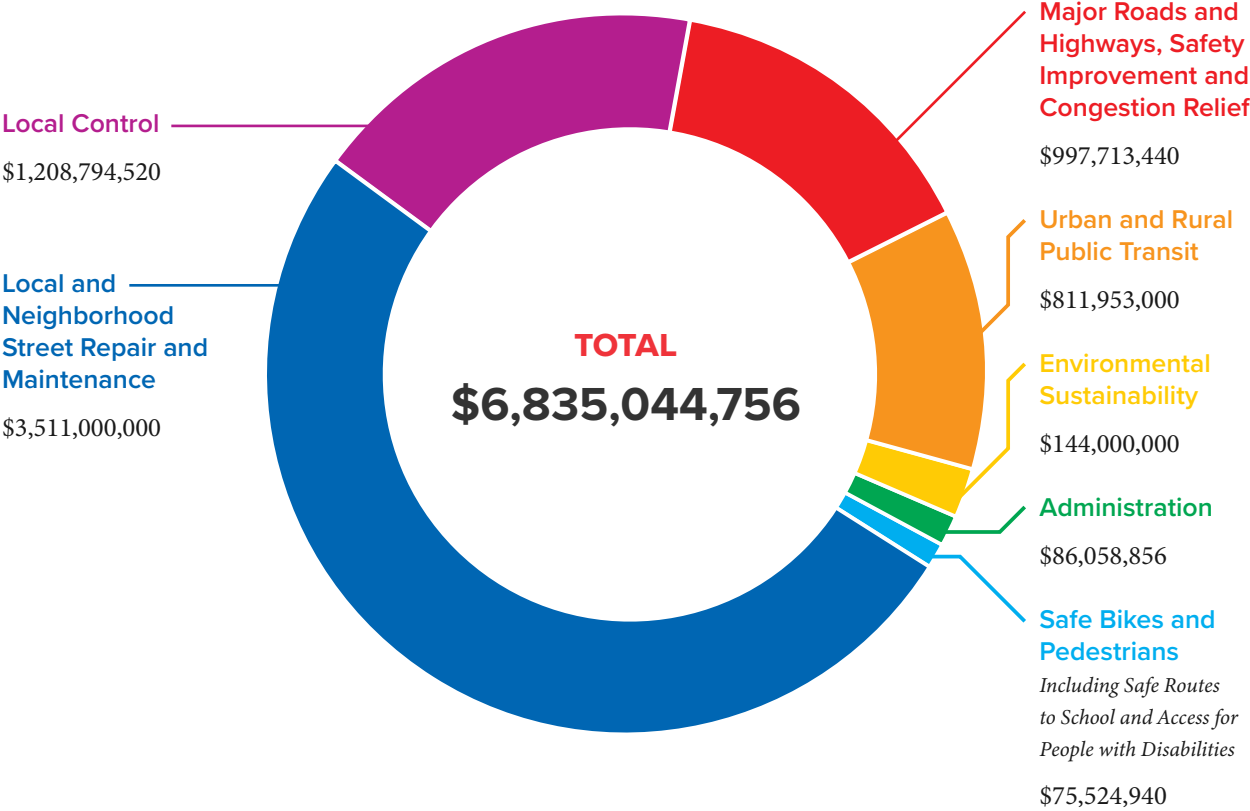
OVERVIEW

The Measure C Renewal Program

Figure 1 provides an overview of the proposed Measure C Renewal Expenditure Plan funding allocations approved by the Executive Committee and the TWG. Referencing Figure 1, the allocations consider a “multimodal” transportation program with:

- 51.37% of expected Measure funds directed to “Fix-It-First” **Local and Neighborhood Street Repair and Maintenance** activities and programs.
- Eighteen percent (17.64%) of the funds directed to the **Local Control** program. The 16 local agencies (cities and the County) in Fresno County will allocate these funds to their highest priority unique transportation needs including additional local street and highway maintenance and other street and road improvements, pedestrian, trail, and bicycle facilities improvements, safe routes to school improvements, enhanced public transit services, and other transportation services and programs.
- Twelve percent (11.88%) of the Measure funding allocated directly to **Urban and Rural Public Transit** systems and services throughout the County including Fresno Area Express (FAX), Clovis Transit, and the Fresno County Rural Transit Agency (FCRTA).
- One percent (1.22%) of the Measure will be allocated to the **Safe Bikes and Pedestrians** program (including Safe Routes to School & Access for People with Disabilities) to address improvements and safety enhancements for bicyclists and pedestrians, including students, seniors and people with disabilities, as well as other related improvements.

FIGURE 1
Measure C Funding Allocations by Program



- Fifteen percent (14.60%) of the Measure will be directed toward **Major Roads and Highways, Safety Improvement and Congestion Relief** projects in the Urban (Clovis and Fresno Spheres of Influence) and Rural (remaining County and rural cities) areas. Such projects will be located along the State Highway System and along regional corridors to enhance connections within the urban area and between the cities and rural communities throughout the County.
- Two percent (2.00%) of the funds are available for projects that enhance **Environmental Sustainability** including clean transportation projects and programs, transit-oriented development projects, and other projects that will improve air quality, address climate change and improve health.
- Finally, one and one quarter percent (1.25%) of the Measure will address program **Administration** and planning activities of the Fresno County Transportation Authority (Authority) and the Fresno Council of Governments (Fresno COG) over the 30-year period.

PUBLIC ENGAGEMENT

Public engagement activities for the Measure C Renewal Expenditure Plan began with the formation of the Executive Committee and TWG in February of 2021. Over 80 local leaders volunteered to participate as representatives of diverse sectors of Fresno County from both urban and rural communities. These leaders brought unique perspectives from various sectors of our community including healthcare, education, local government, emergency services, transportation planning and facilities experts, environmental organizations, public works, law enforcement, fire and paramedic, agriculture, community based organizations, and more. Over the 16-month Measure C Renewal Process period, a total of 37 meetings were held between these two committees with the focus on identifying and evaluating transportation needs throughout Fresno County.

In addition to these two committees, community engagement remained a key focus to gain clarity and common ground. To that end, 10,000 Fresno County residents participated in community polling and outreach via the following methods:

- Public Polling Inquiries
- In-Person • Events
 Workshops
- Community Group • Virtual meetings
 Meetings via Zoom
- Door-to-Door • Online Public
 Survey

In total, fourteen (14) community meetings were held in both rural and urban settings. Additionally, with COVID concerns still prevalent, an Online Public survey was utilized that garnered 2,804 total survey respondents, as well as 2,000 additional comments.

The online survey also focused on rural and unincorporated areas by employing a door-to-door campaign. That effort produced 1,070 mostly Spanish respondents in the following communities: Cantua Creek, Lenare, Tranquility, Orange Cove, Parlier, Kerman, Mendota, Caruthers, Coalinga, Del Rey, Five Points, Huron, Sanger, Kingsburg, and San Joaquin.

Members of the Executive Committee and the TWG are listed on the Measure C Renewal webpage at this link:

[www.measurec.com/
measure-c-committees](http://www.measurec.com/measure-c-committees)

Two-thirds (67%) voter approval will be necessary to pass Measure C in November 2022. In order to ensure that Executive Committee and TWG members were on target with this Expenditure Plan, over 3,000 voters and community residents were surveyed early in the Plan development process to determine support for an extension of the Measure, and to identify the public’s highest transportation priorities. An additional 3,000 voters were again surveyed in the spring of 2022 to confirm support for proposed expenditures.

Both polling efforts expressed widespread support for continuation of Measure C and identified residents' highest transportation priorities. The Measure C Renewal Plan effort was guided by development of the Fresno COG 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS is intended to guide transportation and land use decisions that will improve our quality of life, air quality, mobility and make communities more cohesive. The RTP/SCS is updated every four years and has a robust outreach and stakeholder involvement process including numerous committee meetings, public workshops and hearings, public surveys and polling, and other engagement opportunities. The RTP/SCS integrates all modes of transportation along with land use, housing, environmental issues, reduction of vehicle miles travelled, and other related issues. The RTP/SCS is one of the critical building blocks that has helped guide development of the 2022 Measure C Renewal effort and identify needs and funding requirements.

GOALS AND GUIDING PRINCIPLES

Considering the public engagement activities conducted over the past 16 months, the Executive Committee and TWG adopted the following set of goals and objectives to help guide development of this Expenditure Plan:

Goal #1

Equitable mobility and accessibility for all within and across the network of streets, highways, transit, bicycle and pedestrian routes and facilities.

OBJECTIVES

- Encourage equitable participation by communities in the Measure C planning and implementation process.
- Support the equitable distribution of benefits and burdens of transportation projects.
- Support the improvement and expansion of accessible transportation options to serve the needs of residents, especially those who have historically faced disproportionate transportation burdens, including seniors and people with disabilities.

Goal #2

Vibrant communities that are accessible by sustainable transportation options.

OBJECTIVES

- Encourage alternatives to single occupancy vehicles that reduce vehicle miles travelled (VMT) and greenhouse gas emissions.
- Support investment in and promotion of active transportation and transit to improve public health and mobility, especially in historically underinvested areas.
- Support transportation projects that support transit-oriented development.

- Support efforts to improve air quality and minimize pollutants from transportation.

Goal #3

A safe, dependable, well-maintained, efficient, cost effective, and climate-resilient multimodal transportation network.

OBJECTIVES

- Encourage on-going maintenance and repair of the existing infrastructure.
- Support investment in multimodal safety measures to reduce traffic fatalities and injuries throughout the region.
- Support improvements in travel connections to create an integrated, accessible, and seamless transportation network.
- Avoid congestion through smart management of existing transportation facilities.
- Add capacity only after other options have been considered and determined to be infeasible, impractical or ineffective.
- Maximize the cost-effectiveness of transportation improvements.
- Maximize available funding and support new investments that are targeted, effective, and financially sound.
- Encourage investments that increase the system's resilience to extreme weather events, natural disasters, subsidence, and pandemics.

- Support the preservation and maintenance of existing multimodal transportation assets in a state of good repair.
- Utilize Measure funding to leverage other local, state, and federal funds, including competitive grant programs.
- Ensure that growth does not adversely impact existing facilities.

Goal #4

A transportation network that supports a sustainable and vibrant economy.

OBJECTIVES

- Support local and regional economic development by leveraging planning and transportation funds that foster public and private investment.
- Provide transportation mobility options necessary to conduct essential daily activities and support economic growth and prosperity.
- Support modern regional aviation.
- Embrace cutting edge and fiscally responsible transportation and new technologies that serve to interconnect systems and that make travel more efficient and cost effective.
- Support efficient, dependable, resilient, and sustainable goods movement.

Goal #5

A region embracing clean transportation, technology, and innovation.

OBJECTIVES

- Support innovative mobility solutions that are accessible, affordable, reduce greenhouse gas emissions, and improve air quality.
- Utilize current and emerging technologies to better manage transportation systems and services.
- Improve predictability and reliability of transportation facilities and services.
- Embrace new and emerging intelligent transportation system (ITS) projects and programs.

Goal #6

A high level of transparency, performance review, and accountability.

OBJECTIVES

- Provide for continuous collection of transportation and other related data from available sources.
- Incorporate transportation performance measures, whenever possible.
- Encourage innovation with a goal of providing cost effective transportation solutions.

Guided by the Executive Committee and TWG, staff further distilled these goals and objectives into five guiding principles that were then used to guide the development of the Allocation Plan:

Stewardship

- Fix it First.
- County-wide Pavement Management Plan.
- Oversight and Performance Measures, and Equity—“No Neighborhood Left Behind.”

Equity

- Investment in active transportation and public transit to improve health and mobility throughout the County including historically underinvested areas.
- Improve air quality throughout the County, especially in historically disadvantaged areas.
- Ensure all areas of the County have their road repair needs addressed with emphasis on areas not previously addressed—“No Neighborhood Left Behind.”
- Provide local jobs and access to training opportunities.
- Supplemental road repair funds for very low-income areas.
- Expand new and innovative public transit services and solutions.

Sustainability and Resources Conservation

- Maintaining and operating transportation facilities are much less resource intensive than rebuilding.

- Focus on maximizing the safety and efficiency of the transportation systems, not on system expansion.
- Roads, highways, and their adjacent sidewalks are necessary for every type of transportation—cars, trucks, buses, bicycles, and pedestrians.
- Electric vehicles will still rely on roads and highways.
- Provide for Complete Streets and roads that accommodate vehicles, bikes, public transit and pedestrians.

Air Quality and Climate Resiliency

- All projects require environmental review and must address air quality and greenhouse gas emission reductions.
- Well-maintained pavements reduce particulate matter PM10 and PM2.5, which are the primary pollutants referenced in the most recent air quality study.
- Congestion reduction and avoidance through better operations reduces tailpipe emissions of pollutants, diesel exhaust particulate matter and greenhouse gas emissions.
- Reduce vehicle miles travelled (VMT) through Public Transit, Active Transportation, and road and highway projects.
- Harden transportation facilities to increase systems’ resiliency to extreme weather events.
- Expand new and innovative public transit services and solutions.

Flexibility

- Expanded Local Needs program allows real time and long-term flexibility—allows agencies to best address their current transportation needs and changing future needs, not a one-size-fits-all approach.
- Allows each agency to tailor the program to their specific needs.
- Allows agencies to maximize the use of matching fund programs.
- The amendment process contained within the current measure and to be continued in this measure allows adaptability.
- 15-year publicly driven process to evaluate the success or shortcomings of the Measure Renewal with a process to change or adapt, as necessary.
- In depth review of performance measures every 5 years by agency staff and the Citizen Oversight Committee (COC) with the ability to amend the Measure C Renewal Expenditure Plan if key indicators are not met.

Meeting the needs of Fresno County residents requires leveraging State and federal investments with local resources. Even with a new Measure C here will not be enough funding available to address almost \$16 billion in transportation needs. The Measure C Extension will generate more than \$6.84 billion over the next 30 years, far short of the overall need, therefore, leveraging additional federal and State funding, beyond what the region expects, is critical.

SUCCESS OF THE CURRENT MEASURE C PROGRAM

Many changes to the existing transportation system have occurred since voters first approved Measure C in 1986 and again in 2006. The current Measure C Program has provided funding to a variety of transportation projects and services including bike, pedestrian and trail projects, public transit improvements, and other transportation programs and services. New and improved regional and local streets and highways are also reflected in the current Measure C and have been or will be constructed by 2027 improving travel flow, increasing safety, and reducing severe congestion. These improvements include:

- State Route (SR) 41: Auxiliary Lane—Tulare to “O” Street
- SR 99: North to Cedar Avenues
- SR 99: Monterey Bridge
- SR 180 East: Clovis to Temperance Avenues
- SR 180: Brawley to Hughes/West Avenues
- SR180, SR 41, and SR 168 Braided Ramps
- Willow Avenue, Temperance, Ventura, California, Peach, Herndon, and Shaw Avenues
- Veteran’s Boulevard—Shaw to Barstow and Bullard to Herndon Avenues
- SR 99: Veteran’s Boulevard Interchange
- SR 180 West: Yuba to James Avenues Passing Lanes
- SR 180 East: Temperance to Academy Avenues
- SR 180 East: Academy Avenue to Trimmer Springs Road
- SR 180 East: Trimmer Springs Road to Frankwood Avenue
- Friant Road: Copper Avenue to Millerton Road
- Golden State Boulevard: American Avenue to the Tulare County Line
- SR 269: New Bridge/Channel between SR 198 and City of Huron
- SR 180 West: SR 180 to I-5
- Mountain View Avenue: Bethel Avenue to the Tulare County Line
- Academy Avenue: Manning Avenue to Industrial Park
- SR 99 and American Avenue Interchange
- I-5 and SR 198 Interchange
- Funding for public transit services including Fresno Area Express (FAX), Clovis Transit, & the Fresno County Rural Transit Agency
- Improvements to local streets and roads, bikeway and trails systems, and pedestrian facilities

Promises Made and Promises Kept of the 1986 and 2006 Measure C programs are evident by the overwhelming voter approval in Fresno County. In addition to the vast array of transportation improvements provided by these two Measures, they have given Fresno County the opportunity to compete successfully for additional State and Federal transportation funding.

The Authority, Fresno COG, the 16 local agencies and the three transit agencies have all successfully leveraged more than \$1 billion additional dollars from Sacramento and Washington D.C Extending Measure C will continue to provide local funds under local control, in order to leverage and direct additional state and federal funding to the County.

Annual Audit of Measure Programs

Current Measure C expenditures and accounts of the local agencies and the Authority are audited on an annual basis by an independent audit firm retained by the Authority. Over the past 34 years, audit results have indicated that the Measure C Program has been implemented, and proceeds expended, in accordance with the Measure C Expenditure Plan and enabling legislation. That practice will continue with this Measure C Renewal Program. Further, through the Citizens Oversight Committee and the Authority, additional performance indicators will be monitored throughout the new Measure in order to assure that funds are invested efficiently and effectively.

HOW THE PLAN WAS DEVELOPED

The Measure C Renewal Executive Committee and the TWG were formed in February 2021 to develop the Measure C Renewal Expenditure Plan. The TWG evaluated existing transportation systems and needs, and the Executive Committee established goals for the future. There was recognition that this Measure C Renewal Plan needed to address the existing and future transportation needs, focusing on local neighborhoods and community street and road maintenance, as well as continuing investments in bicycle and pedestrian facilities, transit services, and reducing and avoiding congestion on our highways. This Plan has built-in flexibility that will allow our cities and County to adapt to their specific transportation needs as they change over time. This Plan recognizes transportation programs that maintain and improve our quality of life and position us to provide the type of facilities and services that will be needed to address our future mobility needs.

Members of the Executive Committee: reviewed a variety of proposals, considered public input and professional expertise, conducted two public opinion polls, and reviewed data and literature from other agencies to prepare this Plan.

Members of the Executive Committee represented the interests of government, business, and other sectors identified in Table 1.

TABLE 1

Measure C Renewal Plan Executive Committee Representative Sectors/Organizations

Sector/Organization		
Active Transportation	Disability Services	Goods Movement
Advocacy Services	Eastside Fresno County Cities	Health Care Services
Agriculture	Economic Development	Labor
Americans with Disabilities Act (ADA)	Education (K-12 and Higher Education)	Medical Systems
Building Industry Association	Emergency Services	Philanthropy Services
Business	Environment	Technology
Cities of Clovis and Fresno	Fresno Council of Governments	Westside Fresno County Cities
Community Based Organizations	Fresno County Sheriff	Youth/Advocacy
County of Fresno	Fresno County Transportation Authority	

A list of Executive Committee and TWG members are available online:

[www.measurec.com/
measure-c-committees/](http://www.measurec.com/measure-c-committees/)

EXPECTED MEASURE C PROCEEDS

If voters approve the Extension of Measure C in November of 2022, they will authorize the Authority to continue to collect a ½ cent retail transaction and use tax for 30 years (between July 1, 2027 and June 30, 2057). This is not a new or an added tax, but simply an Extension of the existing Measure C tax.

This extension will: provide over \$6.84 billion in new revenues for transportation improvements according to financial projections through the year 2057.

The \$6.84 billion this third Measure will generate is four and one-half times the amount that is expected to be collected during the current Measure C Program (approximately \$1.2 to \$1.5 billion) through June 2027. The allocation of these projected sales tax revenues to specific types of transportation funding programs and improvement projects is described in the following sections of this plan. The Authority will prepare and then update a Strategic Implementation Plan (SIP) every two (2) years in order to verify or modify the funding expectations based on the then-current fiscal conditions, making sure that the projections are consistent with future

expenditures and the promises made in this plan. The Authority and Fresno COG will also revisit this expenditure plan in 2042 (midpoint of the Measure) to potentially adjust the transportation programs and associated allocations of Measure C proceeds ensuring that the plan addresses the future transportation needs of the county and its residents as determined through a comprehensive public engagement process. Finally, the Authority will have the option of issuing bonds to deliver Measure C projects and programs contained in this plan to save project costs by delivering them earlier, and to provide Fresno County residents with much-needed road repairs years sooner than would be possible without bonding.

COUNTY-WIDE PRIORITIES OF THE NEW PLAN

Through many months of intense discussion and public input, the following Measure C Extension funding program commitments were developed and agreed upon by the Executive Committee and the TWG. The Committees recognized that providing Measure C funds for all modes of transportation would help meet the quality of life needs of all Fresno County residents, thus enabling each of the 16 agencies within the County to address the specific needs of their residents, businesses, and major industries over the 30-year life of the Measure.

The new Plan will: Provide a minimum of 51.37% of the Measure to the 15 cities and Fresno County to maintain and improve neighborhood and community streets and roads. Further, it will fund public transit, regional highways, street and road improvements, and other transportation programs that improve mobility while reducing greenhouse gas emissions and improving air quality for all residents throughout Fresno County. The Plan is committed to “Fix-it First”, “No Neighborhood Left Behind” and “Improve Safety” principles.

The Measure C Renewal Expenditure Plan program allocations are detailed in Table 2. Implementing Guidelines for each of the seven Measure C Renewal Expenditure Plan programs are available on the Authority’s website in early June 2022 at:

www.measurecrenewal.com

TABLE 2

Measure C Renewal Expenditure Plan Allocation of Funding by Program

Details regarding each of the seven programs are provided below. Appendix B provides the amount of Measure C Renewal funding each local agency is expected to receive over the 30-year period.

	Measure C Renewal Program	Percent of Total ¹	30-Year Funding Estimate
1	Local & Neighborhood Street Repair & Maintenance	51.37%	3,511,000,000
2	Local Control	17.64%	1,208,794,520
3	Safe Bikes and Pedestrians (Including Safe Routes to School & Access for People with Disabilities)	1.22%	75,524,940
4	Urban & Rural Public Transit	11.88%	811,953,000
5	Major Roads & Highways, Safety Improvement and Congestion Relief	14.60%	997,713,440
6	Environmental Sustainability	2.00%	144,000,000
7	Administration	1.30%	86,058,856
	Total	100%	6,835,044,756

¹ Percentages Rounded to the nearest whole number.

Local and Neighborhood Street Repair and Maintenance

1

\$3.511 billion or 51.37%

A significant increase in funding for our local street networks including neighborhood streets is clearly the greatest need expressed during the public engagement process and in the two opinion surveys. In fact, nearly 81% of those surveyed county-wide strongly agreed that repairing roads and fixing potholes was their highest priority. The goal of this program is to improve each of the individual cities' and the County's unincorporated areas and communities pavement condition index or PCI from the current County-wide average of 57 (just above the "Poor" category) to 70, which is within the "Good" category. Improvements that will be made by the 15 cities and Fresno County to address the goal include:

- Fixing potholes with long lasting repairs.
- Repaving streets.
- Keeping good roads in good condition through the strategic application of preventative maintenance strategies.
- Ensuring that all neighbors, especially those in disadvantaged areas, see improvements to their local roads.
- Measuring and monitoring progress towards the 70 PCI goal.
- Providing additional resources to areas of very low income.

These expenditures would address one of the most troubling transportation problems for local agencies; how to fund improvements that address the aging street and road infrastructure while at the same time preserving roads that are currently in good condition.

A minimum base of \$100,000 per year shall be allocated to each agency under the Local & Neighborhood Street Repair & Maintenance Program. Every agency that receives Local Street Repair Program funding must allocate no less than 30% of their allocation, as determined on a 5-year rolling average, on areas within their jurisdiction that are disadvantaged using the highest 25% census tracts based on CalEnviro Screen 4.0 and areas with a median income of less than 80% of the statewide median. Restriction remains in effect until the Agency's average PCI for the Disadvantaged Areas reaches 65. Once the average PCI of 65 is met, that 30% restriction is suspended, as long as those areas do not fall below a PCI of 65 in subsequent years. Agencies must still continue to invest in those areas in order to raise the overall PCI to 70.

When the overall PCI of the streets within a jurisdiction either exceeds 80, or the lowest PCI on any street within the jurisdiction is 70 or higher, Local and Neighborhood Street Repair and Maintenance program funds in excess of what is needed to maintain street condition above a PCI of 70 may be utilized as Local Control program funds.

Local Control

\$1.209 billion or 17.64%

2

This program provides the local agencies flexible funding to address their most pressing unfunded or underfunded transportation needs within their jurisdictions. These funds would be used for a variety of purposes including:

- Repair sidewalks to create safe routes to school and increase accessibility for people with disabilities.
- Supplement Active Transportation (bike, pedestrian and trails systems) projects.
- Further improve public transit services.
- Eliminate bottlenecks on local streets where road improvements are not complete.
- Address environmental sustainability and other important transportation improvements.

The local agencies in Fresno County know what their needs are and how best to address those needs. This plan empowers them to make these critical choices for their residents and businesses.

Implementation of Opportunity Corridors is an eligible expense within the Measure C Renewal Local Control Program. In addition, certain elements of Opportunity Corridors may also be eligible within the Urban and Rural Transit, Safe Bikes and Pedestrians, Major Roads and Highways, and Environment Sustainability Programs.

Urban and Rural Public Transit

\$812 million or 11.88%

3

The goal is to improve public transit programs that provide essential mobility services to residents who do not have options, and for people who may have access to a vehicle but prefer to utilize transit; improve air quality, reduce greenhouse gas emissions, and help avoid congestion. Transit provides essential services to those who have no or limited options. This plan will allow for reduced transit fares for seniors, students, veterans and people with disabilities. It is critical that we ensure the most flexible, reliable, predictable, and affordable transit services are available for the transit dependent. Measure C Renewal funding is provided to the three (3) transit agencies within the county (Fresno Area Express, Clovis Transit, and the Fresno County Rural Transit Agency). The transit agencies would use the funds to:

- Add routes as demand increases.
- Reduced transit fares for seniors, students, veterans and people with disabilities.
- Acquire low or zero emission buses.
- Provide night and weekend service as demand dictates.
- Provide safe, clean, and strategically located bus shelters.
- Provide safer access to public transit services.

The transit agencies would also apply the Measure funds to provide:

- “Free or reduced fare bus service” to seniors, students, and people with disabilities.
- Provide new and innovative mobility for seniors, students, and people with disabilities.
- Implement innovative lower cost transit solutions for un-served or under-served areas.
- “Subsidized taxi scrip” to seniors (65 years or older) and people with disabilities resulting in better service to those with special transportation needs and the growing aging population in Fresno County.

Transit funding is a significant part of the state and federal transportation funding programs. This has been an established trend that is increasing over time. Measure C funding should be utilized to the largest extent possible to leverage these funding sources.

Safe Bikes and Pedestrians

4

Including Safe Routes To School and Access For People With Disabilities

\$75.5 million or 1.22%

Improvements to the existing and planned pedestrian, trail, bicycle and Safe Routes to School systems have gained prominence around the State and within Fresno County. There are significant opportunities for funding these types of projects using state and federal funds.

In addition, as with the current Measure, all streets funded by Measure C must have shoulders that accommodate bike lanes. With a few exceptions, these types of projects are very low cost when compared to vehicular projects. Measure C funding in this program should be utilized to the largest extent possible to enhance safety, increase availability and leverage these State and Federal funding sources.

Major Road and Highways, Safety Improvement And Congestion Relief

5

\$997.7 million or 14.60%

The core of the urban and suburban freeway and expressway system has been completed, and many improvements to rural highways have been accomplished during the 1986 and 2006 Measure programs.

Future improvements to the State Highway System need to be focused on:

- Improving safety.
- Reducing and avoiding future congestion.
- Increasing sustainability.
- Focusing on multimodal operational improvements such as auxiliary lanes, freeway interchange improvements, metering projects, demand management, and Smart Corridor concepts that maximize capacity of existing facilities.

These projects provide for the movement of goods, services, and people throughout the county, as well as accommodating goods movement from Fresno County industries to the rest of the State and the nation. Because this proposed Measure has a duration of 30 years, the Executive Committee and the TWG agreed to identify a 15-year improvement program, with the second 15 years to be addressed near the midpoint of the Measure.

This second 15-year plan will be developed after an evaluation of future needs as well as an extensive public engagement process.

Major highlights of this Regional Program include:

- Approximately **\$998 million or 14.60%** for regionally significant street and highway improvements has been divided between the Urban and Rural areas of the county with approximately **\$749 million or 75%** to the urban areas of Fresno and Clovis and approximately **\$249 million or 25%**, to the remainder of the county (other cities and the county unincorporated area). This funding split generally reflects the relative populations and needs of the urban and rural area.
- **\$35 million** will be invested in improvements to Fresno Yosemite International (FYI) Airport.

This program relies heavily on leveraged funding from various sources including the State Transportation Improvement Program, the State Highway Operations and Protection Program, the State Local Partnership Program,

federal grants, and the Regional Transportation Mitigation Fee Program (RTMF). Overall, it is anticipated that these programs will add another \$1.5 billion in funding to the nearly \$1 billion of Measure C funding included in this Measure. Further, it is expected that there will also be some Local Development Fees included on some of these projects.

The RTMF requires that new growth and development within the county and each of the cities contribute to regional street and highway project costs. The RTMF program was originally established during the current Measure C program and will be continued under this Measure. The purpose of this RTMF Program is to ensure that growth and development pay their fair share of impacts to the county's transportation facilities. The RTMF is discussed in more detail later in this Plan.

Environmental Sustainability

6

\$144 million or 2.00%

This program's goal is to improve air quality and greenhouse gas emissions by:

- Reducing Vehicle Miles Traveled through support of Transit Oriented Development (TOD) and Opportunity Corridors (OC). TOD projects help support developments that will increase demand for transit through higher density and mixed use. OC projects also support higher density and mixed-use developments through conversion of existing auto-centric streets into multimodal streetscapes.

- Clean Energy.
- Travel Choice.
- Future Technologies.
- Litter Abatement.
- Opportunity Corridors.

Rather than identify a specific amount for each of these subprograms for the life of the Measure, this Renewal Expenditure Plan will allow the FCTA Board to make that determination every two (2) years as a part of the Measure C Expenditure Plan Update. For the initial two years of the Environmental Sustainability Program the split between these subprograms will be:

Subprogram	Percent of Funding
1 Transit Oriented Development and Opportunity Corridors	0.66%
2 Clean Energy	0.32%
3 New Technology Projects	0.59%
4 Travel Choice	0.29%
5 Litter Abatement	0.15%
Total	2%

Administration/ Planning

\$86.06 million or 1.30%

Measure C funding is provided to the Authority and Fresno COG to:

- Prepare Expenditure Plan updates and amendments.
- Develop and administer allocation program requirements.
- Administer and conduct specified activities identified in the other six programs described above including increased oversight and performance monitoring.

Compliance with the California Environmental Quality Act

The Measure C Renewal Expenditure Plan is not a “project” under the California Environmental Quality Act (CEQA) and, therefore, is exempt from CEQA review. The Plan is designed to provide a funding mechanism for potential future projects and programs related to the Authority’s provision of transportation funding and services.

7

However, the Authority is not approving the construction of any projects that may result in a direct or indirect physical change in the environment; future voter approval is required prior to establishing any funding mechanism as set forth in Measure C Enabling Legislation; and all appropriate state and federal environmental reviews will be required and completed prior to any future approval of specific projects.

MEASURE C EXTENSION PLAN PROJECTS

Project Commitments Major Road & Highways, Safety Improvement and Congestion Relief Program

URBAN AND RURAL PROGRAMS

This section identifies priority regional streets and highway improvement projects to be implemented over the life of the Measure C Renewal Program. These projects will be funded with Measure C and other transportation funding. Major Road & Highways, Safety Improvement and Congestion Relief Program (MR&H) projects are defined as those of regional significance. These projects tend to be on the State highway system, as those facilities are regional by nature; however MR&H Program projects can also include projects on major local arterials that serve more than one city or area of the county.

Fresno Yosemite Airport (FYI) is also included as a regional facility as it facilitates passenger and freight travel throughout the county as well as surrounding counties.

Because the duration of this Measure is 30 years, the MR&H Program has been split into two periods; years 1–15, and years 16–30. This program split provides a number of specific benefits:

- It is difficult to determine a comprehensive list of all regional transportation needs 30+ years into the future. This split approach allows a focus on the first 15 years in order to establish a firm need, and a second 15 years that can be flexible.
- It is equally difficult to project 30+ years of revenue. The program split will allow

the Authority and Fresno COG to more accurately predict the first 15 years of revenue and will initiate a “real time” assessment of the second 15 years of funding availability in 2041 for review and acceptance in 2042.

- Transportation innovations have tended to occur at the micro level rather than at the macro. However, macro changes are possible and may be likely. A mid-program review will allow the Authority and Fresno COG, guided by an extensive public engagement effort and input from the 16 local agencies, to adjust the list of projects for the second 15 years to better reflect future transportation needs.

The funding projections for the Measure are provided in Table 3.

TABLE 3
Regional Mobility Program Revenues

Funding Source	30 Year Total 30 Year Period, 2027/28–2056/57	First 15 Years Year 1–15, 2027/28–2041/42	Second 15 Years Year 16–30, 2042/43–2056/57
Measure C Sales Tax	\$997,713,400	\$339,912,500	\$657,800,900
State Transportation Improvement Program (STIP)	\$430,275,000	\$160,830,000	\$269,445,000
Federal Aid (BUILD, RAISE, Etc.)	\$300,000,000	\$112,133,000	\$187,867,000
State Local Partnership (LPP)	\$150,000,000	\$56,066,000	\$93,934,000
State Operations & Maintenance (SHOPP)	\$200,000,000	\$74,755,000	\$125,245,000
Regional Transportation Mitigation Fee	\$450,305,000	\$168,316,000	\$281,989,000
Total	\$2,528,293,400	\$912,012,500	\$1,616,280,900

The funding split between the urban and rural subprograms was based on population, and on the relative highway, street, and road needs of those areas as described in the Table.

This Expenditure Plan contains Tier 1 Urban and Rural Project lists for the County (reference Tables 4 and 5). The Tier 1 projects are included in the initial 15 years of the Measure C Renewal program while the Tier 2 lists are projects potentially eligible for funding in the second 15 years of the Measure C Renewal program. Tier 1 Urban and Rural lists are both committed by approximately 20%. This allows the most significant priorities for the urban and rural areas to begin the project delivery process during the first 15-year period.

It is possible that additional as yet unidentified funding may become available. The region should have projects “shovel-ready” to take advantage of these types of funding opportunities. Should additional funding not materialize, these projects would be eligible for bonding of second period revenues.

A live link to the Measure C Projects interactive map is provided below or head to: <https://bit.ly/measurerenewal-interactive-map>.

[View Map](https://bit.ly/measurerenewal-interactive-map)

Tier 1 projects are shown in Figures 2 and 3. Tier 2 Project Lists can be found in Tables 6 and 7. The Tier 2 lists provide priority projects that will be considered for Measure C Renewal along with other state, federal and local funding in the second half of the Measure (years 16–30). The Tier 2 total costs currently exceed anticipated funding in the second half of the Measure; and may be revised to reflect future project priorities as they are identified through the RTP/SCS planning process and through the Authority’s and Fresno COG’s public engagement process.

The Expenditure Plan also contains \$35 million for improvements at FYI Airport.

Fresno COG and the Authority will conduct biennial MR&H Program reviews and updates, the purpose of which will be to ascertain project delivery status as well as validity of funding availability. Adjustments to delivery schedules and funding contributions may be necessary as a part of these updates.

No later than June 30, 2027, Fresno COG and the Authority will identify projects from the Tier 1 lists for the first seven years of the Measure C Renewal Program. These projects will be selected based on relative priority, deliverability, and cash flow. No later than June 30, 2034, Fresno COG and the Authority will identify projects from the Tier 1 lists for years 7–15 of the Measure C Renewal programs; again, based on relative priorities, deliverability, and cash flow.

Beginning no later than 2041, Fresno COG and the Authority will conduct a comprehensive public engagement process to help guide the effort to establish the list of projects to be funded during the second half of the Measure. No later than 2042, Fresno COG and the Authority will adopt a list of Urban and Rural projects to be funded during the second half of the Measure.

Construction of the Major Road and Highway Safety Improvement and Congestion Relief Program projects and implementation of the local streets and roads and other programs identified in the Expenditure Plan are needed as soon as possible. In order to accomplish this, some level of borrowing may be required. The Authority will determine the extent of borrowing that is reasonable as the program is implemented. Up to \$900 million (13%) of the revenues expected to be generated will be made available for this purpose.

Program Management

If approved by the voters, this Measure C Renewal will require substantially more monitoring, analysis, and reporting than the current Measure. The Authority may seek the assistance of a program management firm and/or additional staff. The primary responsibility of enhanced program management would be to assist with the development and monitoring of performance measures as discussed in the Renewal Expenditure Plan and in these Implementing Guidelines. Enhanced Program Management could also include managing

projects contained within the Major Roads and Highways, Safety Improvement and Congestion Relief Program, and other responsibilities necessary for efficient and effective implementation of the various programs. Enhanced program management responsibilities are part of program and project delivery and separate from Program Administration.

Regional Transportation Mitigation Fee (RTMF) Program

The 2006 Measure C Renewal Expenditure Plan set forth requirements related to implementation of the Regional Transportation Mitigation Fee (RTMF) Program. The 2006 Measure C ballot included requirements for local Fresno County cities and the county (local agencies) to implement Regional Transportation Mitigation Fees pursuant to California Government Code Sections 66000, *et seq.* and remit the proceeds to the FCTA to supplement construction of projects in the Regional Transportation program. The ballot also included enforcement mechanisms to ensure all Fresno County local agencies participated in the program. In response to those requirements, and to implement a consistent regional fee, the local agencies formed a Joint Powers Agency (JPA), Fresno County Regional Transportation Mitigation Fee Agency (FCRTMFA), pursuant to California Government Code Sections 6500, *et seq.*

This Measure Renewal provides for the continuation of the RTMF program established by the 2006 Measure, including all local agency enforcement mechanisms, the perpetuation of the Fresno County RTMF Agency through the life of the Measure and all adopted policies and agreements currently in effect pertaining to the mitigation fee program. The Measure also recognizes that mitigation fees are governed by State law, which changes from time to time, and stipulates implementation of the program shall remain in compliance with California law. California statute currently requires a major update to the NEXUS in 2028, which will revisit how the fee has been spent on current projects, consideration of future projects, adjustments to rates, and all other legal program requirements.

The Authority, consistent with the adopted and updated Measure C Expenditure Plan, shall have the authority and flexibility to allocate the RTMF based upon regional priority need within the county as defined by the biannual update of the Major Roads & Highways, Safety Improvement and Congestion Relief Program consistent with State law governing impact mitigation fees.

No later than June 30, 2027, all Measure C agencies must extend the RTMF JPA established as a part of the second Measure C, consistent with Section 7 of the JPA Agreement. If any city or Fresno County should choose to not implement the RTMF, that agency shall forfeit annually from the Local Control Program, an amount equal to the amount of RTMF that would otherwise have been paid for development projects within that jurisdiction during the year. If an agency chooses to not implement the RTMF, that agency shall notify the Authority of such decision and shall file an advisory report with the Authority for each development indicating the amount of RTMF that would have been paid. The Authority shall make a total calculation of RTMF obligation on an annual basis and deduct the appropriate amount of funds for the RTMF from the Local Control Program allocation for that agency.

TABLE 4**Tier 1 Urban Projects**

Project ID	Title	Description	Agency	Inflated Project Costs
100	SR 41 /SR 168 / SR 180	Urban Freeway Connectors - Operational Improvement Study within the FCMA as of 7/20/2022	Caltrans	\$1,194,052
101	SR 41 / SR 168 / SR 180	Urban Freeway Connectors - Operational Improvements within the FCMA as of 7/20/2022	Caltrans	\$119,405,230
102	SR 41: Friant Rd to Herndon Ave	Widen SB On-Ramp and Add 1 SB Auxiliary Lane - Operational	Caltrans	\$47,762,092
103	SR 41: Herndon Ave to Bullard Ave	Add Auxiliary Lane to SB SR-41 Between Herndon Ave and Bullard Ave	Caltrans	\$29,851,307
104	SR 41 / Shields Avenue	Shields Ave Interchange Improvement: Expand the NB Off Ramp to 2 Lanes for the Full Length	Caltrans	\$11,940,523
105	SR 41: McKinley Ave to Shields Ave	Add Auxiliary Lane to NB SR-41 from McKinley Ave to Shields Ave	Caltrans	\$29,851,307
106	SR 41: Van Ness Ave to San Joaquin River (NB/SB)	SR 41 Corridor Preservation Feasibility Study	Caltrans	\$1,194,052
107	SR 41 / Van Ness Ave Interchange	Modify Interchange to add a Direct SB On-Ramp; Eliminate Broadway St / SR-41 SB On-Ramp; Signalize Ramp Intersections with Van Ness St and Add Ramp Metering to New SB On-Ramp	Caltrans	\$17,910,784
108	SR 41 / SR 180 NB Connector	SR 41/SR 180 EB to NB Connector	Caltrans	\$59,702,615

TABLE 4

Tier 1 Urban Projects

Project ID	Title	Description	Agency	Inflated Project Costs
109	SR 41, SR 99, SR 168, SR 180 Smart Corridor Projects	Smart Corridor Projects (\$5 million / Mile @ 54 Miles Along SR 41, SR 99, SR 168, and SR 180 Within the FCMA as of 7/20/2022) - Operational Improvements - Phase 1	Caltrans	\$89,553,922
110	SR 99 / Ashlan Ave Interchange	Reconstruct Interchange - Includes Golden State Blvd	Caltrans	\$83,583,661
111	SR 168 Owens Mountain Parkway Interchange	Replace At-Grade Intersection with Interchange	Caltrans	\$59,702,615
112	SR 99 / Shaw Ave Interchange	Reconstruct Interchange	Caltrans	\$95,524,184
113	SR 99 / Stanislaus St Interchange	Reconstruct Overcrossing - Operational - Included for eligibility purposes only. 100% State Funding is Anticipated	Caltrans	\$—
114	SR 99 / Tuolumne St Interchange	SR 99/Tuolumne Interchange - Operational - Included for Eligibility Purposes Only. 100% State Funding is Anticipated	Caltrans	\$—
115	SR 168 Interchanges	Various Locations; Fowler Ave, Bullard Ave, Herndon Ave, Shaw Ave, & Temperance Ave	Caltrans	\$29,851,307
116	SR 180 WB to NB SR 99 Connector	Add Additional Lane - Operational	Caltrans	\$23,881,046
117	Blackstone Ave & McKinley Ave BNSF Grade Separation	Grade Separate Blackstone Ave and McKinley Ave to Eliminate Existing BNSF At Grade Crossings - Included for Eligibility Purposes Only. Current Measure C (MC2) Funding is Expected to Complete the Project.	Fresno	\$—

TABLE 4

Tier 1 Urban Projects

Project ID	Title	Description	Agency	Inflated Project Costs
118	Blackstone Bus Rapid Transit (BRT) Corridor: Smart Mobility Improvements	Blackstone Ave between Dakota Ave and SR 180: 6 Lane Divided to 4 Lane Divided with Class IV Bicycle Facilities, Midblock Pedestrian Crossings, Transit and Pedestrian-Scale Improvements	Fresno	\$5,000,000
119	East/West Corridors West of SR 99 (Shaw, Ashlan, Clinton & McKinley Avenues) between SR 99 and Grantland Ave	Corridor Improvements to Widen from 2 Lane Undivided to 4 Lane Divided with Bike Lanes, Sidewalks, Traffic Signals and Synchronization	Fresno	\$40,000,000
120	Herndon Ave: DeWolf Ave to McCall Ave	2 Lane Undivided to 4 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics	Clovis	\$42,527,367
121	Shepherd Ave: Clovis Ave to Fowler Ave	2 Lane Undivided to 3 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics	Clovis	\$13,289,802
122	Shepherd Ave: Clovis Ave to Fowler Ave	3 Lane Divided to 4 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics	Clovis	\$11,960,822
123	Shepherd Ave: Fowler Ave to Armstrong Ave	3 Lane Divided to 4 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics, Traffic Signal at Shepherd Ave and Armstrong Ave	Clovis	\$7,973,881
124	Temperance Ave: SR 180 to Clinton Ave	Widen from 2 Lane Undivided to 6 Lane Divided with Bike Lanes, Trail, Sidewalks, Curb and Gutter	Fresno	\$10,800,000
Total				\$832,460,570

TABLE 5

Tier 1 Rural Projects

Project ID	Title	Description	Agency	Inflated Project Costs
300	SR 33: Firebaugh to Mendota	Add Passing Lanes Between Firebaugh and Mendota - Operational	Caltrans	\$10,746,471
301	SR 43: SR 99 to Kings County Line	Passing Lanes	Caltrans	\$11,940,523
302	SR 99 / Mendocino Interchange	Modify/Reconstruct Interchange	Caltrans	\$12,800,000
303	SR 99: Mountain View Ave and SR 99	Dual Roundabout Interchange - The project consists of Re- aligned at Highway 99 at the existing Mountain View overcrossing to align and to build roundabout intersection control on both sides. Potential partnership with TCAG. Total Cost \$18M	Caltrans	\$10,746,471
304	SR 99 / SR 43 / Floral Ave Interchange	Reconstruct Interchange - Partial Funding - \$90M Total Cost	Caltrans	\$29,851,307
305	SR 145 (Madera Ave): 0.12 Mile N/O Whitesbridge Ave to 0.25 Mile N/O Nielsen Ave	Widen 2 Lane Undivided to 4 Lane Divided, Sidewalks, Bike Lanes, Curb and Gutter, Streetlights	Caltrans	\$6,018,024
306	SR 168 / Academy Ave Roundabout	Construct Roundabout - 67% SHOPP Funding	Caltrans	\$4,179,183
307	SR 180 / Academy Ave Intersection	Add Right Turn Channelization - Operational - 50% SHOPP Funding	Caltrans	\$5,970,261
308	SR 180: Between Kerman and Mendota	Add Passing Lanes between Kerman and Mendota - Operational	Caltrans	\$10,746,471
309	SR 180 West: I-5 to Junction SR 33 / SR 180	2 Lane on New E-W Alignment - Phase 1	Caltrans	\$95,524,184

TABLE 5
Tier 1 Rural Projects

Project ID	Title	Description	Agency	Inflated Project Costs
310	SR 198: NAS Lemoore and I-5	Add Passing Lanes between NAS Lemoore and I-5 - Operational	Caltrans	\$10,746,471
311	SR 269 / SR 145	Intersection Improvements - Operational (Roundabout) - 100% State Funding is Anticipated	Caltrans	\$—
312	SR 269 / SR 198	Intersection Improvements - Operational (Roundabout) - 100% State Funding is Anticipated	Caltrans	\$—
313	Academy Ave	Along Academy Ave from SR 99 to SR 168, Reconstruct and Rehabilitate Pavement, Install Traffic Signals or Roundabouts (Safety Improvements), Add Vehicle Turn Lanes, Install High Visibility Crosswalks and Rectangular-Rapid Flashing Beacons, Install Sidewalk, Install Lighting, Add Buffered Bike Lanes and Provision for Connectivity to Potential Future ATP Projects	Various	\$23,881,046
314	Academy Ave - City Limits to Dinuba Ave	Bridge/Roadway Widening	Parlier	\$6,328,477
315	Jayne Ave - Glenn Ave to I-5	2 Lane Undivided to 4 Lane Divided	Fresno County	\$362,992
316	Manning Ave East of SR 99	Along the Corridor from SR 99 to Orange Cove City Limits, Reconstruct and Rehabilitate Pavement, Install Traffic Signals, Add Vehicle Turn Lanes, Provide Crosswalk Improvements, Install Sidewalk, Add Buffered Bike Lanes and Provision for Connectivity to Potential Future ATP Projects	Various	\$9,552,418

TABLE 5

Tier 1 Rural Projects

Project ID	Title	Description	Agency	Inflated Project Costs
317	Millerton Rd	Friant Rd to Sky Harbor Dr - Widen to 4 Lanes Divided. Total Cost \$40M	Fresno County	\$35,821,569
318	Reed Ave Reconstruction - Phase 2	Reconstruction of Roadway, Increase from 2 Lanes to 4 Lanes, Curb Ramp Upgrades, Overlay, Slurry Seal, Replace Water Lines, Bike Lanes, Curb and Gutter and Sidewalks	Reedley	\$5,000,000
319	Reed Ave - South Ave to SR 180	Widen Reed Ave from 2 Lanes to 4 Lanes from South Ave to SR 180	Reedley	\$29,851,307
Total:				\$320,067,175

FIGURE 2
Tier 1 and 2 Urban Project Map

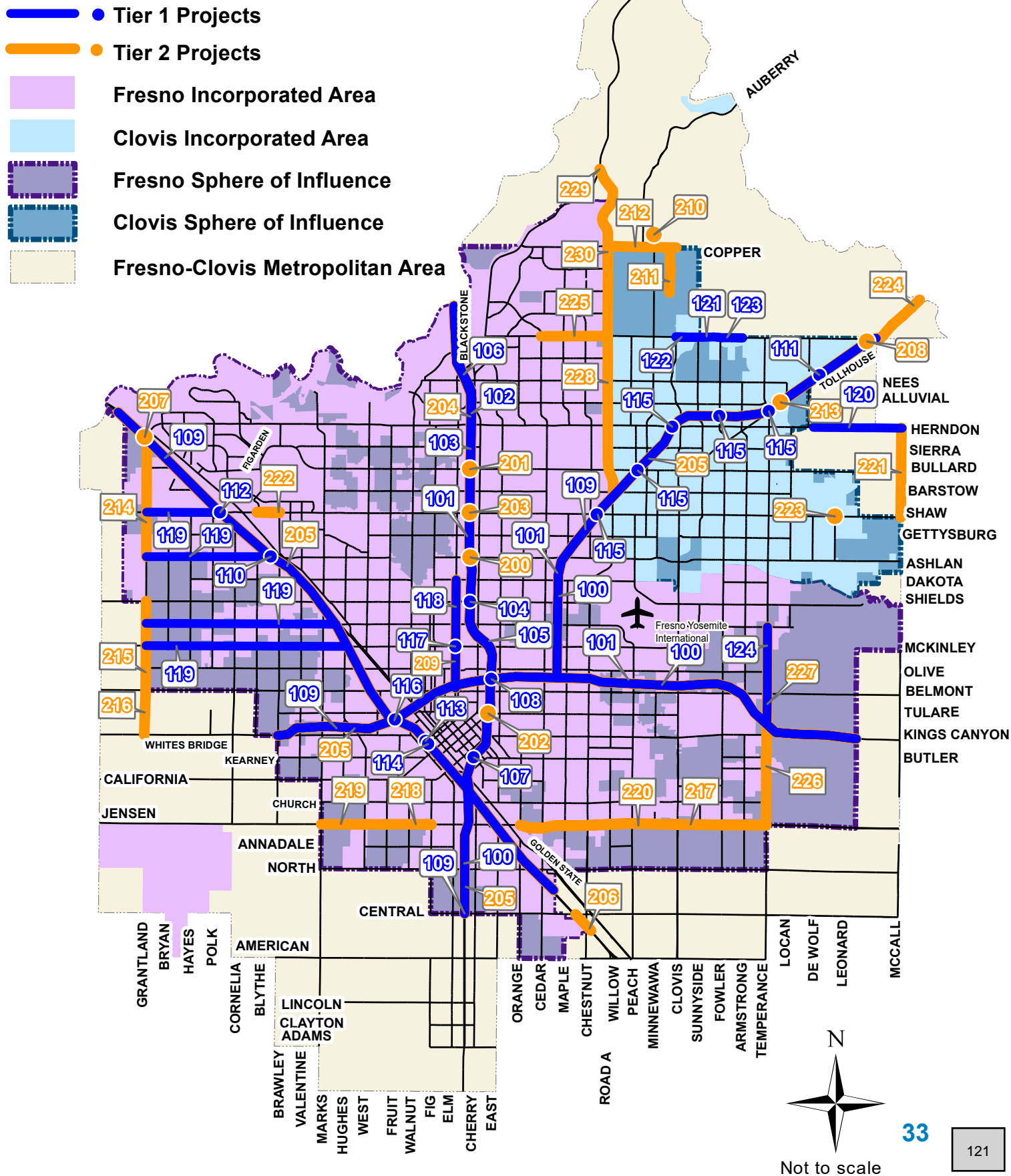
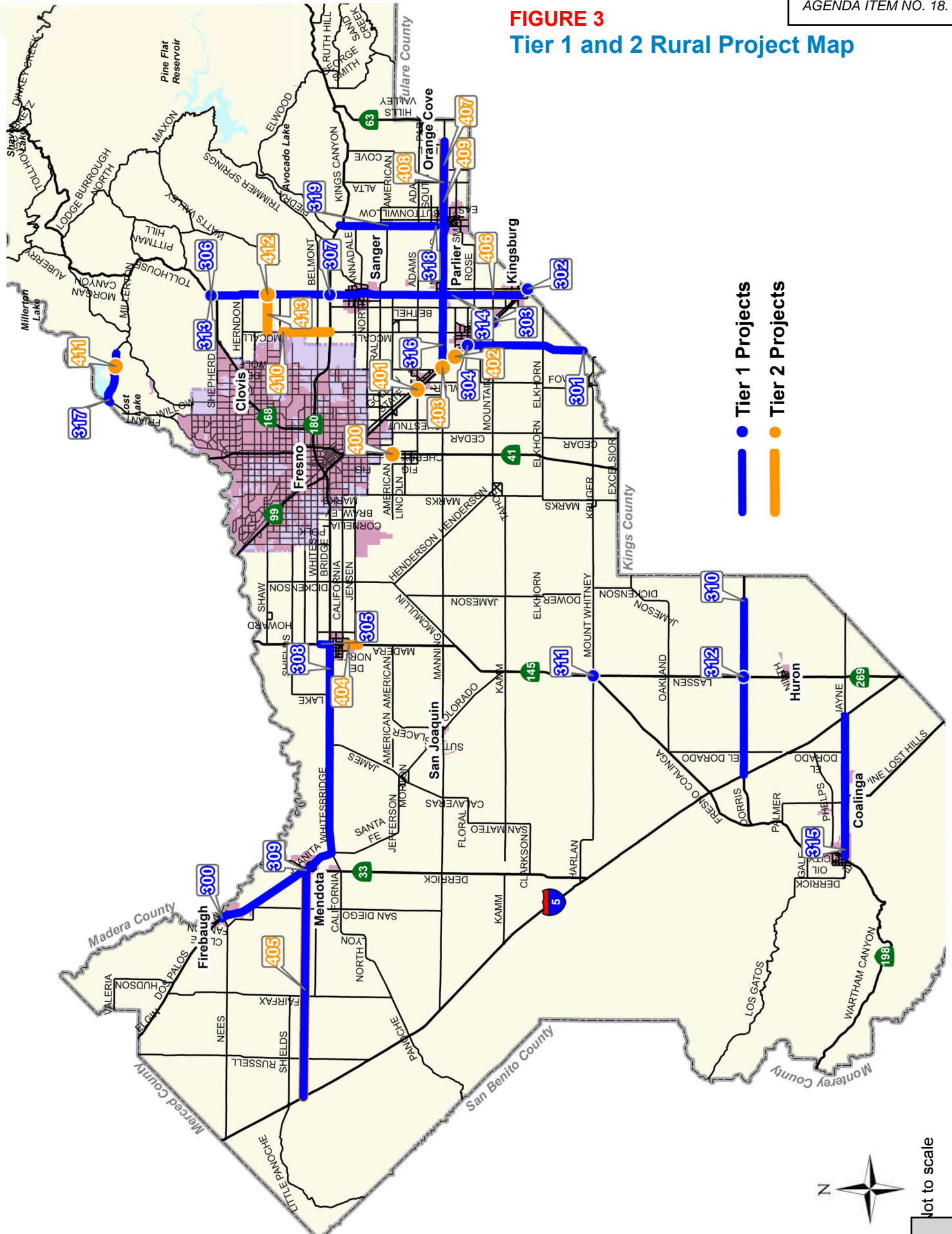


FIGURE 3
Tier 1 and 2 Rural Project Map



- Tier 1 Projects
- Tier 2 Projects



Not to scale

TABLE 6
Tier 2 Urban Projects

Project ID	Title	Description	Agency	Inflated Project Costs
200	SR 41 / Ashlan Ave	Ashlan Avenue Interchange Improvement - Reconfigure Interchange to either a Single Point Urban Interchange (SPUI) or a Diverging Diamond Configuration. Additional Study Required to Determine the Appropriate Design	Caltrans	\$136,133,075
201	SR 41 / Bullard Ave	Bullard Avenue Interchange Improvement - Reconfigure Interchange to either a Single Point Urban Interchange (SPUI) or a Diverging Diamond Configuration. Additional Study Required to Determine the Appropriate Design	Caltrans	\$136,133,075
202	SR 41 / Divisadero St On/Off Ramps	Reconfigure for SB Dual Right Turns; and EB Dual Left Turns on Divisadero at NB On-Ramp	Caltrans	\$4,946,168
203	SR 41 / Shaw Ave	Shaw Avenue Interchange Improvement – Add a 3rd Lane to the SB On Ramp for Ramp Meter Queuing and a 3rd Lane to the SB Off-Ramp at the Terminus	Caltrans	\$30,251,794
204	SR 41: Van Ness Ave to the San Joaquin River	Corridor Preservation Operational Improvement Projects	Caltrans	\$411,424,405
205	SR 41, SR 99, SR 168, SR 180 Smart Corridor Projects	Smart Corridor Projects (\$5 million / Mile @ 54 Miles along SR 41, SR 99, SR 168, and SR 180 within the FCMA as of 7/20/2022) Operational Improvements - Phase 2	Caltrans	\$204,199,613
206	SR 99: Central Ave & Chestnut Ave Interchange	Central Ave / Chestnut Ave / SR 99 - Improve Interchange (Dependent on the Extension of Measure C)	Caltrans	\$164,872,280

TABLE 6
Tier 2 Urban Projects

Project ID	Title	Description	Agency	Inflated Project Costs
207	SR 99 / Herndon Ave	Widen Undercrossing to 5 Lanes	Fresno	\$32,160,683
208	SR 168 / Shepherd Ave Interchange	New Interchange	Clovis	\$75,758,056
209	Blackstone Bus Rapid Transit (BRT) Corridor - Smart Mobility Improvements	Blackstone Ave between Dakota Ave and SR 180: 6 Lane Divided to 4 Lane Divided with Class IV Bicycle Facilities, Midblock Pedestrian Crossings, Transit and Pedestrian - Scale Improvements	Fresno	\$75,629,486
210	Clovis Ave: Auberry Rd Couplet North of Copper Ave	Construct new 4 Lane divided arterial with bike lanes, traffic signal at Copper and Clovis Avenues	Clovis	\$12,100,718
211	Clovis Ave: Behymer Ave to Copper Ave	Unconstructed to 6 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics, Bridge at Enterprise Canal	Clovis	\$10,966,276
212	Copper Ave: Willow Ave to Clovis Ave	2 Lane Undivided to 6 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics	Clovis	\$22,688,846
213	Enterprise Trail	Pedestrian Bridge Over SR 168 East of Temperance	Clovis	\$37,814,743
214	Grantland Ave: Ashlan Ave to N Parkway Dr	4 Lane Divided 6 Lane Divided with Bike Lanes, Sidewalks, Curb, Gutter, and Trail	Fresno	\$9,075,538
215	Grantland Ave: Belmont Ave to Shields Ave	2 Lane Undivided to 4 Lane Divided with Bike Lanes, Sidewalks, Curb, Gutter, and Trail	Fresno	\$14,265,701

TABLE 6
Tier 2 Urban Projects

Project ID	Title	Description	Agency	Inflated Project Costs
216	Grantland Ave: SR 180 to Belmont Ave	Grantland Ave - SR 180 to Belmont: 2 Lane Undivided to 4 Lane Divided	Fresno	\$10,746,471
217	Jensen Ave: Clovis Ave to Temperance Ave	4 Lane Divided 6 Lane Divided with Class 1 Bike Path / Trail	Fresno	\$18,559,476
218	Jensen Ave: Fruit Ave to Martin Luther King Blvd	2 Lane Undivided to 4 Lane Divided with Bike Lanes, Sidewalks, Curb, Gutter, and Trail	Fresno	\$7,305,808
219	Jensen Ave: Marks Ave to Fruit Ave	2 Lane Undivided to 4 Lane Divided with Bike Lanes, Sidewalks, Curb, Gutter, and Trail	Fresno	\$10,966,276
220	Jensen Ave: Orange Ave to Clovis Ave	4 Lane Divided 6 Lane Divided with Bike Lanes, Sidewalks, Curb, Gutter, and Trail	Fresno	\$32,475,301
221	McCall Ave: Shaw Ave to Shepherd Ave	2 Lane Undivided to 6 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics; Primarily Development Funded	Clovis	\$37,814,743
222	Shaw Ave: Blythe Ave to Brawley Ave	4 Lane Divided to 6 Lane Divided (Retrofit)	Fresno	\$4,053,740
223	Shaw Ave and Leonard Ave	Install Traffic Signal, Widen Shaw Ave for Second Through Lane and Left-Turn Lanes	Clovis	\$1,925,527
224	Shepherd Ave: Armstrong Ave to Del Rey Ave	2- and 3-Lane Undivided to 4 Lane Divided, Sidewalks, Bike Lanes, Street Lights, Curb and Gutter, Fiber Optics	Clovis	\$30,251,794
225	Shepherd Ave: Cedar Ave to Willow Ave	3 Lane Undivided to 4 Lane Divided with Bike Lanes and Sidewalks, Curb & Gutter	Fresno	\$1,512,590

TABLE 6
Tier 2 Urban Projects

Project ID	Title	Description	Agency	Inflated Project Costs
226	Temperance Ave: Jensen Ave to Belmont Ave	2 Lane Undivided to 6 Lane Divided with Bike Lanes, Trail, Sidewalks, Curb and Gutter	Fresno	\$27,831,651
227	Temperance Ave: SR 180 to Clinton Ave	Widen from 2 Lane Undivided to 6 Lane Divided with bike lanes, trail, sidewalks, curb and gutter	Fresno	\$20,006,549
228	Willow Ave: Barstow Ave to Copper Ave	Complete widening to 6 Lane Divided Where Needed and Add Bike Lanes	Clovis	\$1,683,512
229	Willow Ave: Copper Ave to Friant Rd	2 Lane Undivided to 4 Lane Divided	Fresno County/ City of Fresno	\$7,425,303
230	Willow Ave: International Ave to Copper Ave Southbound	Willow - International Ave to Copper Ave Southbound: Widen to 3 Lanes	Fresno	\$946,881
Total:				\$1,591,926,081

TABLE 7
Tier 2 Rural Projects

Project ID	Title	Description	Agency	Inflated Project Costs
400	SR 41: Central Ave to American Ave	Upgrade Existing Intersections to Interchanges	Caltrans	\$143,696,024
401	SR 99 / Adams Interchange	Interchange Improvements	Caltrans	\$30,251,794
402	SR 99 and Dinuba Fly-Over	Construction of Flyover from SR 99 to New Intersection at Golden State Blvd near Dinuba Ave	Selma	\$60,503,589
403	SR 99 / Manning Ave Interchange	Interchange Improvements (Ramp Improvements)	Caltrans	\$22,688,846
404	SR 145 (Madera Avenue): Church Ave to 0.25 Mile S/O Jensen Ave	Widen 2 Lane Undivided to 4 Lane Divided, Sidewalks, Bike Lanes, Curb and Gutter, Streetlights	Caltrans	\$9,075,538
405	SR 180 West: I-5 to Junction SR 33 / SR 180	2 Lane on New E-W Alignment - Phase 2	Caltrans	\$60,503,589
406	Academy Parkway: Mountain View Ave to Simpson St	New 4 Lane Expressway	Kingsburg	\$9,075,538
407	Manning Ave: Alta Ave to Hill Ave	2 Lane Undivided to 4 Lane Divided	Fresno County/ City of Reedley	\$12,961,381
408	Manning Ave: Buttonwillow Ave to Alta Ave	2 Lane Undivided to 4 Lane Divided	Fresno County/City Reedley	\$16,695,965
409	Manning Ave: Buttonwillow Ave to Englehart Ave	Reconstruct and Widen Manning Ave from 2 to 4 Lanes between Buttonwillow Ave and Englehart Ave	Reedley	\$6,050,359
410	McCall Ave: Griffith Ave to SR 180	Lane Widening - 2 to 4 Lanes	Fresno County	\$15,000,000

Project ID	Title	Description	Agency	Inflated Project Costs
411	Millerton Rd & Marina Dr	Traffic Signal	Fresno County	\$5,294,064
412	Shaw Ave and Academy Ave	Install Traffic Signal; Widen for NB & SB Right-Turn Lanes; WB Right-Turn and Left-Turn Lane; EB Right-Turn Lane	Fresno County	\$2,849,719
413	Shaw Ave: McCall Ave to Academy Ave	2 Lane Undivided to 4 Lane Divided	Fresno County	\$19,875,429
Total:				\$414,521,837

CITIZEN OVERSIGHT COMMITTEE

A Citizen Oversight Committee (COC) was established as a part of the 2006 Measure. That committee's efforts have been helpful in analyzing local agency conformance to Expenditure Plan requirements. Each year their findings are an important part of the Measure C Annual Report. This proposed Measure will continue efforts of the COC with a number of key changes to help increase local agency accountability for Measure C funds spent, and to make it easier to ensure that all COC seats remain filled during the duration of the Measure (reference the Implementing Guidelines available online in June 2022 at www.measurerenewal.com).

Additional responsibilities and minor changes to COC membership are also included in the Implementing Guidelines. COC responsibilities generally include the following:

- Receive, review, and recommend action on other periodic reports, studies, and plans from responsible agencies including the Authority, Fresno COG, the Cities, the County or other agencies. Such reports, studies and plans must be directly related to Measure C Extension programs, revenues, or expenditures.
 - Review and comment upon Measure C Extension expenditures to ensure that they are consistent with the Expenditure Plan.
 - Annually review how sales tax receipts are being spent and publicize the results.
 - Present committee recommendations, findings, and requests to the public and the Authority in a formal annual report.
- Receive, review, inspect, and recommend action on independent financial and performance audits related to the planning and implementation of the Measure C Extension program.

ADMINISTRATION

Fresno County Transportation Authority Structure Under the Measure C Renewal Extension Program

The Authority will continue to administer the Measure C Renewal Extension Program in compliance with its special enabling legislation. If the Measure C Extension is approved by Fresno County voters in November 2022, the Authority will continue to be responsible for administering the Measure C Programs in accordance with plans and programs outlined in the Renewal Expenditure Plan and subsequent updates of the Plan. In addition, the enabling legislation includes provision for a Citizen Oversight Committee (COC). The COC was formed in 2007 under the current Measure Program. Details regarding the Committee are contained in the Implementing Guidelines. The Expenditure Plan will continue to be prepared by the Authority and Fresno COG and approved by the Fresno COG Policy Board and by the Authority.

The enabling legislation requires that the Authority be represented by nine (9) members including:

- Two (2) members of the Board of Supervisors appointed by the board, consisting of one (1) member from Rural district 1, 4, or 5 and one (1) member from Urban district 2 or 3.
- Two (2) members representing the City of Fresno, consisting of the mayor thereof and a member of the city council of that city appointed by the city council.
- One (1) member representing the City of Clovis appointed by the city council of that city.
- Two (2) members representing the other cities within the county, consisting of one (1) Westside member appointed by a committee comprised of the mayor or each of those cities west of State Route 99, and one (1) Eastside member appointed by a committee comprised of the mayors of each of those cities east of State Route 99.
- Two (2) members of the public-at-large, consisting of one member appointed by the board of supervisors with the appointee residing outside of the incorporated areas of Fresno and Clovis, and one member appointed jointly by the cities of Fresno and Clovis with the appointee residing within the incorporated area of Fresno or Clovis.

The 2006 Measure C Extension added two new members to the Authority Board. These two positions were identified as “Public Members-at-Large” with one seat identified as urban and one as rural. The urban member was to be appointed jointly by the City of Fresno and City of Clovis, while the rural member was to be appointed by the Fresno County Board of Supervisors. It has been difficult to keep the urban seat filled. Under this proposed Measure C Renewal Program, the urban member appointment will remain the responsibility of the two cities and the rural member appointment will be the responsibility of the Board of Supervisors. However, if either position remains unfilled for nine (9) consecutive months, said member(s) will be appointed by the Authority Executive Director. An appointee of the Executive Director will serve a full term, after which the responsible agencies will have an opportunity to choose the successor.

As with the current Measure C Program, the goal of the Authority and Fresno COG will be to continue to fulfill the Promise of Measure C by delivering projects.

PLAN UPDATE AND APPROVAL PROCESSES

Regional Transportation Plan and Sustainable Communities Strategies

In compliance with schedules mandated in federal and State law, Fresno COG regularly prepares the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) every four (4) years that updates and renews a list of candidate projects for all transportation

modes (streets, highways, public transportation, bikeways, aviation, etc.). If funds are available for any projects beyond those listed in the Renewal Expenditure Plan, they will be drawn from that list. As stated before, all updates of the Renewal Expenditure Plan will be subject to public review and public hearings. While these candidate projects may change and priorities for funding may occur, there are more than enough project needs within the County to be addressed using all types of funding, including Measure C. It will be vital during development of each Expenditure Plan Update to consider financing all transportation modes in order to ensure a balanced and efficient transportation system. All of the projects and programs included in the Expenditure Plan are considered essential to meet the transportation needs of Fresno County.

Measure C Expenditure Plan Update

Fresno COG preforms a biennial update of the approved Expenditure Plan. Fresno COG and Authority staff work with member agencies and affected stakeholders to review and update the Expenditure Plan taking into consideration the status of project delivery, funding availability, and performance indicators. The Fresno COG Policy Board receives the Draft Expenditure Plan and its updates and schedules public hearings to review the Plan. After adoption of any Expenditure Plan updates by the Policy Board, the Plan is transmitted to the Authority for their consideration and approval.

Strategic Implementation Plan

The Authority will prepare a Strategic Implementation Plan which provides detailed guidance to local agencies on the use of Measure C funds. The Authority updates this plan every two years.

Expenditure Plan Amendments

Fresno COG has the primary responsibility for initiating official amendments of the Expenditure Plan. Fresno COG prepares proposed amendments to be considered by the COG Policy Board. Amendments approved by the Policy Board are then transmitted to the Authority for consideration. If approved by the Authority Board, amendments are incorporated into the Expenditure Plan.

The Authority Board may also initiate Expenditure Plan amendments. The Authority shall take all appropriate actions to give highest priority to the projects and programs in the approved Expenditure Plan, and if any amendments delay or delete any project in the initial plan, the Authority shall hold a public hearing and adopt a resolution initiating the amendments.

The Authority shall notify Fresno COG, the Board of Supervisors, and the city council of each city in the county and provide them with a copy of the proposed amendments. The amendment is then approved by the Board of Supervisors and then approved by a majority of the cities constituting a majority of the population residing in the incorporated areas of the county. The proposed amendments shall become effective immediately upon completion of the approval process.

Independent Financial Audits

Currently, the Authority annually commissions independent financial audits of the Measure C programs and receipts. If the Measure is renewed by the voters, the Authority would continue to conduct independent financial audits consistent with its enabling legislation.

Bonding

The FCTA Board may consider bonding of future revenues if project needs, and deliverability exceed cash flow. Bonding will not be used until first determining that the benefits of accelerated project or program delivery outweigh the additional cost of interest on narrowed funds.

FOR MORE INFORMATION

Contact the Authority or Fresno COG to inquire about the Measure C Renewal Extension process, discuss the candidate projects and programs contained in this Plan or to learn more about the current Measure C Extension Program.

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Visit the Fresno COG Website at www.fresnocog.org for more information, to sign up for our email list, and to receive updates on Measure C planning activities.

Visit the Authority Website at www.measurec.com for more information, to sign up for our email list, and to receive updates on current Measure C projects.

A copy of the implementing guidelines will be available June 2022 at:

www.measurecrenewal.com



APPENDIX A

Draft Measure C Renewal Ballot Language

Without raising tax rates, shall an ordinance to repair potholes, keep local roads in good condition; upgrade structurally declining bridges/overpasses; improve highway safety, 911 emergency vehicle access, air quality, public transit services; protect low-cost senior transportation options and create local jobs; be adopted, continuing the voter-approved transportation ½¢ sales tax (established 1986), providing approximately \$228 million annually for 30 years; requiring audits, public oversight/spending disclosure, local control?

APPENDIX B

Local Program Allocations by Agency

Agency	Percentage	MC3 30-Year Allocation
Clovis	10.83 %	\$519,210,059
Coalinga	1.55 %	\$74,562,264
Firebaugh	0.77 %	\$36,943,703
Fowler	0.68 %	\$32,599,858
Fresno	48.13%	\$2,307,800,260
Huron	0.69 %	\$33,128,585
Kerman	1.48 %	\$71,008,461
Kingsburg	1.29 %	\$61,935,554
Mendota	1.12 %	\$53,838,196
Orange Cove	0.92 %	\$44,073,084
Parlier	1.41 %	\$67,641,387
Reedley	2.38 %	\$114,213,410
San Joaquin	0.43 %	\$20,611,555
Sanger	2.51 %	\$120,149,116
Selma	2.24 %	\$107,380,161
County of Fresno	23.57 %	\$1,130,223,774
Total	100 %	\$4,795,319,460

Urban area receives the majority of the funding.

Transit Agency	Formula	Measure C 3 30-Year
Clovis	10 %	\$81,195,300
FAX	70 %	\$568,367,100
FCRTA	20 %	\$162,390,600
Total	100 %	\$811,953,000

Transit allocation split 70% FAX, 20% FCRTA, and 10% Clovis Transit. Estimates only and subject to change.

2022

Measure C Renewal Expenditure Plan

Implementing Guidelines

FINAL

JULY 20, 2022



PREPARED BY

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INTRODUCTION AND PURPOSE

These Implementing Guidelines have been prepared to help guide implementation of the Measure C Renewal Expenditure Plan. The Renewal Expenditure Plan was prepared to specify how the slightly more than \$6.84 billion in transportation funds, generated through continuation of Fresno County's half-cent transportation sales tax over the next 30 years, will be allocated to the various transportation programs. Specifically, these Guidelines will ensure that promises made to Fresno County voters will be kept through a set of requirements specific to each Expenditure Plan Program.

Following approval of the Renewal Expenditure Plan and these Guidelines and beginning in 2027 and every two (2) years thereafter, the Measure C Renewal Strategic Implementation Plan (SIP) will be prepared. The SIP will further detail implementation requirements, provide more specifics regarding actual Measure C Renewal proceeds by program, amendments to these Guidelines, reporting, monitoring, claims and disbursement processes, and provide further clarity on project eligibility, performance indicators and measures. The Guidelines will aid the Fresno County Transportation Authority (FCTA or Authority), Fresno Council of Governments (Fresno COG), sixteen (16) local agencies, and other responsible agencies with information including the following:

- General purpose of each Measure C Renewal Program.
- Implementing agencies or those agencies responsible for implementing the Renewal Program and eligible to receive associated Measure C funding.
- Important definitions of related program requirements, methods, or other processes.
- The percentage of Measure C Renewal funding and the initial amount of funding allocated to each Renewal Program.
- Other requirements specific to each Renewal Program.
- The list of eligible projects for which Measure C Renewal funding can be claimed.

Guideline Amendments

Revisions or amendments to these Implementing Guidelines shall follow the same amendment process established for the Measure C Renewal Expenditure Plan under Administration, Expenditure Plan Amendments.

Program Management

If approved by the voters, this Measure C Renewal will require substantially more monitoring, analysis, and reporting than the current Measure. The Authority may seek the assistance of a program management firm and/or additional staff. The primary responsibility of enhanced program management would be to assist with the development and monitoring of performance measures as discussed in the Renewal Expenditure Plan and in these

Implementing Guidelines. Enhanced Program Management could also include managing projects contained within the Major Roads and Highways, Safety Improvement and Congestion Relief Program, and other responsibilities necessary for efficient and effective implementation of the various programs. Enhanced program management responsibilities are part of program and project delivery and separate from Program Administration.

Performance Indicators and Measurements

Once the Measure C Renewal Plan and Implementing Guidelines have been approved by Fresno COG and adopted by the Authority, staff will begin working with each of the local and other interested agencies and individuals to develop performance measures specific to each of the Renewal Programs. These Guidelines include identification of performance indicators for each Renewal Program. Subcommittees will be formed to further identify indicators and to develop performance measures for each of the Renewal Programs.

Collection of data will be key to measuring performance and evaluating trends. Transportation data will also be useful for agencies or groups involved in transportation research. In addition to the data collected for performance indicators and measures, there will be other data requirements that will be included in the SIP.

Reporting Requirements

- Agencies will submit to the Authority on an annual basis the list of completed projects that utilized Measure C Renewal Program funding for some or all of the project costs.
- Agencies that utilize some or all of the Local Control Program funds for services will identify how these funds were used as a part of their annual report to the Authority.
- Other required reporting and monitoring requirements will be included in the Renewal Strategic Implementation Plan (SIP).

Local Hiring Preference

Measure C funded projects provide direct and indirect economic benefits to the County through investments in infrastructure and related economic activities associated with construction projects. Measure C projects will provide good paying jobs to Fresno County businesses and residents. FCTA and Fresno COG, working in connection with the member agencies, will develop reasonable local hiring and contracting goals to help insure those benefits are maximized. These goals will be included in the Measure C Strategic Implementation Plan prior to July 1, 2027.

Measure C Renewal Expenditure Plan Programs

The following sections include details regarding each of the individual Renewal Programs. Each program has a different set of requirements and processes given the transportation needs and

goals each are to address over the next 30-years. Programs included in these Guidelines include the following:

LOCAL AND NEIGHBORHOOD STREET REPAIR AND MAINTENANCE PROGRAM

The Local and Neighborhood Street Repair and Maintenance program is intended to bring the road systems within the 15 incorporated cities and the rural unincorporated areas of Fresno County, including arterials, collectors, and neighborhood streets, to an average Pavement Condition Index (PCI) of 70, which is within the “Good” category as measured by engineers through a Pavement Management System (PMS), which is defined as a set of procedures for collecting, analyzing, maintaining, and reporting pavement data, to assist decision makers in finding optimum strategies for maintaining pavements in serviceable condition over a given period of time for the least cost.

LOCAL CONTROL PROGRAM

The 16 local agencies (cities and the county) in Fresno County will utilize these funds to address their highest priority unique transportation needs including improved safety, enhanced public transit services, additional local street and highway maintenance and other street and road improvements, pedestrian, trail, and bicycle facilities improvements, safe routes to school improvements, and other transportation services and programs.

URBAN AND RURAL PUBLIC TRANSIT PROGRAM

The Urban and Rural Public Transit Program will address public transit systems and services throughout the County including Fresno Area Express (FAX), Clovis Transit, and the Fresno County Rural Transit Agency (FCRTA).

SAFE BIKES AND PEDESTRIANS PROGRAM

Including Safe Routes to School & Access for People with Disabilities

This program will address improvements and safety enhancements for bicyclists and pedestrians, including students, seniors and people with disabilities, as well as other related improvements.

MAJOR ROADS AND HIGHWAYS, SAFETY IMPROVEMENT AND CONGESTION RELIEF PROGRAM

This program will address the funding and implementation of projects in the Urban (Clovis and Fresno Spheres of Influence) and Rural (remaining County and rural incorporated cities) areas. Such projects will be located along the State Highway System and along major corridors to enhance connections within the urban area and between the cities and rural communities throughout the County.

ENVIRONMENTAL SUSTAINABILITY PROGRAM

This Program includes clean transportation projects and programs, transit-oriented development and Opportunity Corridor projects, and other projects that will improve air quality, address climate change and improve health.

ADMINISTRATION PROGRAM

This program includes administration and planning activities of the Fresno County Transportation Authority (Authority) and the Fresno Council of Governments.

Specifics regarding the Citizen Oversight Committee are also included at the end of these Guidelines.

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LOCAL & NEIGHBORHOOD STREET REPAIR & MAINTENANCE

Purpose

The Local and Neighborhood Street Repair and Maintenance Program (Local Street Repair Program) is intended to bring the road systems within the 15 incorporated cities and the rural unincorporated areas of Fresno County, including arterials, collectors, and neighborhood streets, to an average Pavement Condition Index (PCI) of 70, which is within the “Good” category. Repairing, rebuilding, and maintaining the road system will have long-term benefits for future generations of Fresno County residents. A road system in “Good” condition is very economical to maintain with a 2022 estimated cost of \$4.50 per square yard (SY) of pavement. Allowing our road system to remain in Fair or Poor condition has a much higher cost of \$22 to \$60 per SY.

The current countywide PCI is approximately 60 and raising it to a PCI of 70 will cost approximately \$3.2 billion over 20 years. If this goal is not accomplished within 20 years, the cost will escalate, primarily due to more roadways falling into disrepair.

In order to reach this average PCI goal, agencies must also perform preventative maintenance to prevent roads in “Good” condition from degrading into “Fair” or “Poor” condition. The \$3.2 billion cost includes funding for preventative maintenance treatments for roads currently in good condition, as well as funds for rebuilding failing roads.

Eligible Agencies

Eligibility is limited to the 15 incorporated cities and Fresno County. Distribution of these funds is based on a formula of 78% population and 22% road miles. Fresno COG will be eligible for the cost associated with performing the triennial Pavement Management System surveys and reports.

Program Implementation

Each agency must determine how to manage their road systems using a combination of road repair and preventative maintenance strategies. In order to assist with that effort, a triennial countywide pavement condition survey (PCS) will be conducted, with the results furnished to each agency. Funding for these surveys will come from this Local Street Repair Program. The agencies will then be required to develop an annual Capital Improvement Program that addresses their pavement repair and maintenance

strategies (updated triennially in conjunction with the pavement survey). These 5-year Capital Improvement Programs will be submitted to FCTA as they are updated. Development and implementation of the pavement repair strategies is an eligible expense within this Local Street Repair Program.

The FCTA Board will use these plans and the triennial pavement survey to evaluate progress towards the 70 PCI goal.

Independent financial audits of the Local Street Repair Program will be performed annually to verify that funds were expended consistent with these Program requirements. Agencies found to be out of compliance may be subject to withholding of Program funds until appropriate reimbursements are made.

Every 3 years there will be a compliance evaluation where jurisdictions must show how they have spent their Local Street Repair Program funds, however, agencies are allowed accumulate funds for up to 6-years if needed for match purposes or for a large project.

If an agency is not in compliance with the 6-year requirement, the Authority may withhold funds until the jurisdiction is compliant. Repeated non-compliance may be subject to reallocation of funds as determined by the Authority Board.

Performance Indicators

Performance indicators include, but are not limited to the following:

- Pavement Condition Index (PCI).
- Funds expended consistent with Local Street Repair Program requirements.
- Percentage of funds expended in disadvantaged areas.
- Amount of funds bonded and advanced.
- Lane miles paved by classification (arterial, collector, neighborhood street).
- Timely use of funds.
- Matching funds obtained.

Definitions

Funding within the Local Street Repair Program must be utilized exclusively for street maintenance, repair, or rehabilitation as defined by Assembly Bill (AB) 2928 language for local agency allocations under Proposition 42:

- Funds allocated to a city, county..... shall be used only for street and highway maintenance, rehabilitation, reconstruction, and storm damage repair. For purposes of this section, the following terms have the following meanings:
 - "Maintenance" means either or both of the following:
 - Patching.
 - Overlay and sealing.

"Reconstruction" includes any overlay, sealing, or widening of the roadway, if the widening is necessary to bring the roadway width to the desirable minimum width consistent with the geometric design criteria of the department for 3-R (reconstruction, resurfacing, and rehabilitation) projects that are not on a freeway but does not include widening for the purpose of increasing the traffic capacity of a street or highway.

"Storm damage repair" is repair or reconstruction of local streets and highways and related drainage improvements that have been damaged due to winter storms and flooding, and reconstruction of drainage improvements to mitigate future roadway flooding and damage problems, in those jurisdictions that have been declared disaster areas by the President of the United States.

These Local Street Repair Program funds are limited to repairs and maintenance on the existing roadway and shoulder structural section. Repairs to adjacent curb and gutter can be included where necessary to maintain proper street drainage. Installation of new sidewalks, bike lanes, or curbs and gutters are not eligible under this Program. Repairs to existing public sidewalks may be included within adjacent street repairs provided such repairs are necessary to address ADA path of travel or pedestrian safety issues associated with tree-damaged sidewalks. Said sidewalk repairs cannot exceed 20% of the over cost of the street repair project. Installation of new sidewalks, bike lanes, or curbs and gutters are not eligible under this Program. However, other funding

sources including non-Measure C funding or Measure C funding from the Local Control Program can be combined with these Local Street Repair Program funds in order to address the entire roadway prism under one project. It is highly recommended that this "combined funding" approach be utilized whenever feasible in order to provide the best overall complete street system for neighborhoods and to reduce overall costs though combining work under a single contract.

Roadway restriping in order to repurpose existing travel lanes for bicycle facilities as a part of a pavement repair project is allowable as long as it does not increase the overall paved width.

Funding Allocation

The Local Streets Repair Program consists of 51% of Measure C Renewal Expenditure Plan revenues estimated to be \$3.5 billion over the 30-year Measure. This slightly exceeds the projected pavement repair need of \$3.2 billion by \$300 million; however, the \$3.2 billion cost was based on reaching a PCI of 70 within 20 years, while the \$3.5 billion in revenue will occur over 30 years. The Authority Board will consider bonding of future revenues to accelerate this effort; and will encourage local agencies to consider bonding or borrowing options in order to advance this work. The \$3.5 billion is intended to reflect potential bonding costs, as well as the fact it may take longer than 20 years to reach the 70 PCI target.

FUNDING ALLOCATION PROCESS

A minimum base of \$100,000 per year shall be allocated to each agency, and then the annual 78% population / 22% road mile formula would be applied to determine the total funding allocation by local agency under this Program.

Other Requirements

Every agency that receives Local Street Repair Program funding must allocate no less than 30% of their allocation, as determined on a 5-year rolling average, on areas within their jurisdiction that are disadvantaged using the highest 25% census tracts based on CalEnviro Screen 4.0 and areas with a median income of less than 80% of the statewide median. Restriction remains in effect until the Agency's average PCI for the Disadvantaged Areas reaches 65. Once the average PCI of 65 is met, that 30% restriction is suspended, as long as those areas do not fall below a PCI of 65 in subsequent years. Agencies must still continue to invest in those areas in order to raise the overall PCI to 70.

When the average PCI of the streets or roads within a jurisdiction either exceeds 80, or the lowest PCI on any street within the jurisdiction is 70 or higher, Local Street Repair Program funds in excess of what is needed to maintain street conditions above a PCI of 70 may be utilized as Local Control Program funds.

Eligible Projects/Programs

- Street and road maintenance for publicly owned facilities (pavement and pothole repair, drainage improvements, other related improvements) including:
 - Planning and environmental analysis.
 - Conceptual and preliminary engineering.
 - Design engineering (PS&E).
 - Right-of-way acquisition, support and relocation.
 - Utilities relocation.
 - Construction (rehabilitation, maintenance and/or reconstruction) of streets and roads, unpaved roads, and alleys.
 - Inspection of construction engineering.
 - Direct staff time (salary and benefits).
 - Consultants selected consistent with a local agency selection process.
 - Construction contractors selected consistent with a local agency selection process.
 - Labor, materials, and equipment for day labor.
 - Public engagement and education programs.
 - Applications of new technologies.
- Privately owned streets and roads are not eligible for funding under this Program.

2

LOCAL CONTROL

Introduction/Purpose

The intent of the Local Control Program is to recognize:

- Not every community in Fresno County has the same transportation needs.
- Transportation needs can change over time.
- Local match funding is consistently a requirement for transportation funding grant programs; and the larger the match the more competitive grant applications typically are.
- A 30-year Measure cannot predict all of the transportation needs within a community over that 30-year period; agencies need flexibility to adapt to changing needs.

This Local Control Program is intended to give the 16 local agencies in Fresno County flexibility to respond to each of these situations and more. It is intended to allow each agency to determine how to most effectively spend these transportation dollars. These funds can be used for projects or services that do not fit well within the other Measure C Programs, or they can be used to supplement those Programs if the need is greater than the funds those Programs provide.

Implementing Agencies

Local Control Program proceeds will be allocated to each of the 15 incorporated cities and Fresno County.

Program Disbursement Process/Requirements

FUNDING ALLOCATION PROCESS

Allocations made by the Authority to the local agencies will be based on the approved annual estimate of 100% population.

INCLUSION OF PROJECTS IN APPROVED BUDGET OR RELATED PROGRAM

Local Control Program transportation projects or programs shall be included in a local agency five-year Capital Improvement Program (CIP) or annual budget, or by a resolution approving an eligible project or list of projects and/or programs at a public hearing of each local agency. Said plans will be furnished annually to the Authority.

Performance Indicators

Performance indicators include but are not limited to the following:

- Number of bottlenecks eliminated.
- Additional lane miles.
- Signals and other stop control devices or signage installed.
- Safety improvements including vehicles, bikes, and pedestrians.
- Miles of sidewalks built or repaired.

- Miles of street lighting installed.
- Number of bridges repaired or upgraded.
- Miles of alleys repaired or paved.
- Intelligent Transportation Systems (ITS) elements or projects installed.
- Miles of high speed internet underground conduit installed.
- Timely use of funds.
- Matching funds obtained.

Local Control Program funds utilized for projects or services contained within one of the other Measure C Renewal Programs will also follow the same monitoring, reporting, and performance criteria established through these Implementing Guidelines for those Renewal Programs.

Eligible Projects/Programs

Local Control Program funding can be used on a wide variety of transportation projects and services including:

- Pedestrian, trails, and/or bicycle facilities
 - Bicycle, trail, and/or pedestrian projects (new facilities or the maintenance of existing facilities)
- Public transit improvements or services
 - On-demand service/microtransit.
 - Americans with Disabilities Act (ADA), seniors, and/or paratransit improvements and services.
 - Bus stop facilities.
- Airports and/or aviation improvements:
 - Rehabilitate taxiways and hold pads.
 - Rehabilitate and extend runways.
 - Install lighting improvements.
 - Rehabilitate aprons.
 - Acquire land for approaches.
 - Noise mitigation programs.
- Opportunity Corridors
- Transit Oriented Development (TOD).
- Electric vehicle (EV) fleet conversion and/or infrastructure.
- Underground infrastructure to accommodate internet connectivity.
- Vanpool programs.
- Rideshare programs.
- Litter abatement along streets, roads or highways.
- Street maintenance, rehabilitation and/or expansion
 - Eliminating bottlenecks in existing streets caused by inconsistent growth patterns.
 - Additional lanes in street and road projects.
 - Rehabilitation, maintenance and/or reconstruction projects.
 - Signals and other stop control devices or signage.
 - Safety improvements; vehicles, bikes, and pedestrians.
 - Medians.

- Street trees and street landscaping.
- Sidewalks and sidewalk repairs.
- Street lighting.
- Bridges (car and pedestrian).
- Alleys (new and maintenance and repair of existing alleys).
- Street striping including centerlines, fog lines, crosswalks, and bike lanes.
- Intelligent Transportation Systems (ITS) elements or projects.
- ADA Compliance
 - Curb cuts, ramps, and striping to remove barriers.
 - Other improvements necessary to meet transportation ADA standards and requirements.
 - Other special transportation services.
- Supplement Major Roads and Highways, Safety Improvement and Congestion Relief Program projects.
- Grade separations.
- Environmental Sustainability projects or programs.
- Other transportation-related improvements and/or projects (street sweepers, detour equipment, etc.).

Full eligibility will be included in the Authority's Strategic Implementation Plan (SIP) as described in the Renewal Expenditure Plan.

Timely Use of Funds

Every three (3) years there will be a compliance test where jurisdictions must show they have spent their Local Street Repair Program funds, however, agencies are allowed accumulate funds for up to 6-years if needed for match purposes or for a large project.

If an agency is not in compliance with the 6-year requirement, the Authority may withhold funds until the jurisdiction is compliant.

Other Requirements

Streets or roads constructed or reconstructed under this Local Control Program shall follow the requirements delineated in the Safe Bike and Pedestrian Program section of these Guidelines titled "Requirements Applying to All Facilities Utilizing Any Measure C Program Funds."

Reporting Requirements

Agencies will include all planned projects within their jurisdiction that intend to use Local Control Program funding in their 5-year Capital Outlay Plan, as described within the Local and Neighborhood Streets and Road Repair Program. This Plan will be submitted to the Authority on an annual basis.

3

URBAN AND RURAL PUBLIC TRANSIT

Overview/Purpose

The Urban and Rural Public Transit Program is intended to provide funding for public transit programs that will encourage people to minimize single occupancy vehicle trips, provide enhanced mobility options for seniors, people with disabilities, and other transit dependent individuals, and improve air quality.

Improvements to the existing and planned transit services has gained prominence around the State and within Fresno County. There are significant opportunities to fund public transit improvements using State and federal funds. The Measure C allocation to this Program will provide additional opportunities for the local agencies to leverage State and federal funding.

Approximately twelve percent (12%) of Measure C Renewal funding is provided to fund improvements to the existing and planned public transit systems and facilities in the urban and rural areas of the County.

Implementing Agencies

Urban and Rural Public Transit proceeds will be allocated to each of the following agencies:

- Clovis Transit
- Fresno Area Express (FAX)
- Fresno County Rural Transit Agency (FCRTA)

Each of the three transit providers will receive an annual allocation of Measure C Renewal funding for the improvement of public transit services. Fresno COG will receive periodic funding to update the Regional Long Range Transit Plan.

FAX and Clovis Transit are the urban transit operators in Fresno County, while FCRTA provides transit services within the thirteen (13) rural incorporated cities located outside the Fresno-Clovis metropolitan area (FCMA), as well as inter-city transit service, which focuses on providing transit trips from the small, incorporated cities and the unincorporated communities within Fresno County to the FCMA.

Measure C Program Disbursement Process/ Requirements

FUNDING ALLOCATION PROCESS

Allocation made by the Authority to the transit agencies will be:

Agency	Allocation
Clovis Transit	10%
FAX	70%
FCRTA	20%

Allocations made to Fresno COG to update the Regional Long Range Transit Plan will be reimbursed to the agency considering actual costs of staff or consultant time and expenses.

INCLUSION OF PROJECTS IN APPROVED BUDGET OR RELATED PROGRAM

Public transit projects shall be included in a local agency Capital Improvement Program (CIP) or Annual Budget, or by a Resolution approving an eligible project or list of projects and/or programs at a public hearing of each local agency.

Eligible Projects/Programs

The following projects are eligible for Urban and Rural Public Transit Program funding:

- Improve urban and rural fixed-route transit services including operations
 - Bus rapid transit routes/systems.
 - Existing transit service and safety improvements.
 - Automated fare box systems.
 - Fleet conversion to evolving clean propulsion technologies.
 - American with Disability Act (ADA)/ Seniors 65 Years of Age and Older/People with Disabilities transit fare subsidy.
 - Bus stop amenities.
 - Improved service reliability and predictability.
 - Improved urban & rural on-demand transit services (Dial-a-ride, etc.).
- New/Innovative Public Transit Services/ Systems including operations
 - Cost effective solutions to improving mobility in un-served or underserved areas.
 - Uber/Lyft Services.
 - On-demand ADA rides and transit expansion.
 - Driverless shuttles.
 - First/Last-mile connections.
 - Micro Transit—flexible routing and scheduling.
 - Shared “rides” such as Green Raiteros, Van Vien.
 - Shared “vehicles”—such as vehicle rentals, Mio Car.
 - Expanded Senior Scrip program to include seniors 65 years and older and people with disabilities.

- Micro mobility hubs (designed to provide and identify a range of connected travel choices).

Other Requirements

- Clovis Transit, FAX, FCRTA
 - Reduced Public Transit Fare Program for Seniors 65 Years of Age and Older, Students, Veterans, and People with Disabilities.
 - Taxi Scrip Program for Seniors 65 Years of Age and Older.

Performance Indicators

To ensure that Measure C funds are allocated to effective programs that provide measurable results in reducing single occupant auto use, eligible projects, programs, and services will be evaluated in accordance the performance indicators and measures process noted below.

- Matching funds obtained.

Urban and Rural Public Transit Operators are required by California state law to undergo transit performance audits every three (3) years. In general, there are six (6) transit performance indicators that are used to determine how effectively and efficiently a transit operator is operating from a fiscal perspective. Those six (6) performances indicators, are:

- Operating cost.
- Fare revenues.
- Vehicle service hours.
- Vehicle service miles.
- Number of passengers.
- Number of employees.

There are also nine (9) transit performance measures, which are derived from these indicators:

- Operating cost per passenger.
- Operating cost per vehicle service hour.
- Operating cost per vehicle service mile.
- Passengers per vehicle service hour.
- Passengers per vehicle service mile.
- Farebox ratio.
- Vehicle service hours per employee.
- Vehicle service mile per vehicle service hours.
- Fare per passenger.

The results of these transit performance measures vary significantly between the urban and rural transit operators as their service areas and customer base are unique. As a result, it will be necessary to develop detailed transit performance measures within the Strategic Implementation Plan (SIP) that will serve as a companion implementation document to the Measure C Renewal Expenditure Plan and to these Guidelines. To ensure development of quality performance measures for public transit, it is envisioned that a Measure C Transit Subcommittee consisting of staff from the urban and rural transit agencies along with FCTA, Fresno COG and member agency staff will be formed to assist with the development of performance measures. These and/or other indicators, criteria or objectives will be taken into consideration to develop performance measures when evaluating the Urban and Rural Public Transit Program.

4

SAFE BIKES AND PEDESTRIANS

Including Safe Routes to School & Access for People with Disabilities

Overview/Purpose

The purpose of the Safe Bike and Pedestrian Program (hereinafter referred to as “Active Transportation Program”) is to provide additional funding for bike, pedestrian and trail facilities and services, and safe routes to schools that will increase safety, reduce automobile trips and vehicle miles traveled (VMT), thereby improving air quality, reducing greenhouse gas (GHG) emissions, and improving health. Improvements to the existing and planned pedestrian, trail, and bicycle systems have gained prominence around the State and within Fresno County. There are significant opportunities for funding these types of projects using State and federal funds. The Measure C Renewal allocation to this Program will provide additional opportunities for the local agencies to leverage State and federal funding.

Approximately 1% of Measure C Renewal funding is provided to fund improvements to the existing and planned bike, pedestrian and trail systems.

Implementing Agencies

Active Transportation Program proceeds will be allocated to each of the agencies listed below. Each of the cities and the County of Fresno will receive an annual allocation of Measure C Renewal funding for the improvement of bike and pedestrian projects and systems. Fresno COG will prepare the Regional Active Transportation Plan (ATP) and FCTA will develop and apply performance indicators and measures.

- 15 Cities.
- County of Fresno.

Fresno COG will receive periodic funding to update the Regional Active Transportation Plan.

Disbursement Process/ Requirements

FUNDING ALLOCATION PROCESS

Allocations made by the Authority to the local agencies will be based on the approved annual estimate of 75% population and 25% road miles.

INCLUSION OF PROJECTS IN APPROVED BUDGET OR RELATED PROGRAM

Active Transportation Program projects shall be included in a local agency Five-year Capital Improvement Program (CIP) or Annual Expenditure Plan (AEP), or an annual budget, or by a resolution approving an eligible project or list of projects and/or programs at a public hearing of each local agency.

Master Plan Requirements

By January 1, 2030, all jurisdictions within Fresno County will have updated their Active Transportation Plan for trail, bicycle and pedestrian facilities that promotes connectivity and complete streets within all of Fresno County and its urban areas. Measure C Renewal funds may be used for the following activities:

- Development or update of a local agency's Active Transportation Plan.
- Development or update of the Fresno Regional Active Transportation Plan.

The Active Transportation Plan or Fresno Regional Active Transportation Plan will be the guiding documents for upgrade and/or installation of such facilities.

If any jurisdiction fails to meet this goal, the allocated funds for the Active Transportation Program facilities shall be withheld by the Authority until such time as a jurisdiction is in compliance.

Exemptions

Local agencies with less than 25,000 population are exempt from the allocated funds for the Active Transportation Program. Such funds would transfer to the Local Control Program.

Allowed Accumulation of Earmark Funds Over Five (5) Years

Every five (5) years [six (6) times in 30 years] there will be a compliance audit where jurisdictions must certify to the Authority that they have spent their allocated funds; however, funds are allowed to accumulate up to a six (6) year period (if needed) for match purposes or for a large project--then the spending goals must be met thereafter. Unused funds may revert to the Authority for redistribution to other jurisdictions.

Eligible Projects/Programs

The following transportation projects are eligible for Active Transportation Program funding:

- Active Transportation Plans and Studies (Local agency staff or consultant services).
- Regional Active Transportation Plan (FCTA/FCOG staff or consultant services).
- Bikeway, trails, and/or path projects.
- Pedestrian facilities (sidewalks, other).
- Safe Routes to Schools.
- Safety projects.
- Protected facilities.
- Traffic control devices.
- Street or trail lighting.
- Signage.
- Shoulder Improvements.
- Curb ramps, accessible pedestrian signals (APS), other related improvements.

- Public engagement and public education programs.
- New technology applications.
- Development and application of performance measures or criteria by the Authority and Fresno COG.
- Trail maintenance as further defined in this section.
- Eligible investments would include all recognized project phases including:
 - Planning and environmental analysis.
 - Conceptual and preliminary engineering.
 - Design engineering (PS&E).
 - Right-of-way acquisition, support and relocation.
 - Utilities relocation.
 - Inspection of construction engineering.
 - Direct staff time (salary and benefits).
 - Consultants selected consistent with a local agency selection process.
 - Construction contractors selected consistent with a local agency selection process.
 - Labor, materials, and equipment for day labor.
- Other Requirements:
 - Compliance check.
 - Fund accumulation and non-compliance requirements.
 - Claims process/disbursements.

- Monitoring/reporting requirements.
- Audit process.

Allocations for Active Transportation Facilities

Measure C Renewal funds may be used for new construction, improvements to and maintenance of Active Transportation Program facilities, and for Active Transportation Plan updates.

Class I, II, III, and IV Definitions and Eligibility Requirements

The following definitions apply:

- Refer to Caltrans Highway Design Manual (HDM) Chapter 1000 for definitions of the various types of facilities. Class I facilities are not limited to bicycle use but are also available for pedestrians. Within these Renewal Implementing Guidelines and in the Renewal Expenditure Plan, they will be referred to as Class I facilities, or bicycle or shared use paths.
- Rural trails are not required to be Class I facilities. Rural trails will generally be located in areas outside of the incorporated cities. Rural trails will typically be recreational in nature.

- Design guidance for rural trails is not well defined in the HDM. These types of facilities should follow design and construction guidance as contained in the 2015 California State Parks Accessibility Guidelines, or similar guidance documents. The link is provided below.

<https://www.parks.ca.gov/pages/21944/files/2015%20california%20state%20parks%20accessibility%20guidelines.pdf>

- Class I bicycle paths and shared use paths built with Measure C Renewal funds shall, at a minimum, be designed in accordance with the design criteria for bicycle paths as set forth in the California Highway Design Manual (HDM), Chapter 1000, Bikeway Planning and Design. Within the Fresno Clovis Metropolitan Area, Class I facilities built with Measure C funds shall be twelve (12) feet minimum in width where physically feasible.
- Within the Fresno Clovis Metropolitan Area, Class I facilities built with Measure C Renewal funds shall be built so that at-grade crossings are limited to one (1) every one-half (1/2) mile at signalized intersections for new developments provided that this does not violate property owner rights.
- Class I facilities built within existing neighborhoods shall be built so that mid-street crossings on collectors, arterials, super-arterials or expressways should be either (a) controlled by an at-grade pedestrian waiting mechanism, signalized or otherwise flashing crossing or alternative warning devices, or (b) built with a grade separated crossing when these are warranted due to pedestrian or bicycle safety risks.
- Up to 20% of the jurisdiction's Active Transportation Program allocation may be allocated to the maintenance of Class I facilities.
- Jurisdictions shall certify to the Authority that these guidelines have been met in the utilization of Measure C Renewal funds.
- Class 2 bikeways (bike lanes) and Class 3 bikeways (bike routes) will be designed and installed in accordance with the California Highway Design Manual (HDM), Chapter 1000, Bikeway Planning and Design, and the California Manual on Uniform Traffic Control Devices (CA MUTCD).
- Class 4 bikeways (separated bikeways/ cycletracks) will be designed and installed in accordance with Caltrans Design Information Bulletin 89.
- Any new or modified types of facilities are eligible for Active Transportation Program funding provided they are included in any future revision of the Caltrans HDM or related design guidance.

Requirements Applying to All Facilities Utilizing Any Measure C Program Funds

All streets and roads constructed or improved in whole or in part with Measure C Renewal funds shall include “Complete Street” features. A complete street is defined as a transportation facility that is planned, designed, constructed, operated, and maintained to provide comfortable and convenient mobility, and improve accessibility and connectivity to essential community destinations for all users, regardless of whether they are travelling as pedestrians, bicyclists, public transportation riders, or drivers. Streets and roads that utilize the Local Street Repair Program funds for maintenance and repair of streets are encouraged to include complete street elements that do not require additional pavement width.

- New Pedestrian Facilities
 - Every highway, expressway, super-arterial, arterial or collector (exempting freeways) within the urbanized areas throughout the County that is constructed or reconstructed in whole or in part with Measure C Renewal funds shall include sidewalks, paths, walkways, or equivalent facilities on both sides of the street, road, or highway for use by pedestrians. Reconstruction projects accomplished exclusively through the Local and Neighborhood Street Repair and Maintenance Program are exempt from this requirement but are encouraged to utilize other funding sources to provide these pedestrian facilities where none currently exist.
- New Bicycle Facilities
 - Facilities built and maintained by the State of California and projects, which are either for routine maintenance or traffic safety purposes, are exempt from this requirement; however, Caltrans should be encouraged to implement these features where feasible and consistent with Caltrans regulations.
 - Expressways constructed in an urban area can meet this requirement by including a sidewalk, paths, walkways or equivalent facility on one side of the roadway.
 - Every highway, expressway, super-arterial, arterial or collector within the County constructed in whole or in part with Measure C Renewal funds shall include accommodations for bicycle travel by a striped shoulder with a minimum width of four feet (4’). This 4’ shoulder may be provided as a bike lane or a cycletrack. If an existing highway, expressway, super-arterial or collector is reconstructed and said reconstruction includes pavement widening, that project will also be subject to this requirement. Reconstruction projects accomplished exclusively through the Local and Neighborhood Street Repair and Maintenance Program are exempt from this requirement but are encouraged to utilize other funding sources to provide these bicycle facilities where none currently exist.

- Likewise, all such roadways within the County receiving pavement reconstruction (without pavement widening), rehabilitation or an overlay, slurry seal, chip seal, or seal coat funded in whole or in part with Measure C Renewal funds shall include accommodations for bicycle travel by a striped shoulder with a minimum width of four feet (4') unless there is insufficient pavement width. This 4' shoulder may be provided as a bike lane or a cycletrack.
- On a multilane roadway, conversion of travel lanes to bicycle facilities is eligible and recommended provided the responsible agency has made a determination that excess roadway capacity exists and that the bicycle facilities are allowable.

Maintained Pedestrian or Bicycle Facilities

Any maintenance to a street, road, or highway funded in whole or in part by Measure C Renewal funds shall, at a minimum, maintain the existing level of pedestrian and bicycle access, facilities and safety features along and across the street, road, or highway.

Exceptions to the Requirements

The above requirements shall not apply if the constructing agency, after a properly noticed public hearing, determines that one (1) or more of the exceptions listed below exists.

The public hearing notice shall include a

statement clearly declaring that the purpose of the hearing is to review bicycle and pedestrian facility exception(s) for a proposed project using Measure C Renewal funds and identifying the specific exceptions. The exceptions are:

- The provision of pedestrian and/or bicycle access is contrary to public safety.
- An alternative route already exists, or will be built as part of a project, which is equal or better in terms of safety, distance and travel time.
- The cost of the facilities would be disproportionate (exceeding 20% of the cost of the overall project).
- Sparse population or other measurable factors indicate an absence of need.
- Significant adverse environmental effects would result from the inclusion of the facilities in the project.
- Opposition by two-thirds (2/3) or more of the property owners whose property lies directly adjacent to the facilities.

“Constructed” is defined as the construction of a new roadway or portion of a roadway that did not previously exist including projects to increase the capacity of an existing street or road.

For the purposes of this section, “Reconstructed” is defined as the existing full improvement of an existing roadway, but which does not include additional lane capacity. Reconstruction may or may not include shoulder widening.

For the purposes of this section “Urban Areas” is defined as the Fresno Clovis Metropolitan Area and the incorporated cities of Fresno County.

Flexibility if Needs Are Met

In 2032, 2037, 2042, 2047, and 2052 the Authority will review the status of all jurisdictions’ Active Transportation Plans.

If the Authority determines at a public hearing that a jurisdiction’s Active Transportation Plan is less than five (5) years old when last adopted, and the Active Transportation Plan has been completed at each of these five-year marks, the allocation requirements are suspended until the next evaluation and funding will revert to the overall Local Control Program of the local jurisdiction.

Bicycle and Pedestrian Facilities Maintenance

“On-going Maintenance” is defined as including:

- Tree and shrub trimming, tree stake retying, replacement, or removal.
- Fertilizing and weed control chemicals and their application.
- Weed removal.
- Potholes, breaks in the asphalt surface, or tree root uplifting.
- Irrigation system repair and upkeep (repair breaks, missing heads).
- Repair or reset timers.
- Replace or repair stolen or damaged wires.
- Litter removal.

- Replace burned out light bulbs.

“On-going Maintenance” does not include:

- Resurfacing of asphalt except to do spot repairs from things such as a broken water line.
- Restriping any median lines.
- Installing or replacing signing.
- Paying for the cost of water or electricity.
- Maintenance at adjacent trail heads or parks.

Performance Indicators

Performance indicators include but are not limited to the following:

- Miles of missing “path of travel” completed.
- Miles of Safe Routes to Schools completed.
- Miles of new bike Lanes, paths, or trails.
- Miles of trail or bike lanes maintained.
- Miles of new bike lanes included on new road projects.
- Timely use of funds.
- Cost per mile.
- Matching funds obtained.

5

MAJOR ROADS & HIGHWAYS, SAFETY IMPROVEMENT & CONGESTION RELIEF

Purpose

The Major Roads and Highways, Safety Improvements and Congestion Relief Program identifies priority regional street, road and highway improvement projects to be implemented over the life of the Measure C Renewal Program. These projects will be funded with Measure C Renewal and/or other transportation funding. Projects within this program are considered to be of regional significance.

Eligible Agencies

Eligible agencies for this program include the 15 incorporated cities, Fresno County, the Fresno Council of Governments (Fresno COG, the Fresno County Transportation Authority (FCTA or the Authority), and Caltrans.

Program Implementation

Implementing Agencies will be designated for each of the regional projects included on the Tier 1 Urban or Rural Project List prior to beginning project development activities. The Implementing Agency will generally be the

owner of the facility; however, it may also be the sponsoring agency for a project that is not a part of their system. The Authority may also choose to be the Implementing Agency for a project on facilities owned by others. The owner of the facility must agree to another agency assuming the role of Implementing Agency.

Definitions

Projects within this Program are generally on the State Highway System, as those facilities are regional by nature; however, projects can also include those on major local arterials that serve more than one city or area of the county. Fresno Yosemite International (FYI) Airport is also included as a regional facility, as it facilitates passenger and freight travel from throughout Fresno County to state, national, and international destinations.

Eligible Project Lists

The Renewal Expenditure Plan contains Tier 1 and Tier 2 Project Lists for both urban and rural areas of the County. The Tier 1 projects are part of the initial 15 years of the Measure C Renewal Program, while the Tier 2 lists are projects potentially eligible for funding in the second 15 years of the Measure C Renewal Program. Tier 1 Urban and Rural Project Lists are both slightly over committed. The Tier 1 and Tier 2 lists are included as Tables 4 through 7 in the Renewal Expenditure Plan. Over committing of Tier 1, not to exceed 25% of the overall funding target, is included in the list of Tier 1 projects. All Tier 1 projects are high

priority, and any uncompleted projects would very likely become high priority for the second 15 years of Measure C Renewal funding. Over committing allows the advancement of critical projects through the project delivery process so that they are ready for funding as it becomes available. Over commitment also allows agencies to take advantage of future potential funding opportunities that cannot be anticipated or quantified at this time.

The Renewal Expenditure Plan contains \$35 million for improvements at FYI Airport, with \$14 million of this funding being available in the first 15 years and with the remainder in the second 15-year period. The City of Fresno will determine the priority projects for this reserve funding. If requested by the City of Fresno, the FCTA Board may consider advancing airport revenues from the second half on the measure into the first 15 years.

Flexibility and Plan Modifications

Fresno COG and FCTA will conduct biennial Major Roads and Highways, Safety Improvements and Congestion Relief Program reviews and updates, the purpose of which will be to ascertain project delivery status, as well as validity of funding availability. Adjustments to delivery schedules and funding contributions may be necessary as a part of these updates.

No later than June 30, 2027, Fresno COG and FCTA will identify projects from the Tier 1 lists for the first seven (7) years of the Measure C

Renewal Program. These projects will be selected based on relative priority, deliverability, and cash flow. No later than June 30, 2034, Fresno COG and FCTA will identify projects from the Tier 1 lists for years eight through fifteen (8-15) of the Measure C Renewal Program; again, based on relative priorities, deliverability, and cash flow.

Beginning no later than 2041, Fresno COG and FCTA will develop and conduct a comprehensive public engagement process to help guide the effort to establish the list of projects to be funded during the second half of the Measure Renewal. No later than June 30, 2042, Fresno COG and FCTA will adopt a list of urban and rural projects to be funded during the second half of the Measure Renewal.

The FCTA Board may consider bonding of future revenues if project needs, and deliverability exceed cash flow.

Regional Transportation Mitigation Fee Program (RTMF)

The Measure C Renewal Expenditure Plan sets forth requirements related to implementation of the Regional Transportation Mitigation Fee (RTMF) Program. The Measure C ballot in 2006 included requirements for local Fresno County cities and the county (local agencies) to implement Regional Transportation Mitigation Fees pursuant to California Government Code Sections 66000, et seq. and remit the proceeds to the FCTA to supplement construction of projects in the Regional Transportation program.

The ballot also included enforcement mechanisms to ensure all Fresno County local agencies participated in the program. In response to those requirements, and to implement a consistent regional fee, the local agencies formed a Joint Powers Agency (JPA), Fresno County Regional Transportation Mitigation Fee Agency (FCRTMFA), pursuant to California Government Code Sections 6500, et seq.

This Measure Renewal provides for the continuation of the RTMF program established by the 2006 Measure, including all local agency enforcement mechanisms, the perpetuation of the Fresno County RTMF Agency through the life of the Measure and all adopted policies and agreements currently in effect pertaining to the mitigation fee program. The Measure also recognizes that mitigation fees are governed by State law, which changes from time to time, and stipulates implementation of the program shall remain in compliance with California law. California statute currently requires a major update to the NEXUS in 2028, which will revisit how the fee has been spent on current projects, consideration of future projects, adjustments to rates, and all other legal program requirements.

The RTMF Program requires that new growth and development within the county and each of the cities contribute to regional street and highway project costs. The RTMF Program ensures that growth and development pay for their fair share of impacts to the county's transportation facilities. The RTMF Program can only be used to mitigate transportation impacts related to growth; it cannot be used to address existing deficiencies.

The Authority, consistent with the adopted and updated Measure C Expenditure Plan, shall have the authority and flexibility to allocate the RTMF based upon regional priority need within the county as defined by the biannual update of the Major Roads & Highways, Safety Improvement and Congestion Relief Program consistent with State law governing impact mitigation fees.

No later than June 30, 2027, all Measure C agencies must extend the RTMF JPA established as a part of the second Measure C, consistent with Section 7 of the JPA Agreement. If any city or Fresno County should choose to not implement the RTMF, that agency shall forfeit annually from the Local Control Program, an amount equal to the amount of RTMF that would otherwise have been paid for development projects within that jurisdiction during the year. If an agency chooses to not implement the RTMF, that agency shall notify the Authority of such decision and shall file an advisory report with the Authority for each development indicating the amount of RTMF that would have been paid. The Authority shall make a total calculation of RTMF obligation on an annual basis and deduct the appropriate amount of funds for the RTMF from the Local Control Program allocation for that agency.

Funding Allocations

Each Implementing Agency will request project funding from the Authority, which will be provided through a Cooperative Funding Agreement. These agreements will allocate funding for the initial project phase(s).

As the project progresses and additional funding is necessary to proceed to subsequent phases, the agreement will be amended to reflect the additional costs. All funding agreements reimburse Implementing Agencies for funds expended. The agreements do not provide agencies with advanced funding.

Other Requirements

Implementing Agencies will be required to report project progress on an on-going basis to the Authority. Projects requiring cost increases not associated with subsequent project phases must be thoroughly justified by the Implementing Agency. A funding agreement amendment must be approved prior to expending funds beyond the approved project budget.

Implementing Agencies will furnish, install and maintain project funding signage recognizing the Measure C Renewal funding contribution. Details of said signage will be contained in the SIP.

All major roads and highways constructed, improved, or reconstructed under this Program shall follow the requirements delineated in the Safe Bike and Pedestrian Program section of these Guidelines titled “Requirements Applying to All Facilities Utilizing Any Measure C Program Funds.”

Performance Indicators and Measures

Performance indicators and measures may include but are not limited to the following:

Indicator	Performance Measure
Reduce vehicle miles traveled (VMT)/capita.	Transit trips, average vehicle occupancy on project, change in jobs + dwelling units, change in land use diversity, and neighborhood services accessibility.
Reduce congested VMT/capita	Congestion severity, travel time reliability, growth in project corridor
Increase multi-modal travel	Transit person-trips on segment, street connectivity, bike network connection, transit activity, residential mode split.
Economic prosperity: jobs	Job access, job growth
Economic prosperity: schools	School access, school enrollment
Economic prosperity: agriculture	Acres of ag land near project
Improve freight movement	STAA truck route status, truck mode, industrial jobs share, industrial job growth
Safety	Total collisions, Collision rate, bike/ped collision & rate
Maintain State of Good Repair	SHOPP, PCI, volumes
Socioeconomic Equity	EJ population, EJ percent, EJ accessibility
Matching funds obtained	

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ENVIRONMENTAL SUSTAINABILITY

Nationwide, the San Joaquin Valley suffers the worst air quality for certain pollutants. Tailpipe emissions, agriculture, industry and the geography of the Valley have resulted in high concentration of ozone and particulate matter that lead to a disproportionately high rate of respiratory diseases such as asthma. The Valley has also experienced severe drought, wildfire, flash flooding, and prolonged triple-digit summer temperatures that have been exacerbated by climate change. Transportation sector contributes far more than 40% of the greenhouse gas (GHG) emissions.

In order to respond to the State's goals of GHG reduction, and to improve air quality in the Fresno region, the Environmental Sustainability Program addresses these issues by providing funding for programs and projects that would increase the vehicle electrification rate, enable new technologies, facilitate non-single-occupancy-vehicle travel, and encourage sustainable land use development. In addition, in order to preserve the transportation investments made by the voters in Fresno County, and maintain a livable and enjoyable living environment, this Program also provides funding to encourage local agencies and Caltrans to remove litter from the roadways.

Providing a separate Renewal Program for environmental sustainability in no way implies these are the only funds within the Measure C Renewal Program dedicated to these purposes. In fact, each of the previous five (5) Renewal Programs all contain elements or provisions to improve air quality and reduce GHG emissions. This Program will provide funds over and above those contained within those other Renewal Programs.

The agencies listed below are eligible for Environmental Sustainability Program funding. Private sector, non-profit organizations, or other government agencies may also apply through a sponsoring local government agency where the project is located. The agencies listed below would be considered the Implementing Agency for each eligible project.

- 15 Incorporated cities within Fresno County.
- County of Fresno.
- Fresno Council of Governments.

Typically, the 16 local agencies in Fresno County would be the primary applicants for these funds; however, some projects or programs may be of a more regional nature, in which case Fresno COG or FCTA may be the logical applicant.

Funding Disbursement Process/Requirements

All the projects or programs under the Environmental Sustainability Program are competitive. Specific implementation policies and guidelines will be developed for each project type or program following Measure C Renewal approval by the voters.

Eligible Projects and Programs

CLEAN ENERGY

Approximately \$22 million (.32% of the Measure) is dedicated to this program.

- Charging stations, hydrogen fueling, CNG, etc.
- Regional Zero-Emission Vehicle Readiness and Implementation Plan (FCTA/FCOG staff or consultant services).
- Local agency Zero-Emission Vehicle Readiness and Implementation Plans.
- Clean vehicle power support facilities.
- Microgrid/solar EV battery charging.
- Other clean transportation projects or programs.

TRAVEL CHOICE

Approximately \$20 million (.29% of the Measure) is dedicated to this program.

- Micro mobility hubs (are designed to provide and identify a range of connected travel choices).

- Innovations in micro mobility (bicycles, e-bikes, electric scooters, electric skateboards, shared bicycles, and electric pedal assisted bicycles).
- Rideshare, and car and vanpool programs
- Increased opportunities for telecommuting.
- Broadband infrastructure for telecommuting and education facility purposes.

FUTURE TECHNOLOGIES

Approximately \$40 million (.59% of the Measure) is dedicated to this program.

- Other new technology applications.
- Future technology improvements.

TRANSIT ORIENTED PROGRAM (TOD) AND OPPORTUNITY CORRIDORS

Approximately \$45 million (.66% of the Measure) is dedicated to this program

TOD grants provide funding for transportation facilities in new or revitalized developments that support increased demand for transit with higher density and mixed land use. TOD developments reduce our dependence on the automobile by providing funding incentives for more public or alternative transportation.

The Measure C Renewal Program and its goal of vibrant communities that are accessible by sustainable transportation options, is integrally linked to the implementation of the Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). The selected RTP/SCS scenario will achieve the goals of reducing sprawl while supporting higher densities in urban areas with high quality public transit options.

As an example, the Fresno Opportunity Corridors (FOC) plan was developed as a part of the DRIVE initiative and is aimed at helping implement the Measure C Renewal Program, RTP/SCS and the Fresno General Plan. FOC has the potential to receive hundreds of millions of dollars from State, federal and philanthropic sources needed to build intense high quality equitable transit-oriented development (eTOD) with affordable housing and other desirable mixed-uses along eleven (11) miles of complete multi-modal streetscapes in central and south Fresno. It is also a model for all cities in Fresno County and the Valley that want vibrant places along their key corridors designed as high activity mixed-use centers that better meet the health, housing, jobs, business, recreation and transportation needs of their stakeholders while producing significant reductions in VMT and GHGs and improving environmental quality, fiscal efficiency, and many other opportunities. Implementation of Opportunity Corridors is an eligible expense within the Measure C Renewal Local Control Program. In addition, certain elements of Opportunity Corridors may also be eligible within the Urban and Rural Transit, Safe Bikes and Pedestrians, Major Roads and Highways, and Environment Sustainability Programs.

LITTER ABATEMENT
Approximately \$10 million (.15% of the Measure) is dedicated to this program.

Matching funds would be available on a one-for-one basis to secure Caltrans funding for increased litter abatement activities. One-half of the matching funds would come from the Measure C Environmental Sustainability Program and one-half would come from

any Measure C eligible agency that chooses to participate in the program.

Enhanced litter abatement would be limited to State highways in order to maximize Caltrans funding. In addition, the local matching funds for litter abatement would be eligible within the Local Control Program. Participating agencies may also provide a soft match in the form of time and materials.

Eligible Investments

Eligible investments would include all recognized project phases including:

- Planning and environmental analysis.
- Conceptual and preliminary engineering.
- Design engineering (PS&E).
- Right-of-way acquisition, support and relocation.
- Utilities relocation.
- Construction of any transportation-related project including alleys and unpaved roads.
- Inspection of construction engineering.
- Direct staff time (salary and benefits).
- Consultants selected consistent with a local agency selection process.
- Construction contractors selected consistent with a local agency selection process.
- Labor, materials, and equipment for day labor.

Project Requirements

CLEAN ENERGY

This program would fund clean and alternative energy projects such as hydrogen fueling, electric charging, compressed natural gas (CNG), projects etc., that reduces the production of GHG and priority pollutants. Local governments and other entities are encouraged to develop plans and deploy such clean energy projects systematically. When developing such plans, entities are encouraged to reach out to communities and solicit input from the public and the users. With a few possible exceptions to be determined by the Authority and its staff, clean energy projects do not include power generation or distribution facilities.

TRAVEL CHOICE

This program would fund micro-mobility and other projects that would reduce the use of private automobiles. Micro-mobility refers to a combination of small and low- speed vehicles and conveyances that are electric or human-powered and that are either privately owned or part of a shared-fleet. This program will also provide funding for programs or infrastructure that would facilitate telecommute and for support of car and vanpool programs.

FUTURE TECHNOLOGIES

This program would fund future unforeseen technologies that have potential for broad benefits to Fresno County residents, assisting the region in meeting its air quality goals. These should be projects of regional significance in the

areas of research, development, demonstration, and deployment that will advance public transit or transportation systems. These new technologies could focus on technological advances in public systems, safety features, fuel efficiencies and alternatives, ITS applications, and education or information dissemination. They may also promote passenger safety and satisfaction, attract customers, improve capital and operating efficiencies, reduce environmental and air pollution, and ease dependence on fossil fuels.

TRANSIT ORIENTED DEVELOPMENT (TOD)

This program was created as part of the 2006 Measure C Extension Plan. The goals of the Measure C Renewal TOD program are intended to support community-based housing projects that are transit friendly:

- Are developed through an inclusive planning process with broad private-public partnerships and outreach.
- Improve the range of transportation choices by supporting transit facilities and improving links between facilities and activity nodes.
- Support well-designed, high-density housing and mixed uses near transit.
- In addition to encouraging transit supportive land use surrounding the high-capacity transit corridors to boost transit ridership in the Fresno County region, the TOD program also strives to support livable, viable and sustainable transit-oriented healthy communities that promote walking, biking, and the use of public transit and reduce private vehicle dependence. Such

TOD communities promote health and well-being and reduce risks for chronic diseases such as obesity, diabetes, and heart disease. The projects funded by the TOD program serve as models that reduce vehicle trips, improve air quality, and provide access to physical activity opportunities through integrated land use and transportation planning.

The TOD program provides funding to three types of projects/programs that are competitive based:

- Transportation infrastructure improvements to transit facilities to encourage safety and access to transit facilities, support in-fill development or revitalization, reduce traffic congestion at transit stations, and provide for a wider range of transportation choices and improved internal mobility. Funds may be used for preliminary design and environmental studies, engineering, land acquisition, and construction.
- Planning Program or matching money to identify nodal transit sites on transit corridors for transit-oriented development, planning retrofit for existing neighborhoods, downtowns, commercial cores, and transit station areas and stops in order to create access to transit and mixed-use development in transit friendly environments. The community planning process would result in transportation/land-use concept plans; streetscape design concept plans, environmental studies, detailed drawings, construction cost estimates, and implementation plans for specific capital projects.

- Housing in-fill incentive programs would reward local governments for encouraging developers to build compact designs with higher housing densities, affordable and accessible housing, and mixed uses that are characteristic of well-implemented Transit Oriented Design found in other cities' developments in proximity to transit stops. Local government agencies may spend funds to supplement development fees or on a capital project that supports new housing development connections to transit.

LITTER ABATEMENT

Litter along the region's freeways, highways, and major arterials has been an on-going issue for Fresno County and its communities. This activity can provide matching funds to leverage additional resources for abatement, public education or additional community or government resources (Caltrans or other government agency grants).

Other Requirements

Grant application processes will be developed for these competitive programs and will include:

- Monitoring and reporting requirements.
- Audit process.
- Performance indicators.

Performance Indicators and Measures

Performance indicators and measures will be developed as a part of the competitive program criteria and will include:

- Matching funds obtained.

CITIZEN OVERSIGHT COMMITTEE

Committee Purpose

A Citizen Oversight Committee (COC) was established as a part of the 2006 Measure. That committee's efforts have been helpful in analyzing local agency conformance to Expenditure Plan requirements. Each year their findings are published within the Measure C Annual Report for public review. This proposed Measure will continue efforts of the COC with a number of key changes to help increase local agency accountability for Measure C funds spent, and to increase committee membership and participation.

The purpose of the COC is to inform the public and to ensure that the Measure C funding program revenues and expenditures are spent as promised to the public.

Administrative Issues

COMMITTEE FORMATION

- The Committee will be formed within 6 months upon the effective date of the 2022 Measure C Extension. (July 1, 2027).
- The Citizen Oversight Committee (Committee) shall not be amended out of the Expenditure Plan.
- Meetings will commence when Measure C Extension revenues are recommended for expenditure, including Expenditure Plan updates.

SELECTION AND DUTIES OF COMMITTEE CHAIR AND VICE CHAIR

- The Committee shall select a Chair and Vice Chair from the members, each of whom shall serve a one (1) year term.
- The duties of the Chair will be to call meetings, set agendas, and preside over meetings.
- The duties of the Vice chair will be to perform the same duties described above in the absence of the Chair.

COMMITTEE MEETINGS

- The Committee will hold one formal meeting annually, with additional meetings scheduled as needed by the Committee.
- All Committee meetings must be held in compliance with the Brown Act.
- All meetings will be conducted as per "Robert's Rules of Order."

SUBCOMMITTEE REQUIREMENTS

- The Committee may elect to form subcommittees to perform specific parts of its purpose.
- All subcommittees shall have an odd number of members so that tie votes are less likely.

COMMITTEE MEMBERSHIP AND QUORUM

Membership

The Committee shall be composed of eleven (11) members including:

- Six (6) at-large public members:
 - Membership must represent each one of the five Fresno County Supervisorial Districts; and
 - Three (3) must reside in the Fresno-Clovis Metropolitan Area (FCMA); and
 - Three (3) must reside in areas outside the FCMA, one from the east side, one from the west side and one from an unincorporated area of the county.
 - Five (5) members who must represent a diverse mix of interested community organizations. The members are expected to provide a balance of viewpoints.

Quorum

- A Quorum will be the majority of active members.
- An action item of the Committee may be approved by a simple majority of the quorum present.

Membership Selection

SELECTION COMMITTEE

Oversight Committee members will be selected by the Fresno Council of Governments Policy Board (the 15 mayors within Fresno County and the Chair of the Fresno County Board of Supervisors).

RECRUITMENT PROCESS

- Each year as terms expire or as vacancies occur, annual postings of membership openings will be noticed 60 days in advance of the application process pursuant to Public Utilities Code Section 99238.5.
- Potential members must submit an application to the Selection Committee.
- The Selection Committee will screen all applications and approve candidates for membership on the Committee.

TERM OF MEMBERSHIP

- Terms of membership will be for four (4) years.
- Members may serve consecutive terms.
- Members will receive compensation in the amount of \$50 for each meeting attended.
- No proxy voting will be permitted.

ELIGIBILITY

- U.S. citizen 18 years of age or older who resides in Fresno County.
- Not an elected official at any level government.
- Not a public employee from Fresno County, nor of any of the incorporated cities, in Fresno County, Caltrans, the Fresno County Transportation Authority (Authority), or the Fresno Council of Governments (Fresno COG).
- Restricted to individuals without economic interest in any of the Authority's projects.

STAFFING

- Fresno COG will staff the Committee and provide technical and administrative assistance to support and publicize the Committee's activities, with the staff assignment subject to approval of the Committee.
- Fresno COG services and any necessary outside services will be paid using the Fresno County Transportation Authority's Measure C Extension Administration Program revenues.
- Expert staff may be requested to provide information and make presentations to the Committee, as needed.
- The cities and County of Fresno shall each provide to the Citizen Oversight Committee, on an annual basis for a specific time period prescribed, and in a timely fashion, a specific report on the local jurisdiction's planned budget for Measure C fund expenditures and financial report on the use of those funds.

- The precise format of the report may be based on similar report formats for other jurisdictional monitoring but must be separate from the comprehensive agency budgets and general and enterprise fund financial reports of the cities and the County of Fresno and will be prescribed by the Citizen Oversight Committee.

RESPONSIBILITIES

COC responsibilities generally include the following:

- Receive, review, inspect, and recommend action on independent financial and performance audits related to the planning and implementation of the Measure C Extension program.
- Receive, review, and recommend action on other periodic reports, studies, and plans from responsible agencies including the Authority, Fresno COG, the Cities, the County or other agencies. Such reports, studies and plans must be directly related to Measure C Extension programs, revenues, or expenditures.
- Review and comment upon Measure C Extension expenditures to ensure that they are consistent with the Expenditure Plan.
- Annually review how sales tax receipts are being spent and publicize the results.
- Present committee recommendations, findings, and requests to the public and the Authority in a formal annual report.

FOR MORE INFORMATION

Contact the Authority or Fresno COG to inquire about the Measure C Renewal Extension process, discuss the candidate projects and programs contained in this Plan or to learn more about the current Measure C Extension Program.

Fresno Council of Governments

Fresno COG

ADD 2035 Tulare Street, Suite 201
Fresno, CA 93721

PH (559) 233-4148

FAX (559) 233-9654

WEB www.fresnocog.org

Fresno County Transportation Authority

ADD 2220 Tulare Street, Suite 2101
Fresno, CA 93721

PH (559) 600-3282

FAX (559) 600-1499

WEB www.measurec.com

Visit the Fresno COG Website at www.fresnocog.org for more information, to sign up for our email list, and to receive updates on Measure C planning activities.

Visit the Authority Website at www.measurec.com for more information, to sign up for our email list, and to receive updates on current Measure C projects.

A copy of the implementing guidelines is available at:

www.measurecrenewal.com



CITY of CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Public Utilities Department

DATE: August 1, 2022

SUBJECT: Public Utilities – Approval – Enter into a Contract with Stantec Consulting Services, Inc. to Provide Consulting Services for Evaluation and Long-Range Planning of the Surface Water Treatment Plant.

ATTACHMENTS: 1. Consultant Services Agreement

CONFLICT OF INTEREST

None.

RECOMMENDATION

1. For the City Council to award a contract for the Surface Water Treatment Plant Evaluation to Stantec Consulting Services, Inc. in the amount of \$317,400.
2. For City Council to authorize the City Manager to execute the contract on behalf of the City.

EXECUTIVE SUMMARY

Staff is recommending that Council authorize the City Manager to execute a contract with Stantec Consulting Services, Inc. (Stantec) in the amount of \$317,400, based on a review of proposals received in response to a Request for Proposals (RFP) posted on May 13, 2022. The RFP requested proposals from qualified firms with experience in evaluating existing conditions of surface water treatment plants and providing solutions for plant improvement and long-range planning.

The Surface Water Treatment Plant Evaluation is a comprehensive and long-term engineering document intended to evaluate the City's existing surface water treatment plant (SWTP) and provide upgrade and maintenance recommendations to ensure the facility can reliably produce high-quality drinking water now and in the future. The work for this project includes the evaluation of existing processes at the SWTP, recommendations for mitigating potential deficiencies, developing treatment processes to meet future demand and regulatory conditions, and preparing cost estimates for the proposed facility improvements.

BACKGROUND

The SWTP was originally placed into operation in 2004 with the capacity to treat 15 million gallons per day (mgd), and was expanded to treat 22.5 mgd in 2014. The plant has been in operation for nearly 20 years and effectively produces high-quality drinking water. There are some operational limitations in the existing plant, along with the aging facilities, that need to be assessed in order to provide long-term solutions to keep the plant running at optimum performance. The evaluation includes assessment of the physical system and systematic guidance for near- and long-term facility upgrades. It will address maintenance and improvement projects required for the plant to reliably produce 22.5 mgd of high-quality drinking water, while also considering the master planned expansion of the SWTP to treat the build-out capacity of 45 mgd. The evaluation includes identifying potential future regulatory constraints and mitigation. Appropriately planning the operation and expansion of the SWTP provides for the orderly growth of our City, while continuing to meet the State of California objectives of reducing reliance on groundwater under the Sustainable Groundwater Management Act (SGMA).

City staff prepared a Request for Proposals (RFP) in May 2022, seeking a qualified and experienced consulting firm to provide engineering services for the Surface Water Treatment Plant Evaluation. The City received three proposals in response to the RFP posted on May 13, 2022. A review committee was assembled to evaluate each of the proposals in accordance with the guidelines set forth in the RFP. The committee found that the proposals were responsive and qualified to perform the requested work. Interviews were scheduled with the respondents on June 27 and June 28, 2022. The review committee interviewed each of the three consultants. Based on the criteria outlined in the RFP, the committee deemed Stantec to be the most qualified consultant to perform the work.

FISCAL IMPACT

Funds have been budgeted in the 2022/23 Fiscal Year with funding from the Water Enterprise Fund and the Water Development Fund. Sufficient funds are available for the anticipated costs of the project.

REASON FOR RECOMMENDATION

City staff have determined that Stantec is the most qualified consultant to perform the Surface Water Treatment Plant Evaluation. This work will provide a short- and long-term planning document outlining upgrade and maintenance projects needed to ensure the SWTP's ability to reliably produce 22.5 mgd of high-quality drinking water, while considering future expansion of the SWTP per the water master plan. This will enable staff to properly plan and budget for the associated improvements.

ACTIONS FOLLOWING APPROVAL

The City Manager will execute a contract with Stantec to initiate work on the Surface Water Treatment Plant Evaluation.

Prepared by: Kevin Tuttle, Civil Engineer

Reviewed by: City Manager *AH*

**CITY OF CLOVIS
CONSULTANT SERVICE AGREEMENT**

This Consultant Services Agreement ("Agreement") is entered into between the City of Clovis, a California general law city ("City") and Stantec Consulting Services, Inc ("Consultant") with respect to the following recitals, which are a substantive part of this Agreement. This Agreement shall be effective on _____ ("Effective Date").

RECITALS

- A. City desires to obtain professional consulting services for the preparation of a Surface Water Treatment Plant Evaluation ("Services") more fully described in **Exhibit A**, and, if applicable, as further set forth in the proposal from Consultant attached as **Exhibit B**, which are incorporated herein by reference.
- B. Consultant is engaged in the business of furnishing the Services and hereby warrants and represents that Consultant is qualified, experienced, and capable of performing the Services, and possesses any required licenses, certifications, security/bonding, and/or training necessary to perform the Services.
- C. City desires to retain Consultant, and Consultant desires to provide the City with the Services, on the terms and conditions as set forth in this Agreement.

NOW, THEREFORE, in consideration of the promises and mutual agreements herein, City and Consultant agree as follows:

AGREEMENT

1. **Scope of Services.** Consultant shall perform the Services described in the Recitals and detailed in **Exhibits A & B**. Changes in the scope of Services, including the work performed and/or deliverables produced, shall be made in writing and particularly describe the changes in Services, including payment/costs and schedule/term, as applicable.
2. **Priority and Conflicts; Exclusions.** If the terms and requirements of this Agreement and/or **Exhibit A** conflict with **Exhibit B**, this Agreement and **Exhibit A** shall control. No contractual terms and/or conditions found in **Exhibit B** shall purport to waive, disclaim, or limit Consultant's liability, indemnification obligations, warranties, damages for breach or delay, or any security, bonding, or insurance requirements, and any such provisions shall have no force or effect with respect to this Agreement and the Services performed by Consultant.
3. **Term of Agreement; Commencement of Services; Schedule.** Consultant shall begin performing the Services on August 2nd, 2022, unless otherwise instructed by City, and continue with the Services until satisfactorily completed, as determined by City. Consultant shall complete the Services not later than August 2nd, 2023 ("Completion Date"), unless extended beyond this date by mutual consent of the Parties. This Agreement may be terminated prior to the Completion Date pursuant to Section 17 herein. Consultant shall perform the Services according to the schedule set forth in **Exhibits A and/or B**, if applicable. If no schedule is set forth in **Exhibits A and/or B**, City and Consultant shall mutually agree on a schedule for performance of the Services and completion of any deliverables. The schedule shall be subject to modification based on the City's operational needs. City will notify Consultant in advance of any modification to the schedule.

Payment for Services. City shall pay Consultant for the Services performed pursuant to this Agreement according to the rate(s) stated in **Exhibit A** or in Consultant's Proposal, which is set forth in **Exhibit B**, as applicable. The total amount paid by City to Consultant shall not exceed Three Hundred and Seventeen Thousand Four Hundred Dollars (\$317,400).

4. The foregoing is inclusive of all labor, equipment, materials, costs and expenses, taxes, and overhead. City shall pay Consultant for Services satisfactorily performed pursuant to this Agreement. Consultant shall submit monthly invoices to City containing detailed billing information regarding the Services provided and unless otherwise specified in **Exhibit A**, City shall tender payment to Consultant within thirty (30) days after receipt of invoice.
5. Independent Contractor Status. Consultant and its subcontractors shall perform the Services as independent contractors and not as officers, employees, agents or volunteers of City. Consultant is engaged in an independently established trade, occupation, or business to perform the Services required by this Agreement and is hereby retained to perform work that is outside the usual course of City's business. Consultant is free from the control and direction of City in connection with the manner of performance of the work. Nothing contained in this Agreement shall be deemed to create any contractual relationship between City and Consultant's employees or subcontractors, nor shall anything contained in this Agreement be deemed to give any third party, including but not limited to Consultant's employees or subcontractors, any claim or right of action against City.
6. Consultant Representations; Standard of Care; Compliance with Law. Consultant represents that Consultant and any subcontractors utilized by Consultant are and will be qualified in the field for which Services are being provided under this Agreement and Consultant and any subcontractors are now, and will be throughout their performance of the Services under this Agreement, properly licensed, certified, secured/bonded, trained, and/or otherwise qualified and authorized to perform the Services required and contemplated by this Agreement, as may be required by law. Consultant and its subcontractors shall utilize the standard of care and skill customarily exercised by members of their profession, shall use reasonable diligence and best judgment while performing the Services, and shall comply with all applicable laws, regulations, and industry standards.
7. Identity of Subcontractors and Sub-Consultants. Consultant shall, before commencing any work under this Agreement, provide to City in writing: (a) the identity of all subcontractors and sub-consultants (collectively referred to as "subcontractors"), if any, Consultant intends to utilize in Consultant's performance of this Agreement; and (b) a detailed description of the full scope of work to be provided by such subcontractors. Consultant shall only employ subcontractors pre-approved by City and in no event shall Consultant replace an approved subcontractor without the advance written permission of City, with the understanding that City's permission will not be unreasonably withheld. Notwithstanding any other provisions in this Agreement, Consultant shall be liable to City for the performance of Consultant's subcontractors.
8. Subcontractor Provisions. Consultant shall include in its written agreements with its subcontractors, if any, provisions which: (a) impose upon the subcontractors the obligation to provide to City the same insurance and indemnity obligations that Consultant owes to City; (b) make clear that City intends to rely upon the reports, opinions, conclusions and other work product prepared and performed by subcontractors for Consultant; and (c) entitle City to impose upon subcontractors the assignment rights found elsewhere in this Agreement.
9. Power to Act on Behalf of City. Consultant is not acting as an agent of City and shall not have any right, power, or authority to create any obligation, express or implied, or make representations on behalf of City except as may be expressly authorized in advance in writing from time to time by City and then only to the extent of such authorization.
10. Record Keeping; Reports. Consultant shall keep complete records showing the type of Services performed. Consultant shall be responsible and shall require its subcontractors to keep similar records. City shall be given reasonable access to the records of Consultant and its subcontractors for inspection and audit purposes. Consultant shall provide City with a working draft of all reports upon reasonable request by City and of all final reports prepared by Consultant under this Agreement.
11. Ownership and Inspection of Documents. Upon full payment of all monies owed to Consultant under this

Agreement, all data, tests, reports, analyses, documents, records, conclusions, opinions, recommendations and other work product generated by or produced for Consultant or its subcontractors in connection with the Services, regardless of the medium, including physical drawings and materials recorded on computer discs or other electronic devices ("Work Product"), shall be and remain the property of City. City shall have the right to use, copy, modify, and reuse the Work Product as it sees fit. Upon City's request, Consultant shall make available for inspection and copying all such Work Product and all Work product shall be turned over to City promptly at City's request or upon termination of this Agreement, whichever occurs first. Consultant shall not release any Work Product to third parties without prior written approval of City. This obligation shall survive termination of this Agreement and shall survive for four (4) years from the date of expiration or termination of this Agreement. The City agrees, to the fullest extent permitted by law, to indemnify and hold Consultant harmless from any claim, liability or cost (including reasonable attorney's fees and defense costs) arising or allegedly arising out of any reuse or modification of the Work Product by the City or any person or entity that obtains the Work Product from or through the City.

12. Confidentiality. All Work Product prepared and performed by and on behalf of Consultant in connection with the Services performed pursuant to this Agreement shall be kept confidential and shall be disclosed only to City, unless otherwise provided by law or expressly authorized by City. Consultant shall not disclose or permit the disclosure of any confidential information acquired during performance of the Services, except to its agents, employees and subcontractors who need such confidential information in order to properly perform their duties relative to this Agreement. Consultant shall also require its subcontractors to be bound to these confidentiality provisions. The restrictions on use and disclosure of confidential information shall not apply to information which (a) was known to Consultant before receipt of same from City; (b) becomes publicly known other than through Consultant; or (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

13. City Name and Logo. Consultant shall not use City's name or insignia, photographs relating to the City projects or work for which Consultant's services are rendered, or any publicity pertaining to the Consultant's Services under this Agreement in any magazine, trade paper, newspaper, television or radio production, internet website, social media, or other similar medium without the prior written consent of City.

14. Conflicts of Interest. Consultant warrants that neither Consultant nor any of its employees have an improper interest, present or contemplated, in the Services which would affect Consultant's or its employees' performance of the Services and the Work Product produced. Consultant further warrants that neither Consultant nor any of its employees have real property, business interests or income that will be affected by the Services. Consultant covenants that no person having any such interest, whether an employee or subcontractor shall perform the Services under this Agreement. During the performance of the Services, Consultant shall not employ or retain the services of any person who is employed by the City or a member of any City Board or Commission.

15. Non-liability of Officers and Employees. No officer or employee of City shall be personally liable to Consultant, or any successors in interest, in the event of a default or breach by City for any amount which may become due Consultant or its successor, or for any breach of any obligation under the terms of this Agreement.

16. City Right to Employ Other Consultants. Unless **Exhibit A** specifically provides that the Services City seeks pursuant to this Agreement are exclusive to Consultant, this Agreement and performance of the Services are non-exclusive and City reserves the right to employ other consultants in connection with the Services while this Agreement is in effect.

17. Termination of Agreement. This Agreement shall terminate as provided in Section 3, unless terminated earlier pursuant to the following:

a. Termination by City: For Convenience. City may at its discretion terminate this Agreement for convenience and without cause upon fourteen (14) days prior written notice to Consultant. Upon receipt of a

termination notice pursuant to this subsection, Consultant shall promptly discontinue all Services affected, unless the notice directs otherwise.

- b. Termination by City or Consultant: For Cause. Either party may terminate this Agreement upon ten (10) days prior written notice to the other party of a material breach, and a failure within that time period to cure or commence reasonable steps to cure the breach.
- c. Compensation to Consultant Upon Termination. Consultant shall be paid compensation for Services satisfactorily performed prior to notice of termination. As to any phase partially performed but for which the applicable portion of Consultant's compensation has not become due, Consultant shall be paid the reasonable value of its Services provided. However, in no event shall such payment when added to any other payment due under the applicable part of the work exceed the total compensation of such part as specified Section 4.
- d. Effect of Termination. Upon termination of this Agreement, Consultant shall: (i) promptly discontinue all Services affected, unless the notice of termination directs otherwise; and (ii) deliver or otherwise make available to the City, without additional compensation, all Work Product and/or deliverables accumulated by the Consultant in performing this Agreement, whether completed or in process. Consultant may not refuse to provide such Work Product for any reason whatsoever.

18. Insurance. Consultant shall satisfy the insurance requirements set forth in **Exhibit C**.
19. Indemnity. Consultant hereby agrees to indemnify and hold the City, its officials, officers, employees, agents, and volunteers harmless from and against all claims, demands, causes of action, actions, damages, losses, expenses, and other liabilities, (including without limitation reasonable attorney fees and costs of litigation) caused by the errors, omissions or negligence of Consultant or its subcontractors relating to the performance of Services described herein to the fullest extent permitted by law, unless the injuries or damages are the result of City's negligence or willful misconduct, subject to any limitations imposed by law. Consultant and City agree that said indemnity obligations shall survive the expiration or termination of this Agreement for any items specified herein that arose or occurred during the term of this Agreement.

The total amount of all claims the City may have against Consultant under this Agreement or arising from the performance or non-performance of the Services under any theory of law, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited to the lesser of the compensation paid to Consultant under this Agreement or \$500,000. As the City's sole and exclusive remedy under this Agreement, any claim, demand or suit shall be directed and/or asserted only against Consultant provided Consultant continues as a going concern and a duly authorized corporation doing business in California, and not against any of Consultant's employees, officers or directors.

Neither the City nor Consultant shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected to this Agreement or the performance of the Services. This mutual waiver includes, but is not limited to, damages related to loss of use, loss of profits, loss of income, unrealized energy savings, diminution of property value or loss of reimbursement or credits from governmental or other agencies.

20. Taxes. Consultant agrees to pay all taxes, licenses, and fees levied or assessed by any governmental agency on Consultant incident to the performance of Services under this Agreement, and unemployment and workers' compensation insurance, social security, or any other taxes upon the wages of Consultant, its employees, agents, and representatives. Consultant agrees to obtain and renew an annual business tax certificate from City and pay the applicable annual business registration tax to City during the term of this Agreement.

21. Assignment. Neither this Agreement nor any duties or obligations hereunder shall be assignable by Consultant without the prior written consent of City. In the event of an assignment to which City has consented, the assignee shall agree in writing to personally assume and perform the covenants, obligations, and agreements herein contained. In addition, Consultant shall not assign the payment of any monies due Consultant from City under the terms of this Agreement to any other individual, corporation or entity. City retains the right to pay any and all monies due Consultant directly to Consultant.
22. Form and Service of Notices. Any and all notices or other communications required or permitted by this Agreement or by law to be delivered to, served upon, or given to either party to this Agreement by the other party shall be in writing and shall be deemed properly delivered, served or given by one of the following methods:
- a. Personally delivered to the party to whom it is directed. Service shall be deemed the date of delivery.
 - b. Delivered by e-mail to a known address of the party to whom it is directed provided the e-mail is accompanied by an acknowledgment of receipt by the other party. Service shall be deemed the date of acknowledgement.
 - c. Delivery by a reliable overnight delivery service, ex., Federal Express, receipted, addressed to the addressees set forth below the signatories to this Agreement. Service shall be deemed the date of delivery.
 - d. Delivery by deposit in the United States mail, first class, postage prepaid. Service shall be deemed delivered ninety-six (96) hours after deposit.
23. Entire Agreement. This Agreement, including the Exhibits and any other attachments, represents the entire Agreement between City and Consultant and supersedes all prior negotiations, representations or agreements, either written or oral with respect to the subject matter herein. This Agreement may be amended only by written instrument signed by both City and Consultant.
24. Successors and Assigns. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.
25. Authority. The signatories to this Agreement warrant and represent that they have the legal right, power, and authority to execute this Agreement and bind their respective entities. Evidence of Consultant's authority is attached as **Exhibit D**.
26. Severability. In the event any term or provision of this Agreement is declared to be invalid or illegal for any reason, this Agreement will remain in full force and effect and will be interpreted as though such invalid or illegal provision were not a part of this Agreement. The remaining provisions will be construed to preserve the intent and purpose of this Agreement and the parties will negotiate in good faith to modify any invalidated provisions to preserve each party's anticipated benefits.
27. Applicable Law and Interpretation and Venue. This Agreement shall be interpreted in accordance with the laws of the State of California. The language of all parts of this Agreement shall, in all cases, be construed as a whole, according to its fair meaning, and not strictly for or against either party. This Agreement is entered into by City and Consultant in the County of Fresno, California. Consultant shall perform the Services required under this Agreement in the County of Fresno, California. Thus, in the event of litigation, venue shall only lie with the appropriate state or federal court in Fresno County.
28. Amendments and Waiver. This Agreement shall not be modified or amended in any way, and no provision shall be waived, except in writing signed by the parties hereto. No waiver of any provision of this Agreement shall be deemed, or shall constitute, a waiver of any other provision, whether or not similar, nor shall

any such waiver constitute a continuing or subsequent waiver of the same provision. Failure of either party to enforce any provision of this Agreement shall not constitute a waiver of the right to compel enforcement of the remaining provisions of this Agreement.

29. Third Party Beneficiaries. Nothing in this Agreement shall be construed to confer any rights upon any party not a signatory to this Agreement.

30. Execution in Counterparts. This Agreement may be executed in counterparts such that the signatures may appear on separate signature pages. A copy or an original, with all signatures appended together, shall be deemed a fully executed Agreement.

31. Alternative Dispute Resolution. If a dispute arises out of or relating to this Agreement, or the alleged breach thereof, and if said dispute cannot be settled through negotiation, the parties agree first to try in good faith to settle the dispute by non-binding mediation before resorting to litigation. The mediator shall be mutually selected by the parties, but in case of disagreement, the mediator shall be selected by lot from among two nominations provided by each party. All costs and fees required by the mediator shall be split equally by the parties, otherwise each party shall bear its own costs of mediation. If mediation fails to resolve the dispute within thirty (30) days, either party may pursue litigation to resolve the dispute.

Demand for mediation shall be in writing and delivered to the other party to this Agreement. A demand for mediation shall be made within reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the demand for mediation be made after the date when institution of legal or equitable proceedings based on such a claim, dispute or other matter in question would be barred by California statutes of limitations.

32. Non-Discrimination. Consultant shall not discriminate on the basis of any protected class under federal or State law in the provision of the Services or with respect to any Consultant employees or applicants for employment. Consultant shall ensure that any subcontractors are bound to this provision. A protected class, includes, but is not necessarily limited to race, color, national origin, ancestry, religion, age, sex, sexual orientation, marital status, and disability.

33. Force Majeure. The parties acknowledge the ongoing COVID-19 pandemic and the uncertainty that may be created by various federal, state and local orders purported to address the pandemic and the impact such orders may have on the ability of the parties to perform their respective obligations under this Agreement as contemplated by the parties at the time the Agreement was entered. To the extent that there are schedule impacts resulting from the COVID-19 pandemic, Consultant shall be entitled to an equitable extension of the Completion Date for Services. Any default in the performance of this Agreement caused by any of the following events preventing such performance and without fault or negligence on the part of the defaulting party shall constitute a force majeure event and not constitute a breach of contract: labor strikes, riots, war, acts of terror, acts of governmental authorities, acts of God, unusual acts of nature or other natural catastrophe, pandemic or any other cause beyond the reasonable control or contemplation of either party. Nothing herein relieves the City of its obligation to pay Consultant for the Services performed under this Agreement.

Now, therefore, the City and Consultant have executed this Agreement on the date(s) set forth below.

CONSULTANT

CITY OF CLOVIS

By: _____

By: _____

John Holt, City Manager

Date: _____

Date: _____

Party Identification and Contact Information:

Consultant

Stantec Consulting Services, Inc
Attn: Michael Price
Vice President
1340 Treat Blvd., Suite 300
Walnut Creek, California 94597
Michael.Price@stantec.com
1 (925) 627-4712

City of Clovis

Public Utilities Department
Attn: Nicholas Torstensen
Supervising Civil Engineer
155 N Sunnyside
Clovis, CA 93611
Nicholast@cityofclovis.com
1 (559) 324-2662

ATTEST

_____, City Clerk

APPROVED AS TO FORM

_____, City Attorney

file:///J:\WDOCS\00601\037\AGT\00661286.DOC

EXHIBIT A

DESCRIPTION OF SERVICES

SCOPE OF SERVICES

The City's objectives of for the Surface Water Treatment Plant Evaluation Project (Project) are: improving pretreatment; taste and odor (T&O) control; residuals handling improvements; additional clear well storage; planning for current/future water quality regulations, future water quality changes in the Enterprise Canal; expansion of the SWTP to 45 mgd capacity; and development of a Capital Improvement Program to logically sequence design and construction of identified projects. This Scope of Work discusses the major tasks, additional subtasks to address critical engineering issues and explore potential innovative solutions, and coordination of tasks to minimize cost and schedule.

TASK 1: PROJECT MANAGEMENT

This task includes all work by Stantec to effectively manage the scope, cost and schedule of the Project. This includes but is not limited to the following activities and deliverables identified below:

A. **Contract Administration:**

1. Prepare and submit monthly progress reports and invoices.
2. Prepare and submit invoices accompanied with backup supporting the amount being invoiced monthly, as stated in the contract. At a minimum, all invoices shall include the hours worked on the project by scope of work task, the estimated remaining budget for each scope of work task, the percent complete for each scope of work task, and a brief description of the work completed during the billing period. Each invoice shall include a summary of the project as a whole, and the budget expended and percent complete for all tasks included in the scope of work.
3. Coordinate in-house staff (no subconsultants are planned) to assure free and timely flow of information for each task activity.

B. **Project Control:**

1. Prepare a Project Implementation Plan that includes project scope, schedule, budget, project team members, contact information, and templates for deliverables.
2. Prepare a detailed schedule and submit an updated electronic file schedule on a quarterly or as-needed basis. Project progress shall be tracked on the schedule and submitted to City staff for review with monthly invoices.
3. Develop and maintain QA/QC protocols. Stantec will utilize company standards of a quality control review and an independent review of all project deliverables.
4. Maintain project records.

C. **Project Communication**

1. Prepare and submit correspondence and memos, including all meeting minutes.

2. Support and prepare materials as may be requested for meetings beyond those dictated as part of the environmental process including but not limited to: City presentations, Technical Advisory Committees, and other stakeholders.

D. Project Meetings:

1. Initiate and conduct monthly Project Development Team meetings (first to begin two months from NTP). Stantec assumes that the monthly meetings will be in person and will be combined with the coincident weekly progress calls described in D.3. below.
2. Project Kickoff and Data Collection and Review. Stantec will provide a request for information matrix detailing potential data needs two weeks prior to the project kickoff meeting. During the kickoff meeting, it is anticipated that City staff will have either obtained the necessary information or provide a status update by the Kickoff Meeting to enable the Consulting team to move forward. The Kickoff Meeting will consist of the required key personnel to establish positive direction for the project. Stantec will provide City staff a list of desired personnel to attend the Kickoff Meeting. Stantec will prepare and submit meeting minutes from the Kickoff Meeting to City staff for review and approval.
3. Coordination meetings as may be required to obtain required deliverables. Weekly progress calls (approximately 30 to 60 minutes in duration) via Microsoft Teams will be held to discuss work completed during the previous week, upcoming tasks, scheduled meetings/workshops, and action items for Stantec and the City. Meeting agendas with preliminary summaries will be transmitted to the City's Project Manager prior to the progress calls, updated during the calls and re-submitted following the calls.

Deliverables:

- Project Implementation Plan
- Project Schedule
- Project Correspondence and Meeting Minutes

TASK 2: SURFACE WATER TREATMENT PLANT EVALUATION

This task includes all work by Stantec to prepare an evaluation for the existing and planned expansion of the City of Clovis Surface Water Treatment Plant (SWTP). This includes, but is not limited to:

1. The source water quality and its seasonal variability
2. The evaluation of the overall SWTP process and facilities
3. The scalability of the SWTP
4. Long-term planning objectives of the SWTP
5. Recommended modifications or improvements to the treatment process and plant facilities (e.g., pretreatment, T&O considerations, additional clear well capacity, etc.)

This task may include but is not limited to the following activities and deliverables identified below:

A. Source Water Quality Documentation:

Stantec will review all available information as it relates to existing source water quality from the Enterprise Canal taking note of any seasonal variability.

For this sub-task, Stantec will conduct an evaluation of a least five to ten years of water quality data to identify significant trends in important parameters and correlate those trends and unusual events to water treatment challenges. Stantec will conduct statistical analyses of available data and time series graphs of major parameters including but not limited to turbidity, pH, temperature, TOC, geosmin and algae counts (if available). If correlations appear, additional analyses will be performed and graphed.

Review of future source water quality and upcoming rules and regulations is included in Task 3. To provide a comprehensive understanding of historical source water quality, water quality trends and the relationships to current and anticipated future regulations, Stantec will combine those tasks with the Source Water Quality Documentation sub-task to provide a complete picture of how water quality affects treatment and regulatory compliance, now and in the planning horizon.

B. SWTP Existing Process Evaluation:

Stantec will evaluate the existing facilities and their ability to adequately treat and discharge high quality drinking water to the City of Clovis. Stantec will provide a narrative explaining the treatment process of the plant from the canal source water to discharge into the distribution system, estimate capacity under a range of raw water quality conditions using the USEPA/AWWA Comprehensive Performance Evaluation guidelines, and evaluate and identify limitations in the process that negatively impact the ability of the facility to treat 22.5 mgd of water reliably.

The process evaluation shall include, but not be limited to, the following:

1. Control Structure and Intake Screens. Stantec will evaluate the intake and control structure on the Enterprise Canal for capacity constraints and for sustainability. This evaluation will address long-term concerns, such as canal settlement, organics, and contaminant warnings. Enhancements to the intake screening process will be considered to mitigate seasonal influent quality issues.
2. Pretreatment Process. Stantec will evaluate the pretreatment system process and its ability to treat water with the water quality constraints identified in Task A. The evaluation shall consider the City's existing operation of the SWTP, the limitations due to design of the pretreatment basin and wet well, bypass requirements, compatibility with the existing membrane filtration, and other ancillary items impacting the design and operations of the pretreatment system. Finally, site constraints shall be evaluated based on the limited availability for land within the existing SWTP footprint. Stantec will provide three alternative solutions to provide a reliable pretreatment process with a cost benefit analysis and recommended solution. The alternative process to be evaluated include but are not limited to:
 - a. Plate Settlers
 - b. Dissolved Air Flotation
 - c. Disk Filters between the existing Actiflo process and the microfiltration (MF) system
3. Membrane Facilities. In combination with the pretreatment process evaluation, Stantec will evaluate the MF facilities, MF pump station, and ancillary facilities for their ability to meet the needs of the SWTP to reliably provide 22.5 MGD. In combination with the source water quality documentation, Stantec will assess how the performance of the MF system varies with changes in source water quality, particularly during high turbidity, algae and other unusual events. This work will also include an assessment of how performance, particularly flux and specific flux decline, would change with pretreatment.

4. Sludge Handling Facilities. Stantec will evaluate the sludge handling facilities, including the Pretreatment Sludge Pump Station, the Residual Drying Beds, and the Decant Pump Station. This task will include a review of the existing system operations and potential efficiencies to be gained in the receiving and drying process.

The SWTP may benefit from a thickening process between the washwater treatment unit and the drying beds to reduce the amount of water processed. Multiple technologies are available for dewatering sludge, including centrifuges, screw presses and belt presses. In addition to evaluating the existing sludge handling facilities, Stantec will evaluate options for thickening and mechanical dewatering of the plant's sludge.

5. Clear Well, Disinfection, and Effluent Pump Station. Stantec will evaluate the existing clear well and effluent pump station operations based on available SCADA information. This includes evaluating the overall capacity of the clear well as compared to the treatment plant and existing effluent pump station discharges. This analysis shall validate the 2017 Water System Master Plan storage tank sizing and provide considerations for future system operations.

The existing clear well is used to achieve disinfection CT credit as well as for operational storage and (presumably) emergency storage. The 2017 Water System Master Plan recommended an additional 3.5 million gallons of storage at the plant. Stantec will review available diurnal demands to estimate operational storage requirements; obtain flow, temperature, pH and chlorine residual data to determine CT requirements; and work with City staff to develop scenarios to estimate the need for emergency storage. Stantec will also evaluate the potential benefits of using part of one tank for CT credit and the remainder of that tank and all of the other tank for operational and emergency storage.

6. Stantec will evaluate the potential to alter the process between MF and the clear well to include a removal mechanism for seasonal taste, odor, and color. Three alternative solutions for taste, odor and color treatment with a cost benefit analysis and recommended solution will be prepared. At least one of the options will include ozonation, as well as options for other applicable technologies, to meet the needs of the plant and City customers.

Stantec will evaluate the primary T&O technologies available to constructed between the MF filters and the clear well: ozone, ozone enhanced by peroxide, and UV enhanced by peroxide. Because both ozone and UV can also be used for disinfection the impacts on use of the clear well for CT credit will be included in the evaluation.

In addition to T&O control between MF and the clear well, Stantec will evaluate pre-ozonation and intermediate ozonation. The hydraulics of the plant between the intake and the MF feed pump suction are limited. However, there may be enough "hydraulic space" to fit either pre-ozonation ahead of pretreatment or intermediate ozonation between pretreatment and the MF feed pumps without needing to pump the water again.

To aid in the evaluation of T&O control alternatives, Stantec will sample MF filtered water for UV transmittance (UVT) to determine the size of UV reactors needed for UV/peroxide treatment. Stantec will also conduct ozone bench scale testing of raw, settled (in the laboratory) and MF filtered water to develop ozone demand/decay parameters and determine geosmin removal rates at three doses. The test results can be used to size new ozonation facilities.

Deliverables:

- Historical and future source water quality and regulatory summary TM
- Existing process performance summary TM
- Ozone bench scale testing summary TM
- Treatment, clear well storage and effluent pump station alternatives evaluation TM

TASK 3: SWTP FUTURE SYSTEM EVALUATION

The future system evaluation of the SWTP shall include a review of the following items, and their impacts to the existing system as evaluated in the previous task:

A. Source Water Quality and Quantity Changes:

Stantec will evaluate the existing facilities based on the future SWTP capacity needs. Improvement recommendations will be made to meet the needs of the existing system, and improvements to accommodate future growth demands. In addition, Stantec will consider source water quality changes if the City were to construct a new source water pipe directly from the headworks on the Kings River.

B. SWTP Scalability and Site Constraints:

Stantec will evaluate the scalability of the existing process trains, as outlined in Task 2.C., for their ability to meet a design capacity of 45 MGD and a possible expansion to 65 MGD in the future. This includes evaluating potential storage needs at the clear well, and evaluation of the site to determine the most reasonable location of the planned future facilities. Based on the improvement recommendations of Task 3.A., Stantec will provide a tentative site layout for the existing and proposed SWTP will be provided. Should additional land be needed for site expansion, Stantec shall work with City staff to identify the land needed and provide for the associated infrastructure required to meet the expanded site requirements.

In addition to the processes discussed in Task 2, Stantec will evaluate submerged membranes (with or without pretreatment) and granular media filtration in parallel with the MF filters.

C. Upcoming Rules and Regulations:

In combination with Task 2.A., Stantec will evaluate the existing and planned plant treatment process for conformance with upcoming rules and regulations regarding water treatment. This includes the potential for revisions to the Total Coliform Rule, the Lead and Copper Rule, Microplastics, and other various changes to the California Safe Drinking Water Act. Stantec will also identify how modifications to the SWTP may impact the current operating Permit. Meetings with regulators, as necessary, shall be conducted to understand and plan for potential changes that may occur, and those changes shall be considered in the planning process.

D. Project Alternatives

Stantec will develop up to five alternative process and site combinations that would meet the needs of the existing system and be expandable to 45 mgd. In support of these alternatives, Stantec will prepare process design criteria, process flow diagrams, and hydraulic analyses to determine how processes would fit within the existing plant hydraulic profile. Class 5 opinions of probable construction costs, annual operation and maintenance costs, and lifecycle present worth estimates will be prepared for all alternatives. As a means of supporting/verifying the cost opinions, Stantec will provide references for recent, actual project construction costs for similar new or upgraded processes and facilities.

Deliverables:

- Tasks 3.A. and 3.C. combined with Task 2 deliverables
- Combined process and site alternatives evaluation per Tasks 3.B. and 3.D., including cost estimates

TASK 4: CAPITAL IMPROVEMENT PROGRAM

Based on the findings in Tasks 2 and 3, Stantec shall develop a phased Capital Improvement Program identifying the improvements required to meet the existing service goals and long-term treatment needs of the SWTP. Improvement recommendations will be grouped in 5-year increments (or other increments as approved by the City), with a 30-year planning horizon. Concepts for the selected alternatives will be updated, and Class 4 cost opinions will be prepared. All unit costs will be provided in the report, as well as being benchmarked to an Engineering News Record Construction Cost Index.

Costs will be developed in accordance with the Association for the Advancement of Cost Engineering Class 5 estimates. The analysis will also include an existing and future benefit cost analysis consistent with AB1600.

The implementation of the CIP program will connect with the funding strategy and CIP cash flow for the City. The evaluation of sequencing will be made on an objective basis using a scaled matrix approach to score each project based on how closely it aligns with project's objectives. The objectives, such as regulatory compliance, expansion of plant capacity, water quality improvement, and improved operability will be prioritized, and Stantec will work with the City to prioritize capital improvements within the project objective categories.

Deliverables:

- Tables and Figures as necessary for City staff to review and understand the evaluation and recommendations.
- Capital Improvement Program with existing and future benefit analysis.

TASK 5: REPORT

Stantec will consolidate tabular and graphic deliverables, technical memorandums, and other various documents developed during the project into a cohesive and logical planning document. Stantec will submit a draft outline for the report prior to completion of the text for review and approval by City staff. A draft version of the report will be submitted for City staff review and comment, with a final draft and final version submitted after receiving and addressing the comments.

Deliverables:

- 5 hard copies and an electronic PDF version of the Draft Report.
- Electronic PDF version of the Final Draft Report.
- 5 signed hard copies and an electronic PDF version of the Final Report.

TASK 6: HIGH LEVEL CONDITION ASSESSMENT

Concurrently with the Surface Water Treatment Plant Evaluation in Task 2, Stantec will conduct a high-level facilities evaluation to assess the condition of the existing plant infrastructure from the perspectives of both function and condition, and to assist in the development of project alternatives.

The two overall tasks will be coordinated to understand whether condition of equipment or facilities affects process performance. Moreover, if the process evaluation suggests that a facility is not suitable for continued use, incorporation of the facility in the alternatives will not be considered. Additionally, if a facility is deemed functional, but the high-level condition assessment deems these facilities may have underlying concerns that warrant more detailed assessment, the costs of the assessment and timeline will be considered as a potential separate project for the CIP.

E. Major Mechanical Equipment

Stantec will visually inspect major mechanical equipment, such as large valves, pumps, piping, chemical feed systems, and MF equipment; discuss performance and maintenance and repair history with City staff; and estimate the remaining life of these equipment items and which items require major repair or immediate replacement.

F. Power Supply

Stantec will review existing single line drawings to confirm the adequacy of the power supplies and identify any code compliance concerns or vulnerabilities to power failure. If new processes are proposed, Stantec will develop concepts for supplying power to them, possibly including a need to upgrade the main plant switchgear and service, if the power requirements are high.

G. I&C Architecture and Equipment

Stantec will evaluate the current I&C system to assess whether current equipment and systems will become obsolete in the near future or are incompatible with future processes under consideration. The current trends in control system architecture are use of smart analyzers, MCCs and actuators, more reliable open communications networks, hot standby PLCs, and larger and faster processors. Most equipment on the market today has multiple communications protocol capabilities (analog and discrete I/O, Ethernet, Modbus Plus, Profibus, etc.), but the communications networks in existing plants are not always capable of taking advantage of the diagnostics and programming capabilities. Stantec will evaluate the types of communication used along with other relevant information and assess whether there are enough instruments in a given area that can use the same, more advanced communications protocol and if it could be advantageous to combine them onto a network instead of hard-wiring to PLC I/O cards.

Stantec will evaluate the current control system architecture, develop alternatives for improved performance and consistency, and make recommendations for upgrades to be included in the CIP. This will include the types and numbers of PLCs, I/O types, communications protocols, and the communications systems, such as fiber optics, to improve the system.

Deliverables:

- Operations Staff Meeting agenda, supporting materials, and meeting summary
- Draft and Final High Level Facilities Evaluation TM
- Half-Day meeting with District staff to discuss the results of the High Level Facilities Evaluation results

REVIEW OF DELIVERABLES

The City will provide oversight of the preparation of the documents required for the evaluation packages. All work products and deliverables shall be prepared in accordance with the latest regulations, policies, procedures, manuals and standards.

In case of conflict, ambiguities, discrepancies, errors or omissions among the reference materials obtained by the Consultant from other agencies, the Consultant shall submit the matter to City of Clovis for clarification. Any work affected by such conflicts, ambiguities, discrepancies, errors or omissions which is performed by the Consultant before clarification by City of Clovis shall be at the Consultant's risk. Such conflicts, ambiguities, discrepancies, errors or omissions among the references shall not give rise to a claim by the Consultant for extra work unless the Consultant can demonstrate that it has incurred additional expenses as a result thereof.

All submittals of final technical reports and drawings shall be provided electronically in PDF format or Microsoft Word format or Microsoft Word and/or Microsoft Excel format, and AutoCAD format, as directed by City of Clovis. City of Clovis will require seven (7) sets of hard copies for its use.

Stantec shall assume a minimum review time of 10 working days for City of Clovis' review of the deliverables.

SCOPE OF WORK ATTACHMENT - OVERALL PROJECT ASSUMPTIONS

GENERAL

- The cost proposal is in keeping with the scope of work identified in the Request for Proposal, Section 4.A Separated Sealed Cost Proposal, and is based on the proposed Project Approach and Schedule provided in Stantec's proposal.
- Contract duration is 12 months.
- All deliverables will be provided to the City of Clovis electronically in Adobe PDF format unless noted below otherwise.
- The City of Clovis will provide one set of consolidated review comments on all submittals to Stantec within two weeks of receipt of the submittal.
- Unless specified differently in the tasks below, project meetings and workshops will be held virtually via Teams or other videoconference application.
- Stantec will prepare tables and figures as necessary for review of City staff prior to workshops.
- The City of Clovis may choose to consolidate or remove meetings as necessary, and in coordination with Stantec.

TASK 1 – PROJECT MANAGEMENT

1.1 Kickoff Meeting

- A request for information matrix detailing potential data needs will be provided to the City two weeks prior to the project kickoff meeting.
- Up to eight staff members (project manager, technical advisors, and key leads) will attend the kickoff meeting.

1.2 Project Work Plan

- Includes organizational chart, roles and responsibilities, communications plan, base project schedule and cost management, QA/QC protocol, document control, and administrative procedures.

1.3 Updated Project Schedule

- Stantec will track progress on the schedule and will submit electronic files (up to 8) of the updated schedule with the monthly invoices.

1.4 Project Progress Meetings and Invoices

- Up to three staff members will attend up to 6 progress meetings (one per month) via phone or videoconference application (e.g., Teams).
- First progress meeting to begin two months from NTP.
- Up to 6 monthly progress reports will be prepared and will be submitted with invoices.
- Up to 8 monthly invoices will be prepared.

1.5 One-on-One Project Team Meetings

- Weekly coordination meetings (up to 32) will be held between Stantec's Project Manager and internal project team via Teams over the course of the project schedule.

1.6 Coordination and Communication with External Agencies

- Assumed up to 40 hours of support including City presentations, Technical Advisory Committees, and other stakeholders. All costs for printing and distribution to be paid for by the City of Clovis.

TASK 2 – SURFACE WATER TREATMENT PLANT EVALUATION

Source Water Quality Documentation

- Stantec will perform statistical analysis on the historical raw water quality data provided by the City.
- Stantec will conduct bench-scale testing at the City's SWTP to estimate ozone decay rate for sizing ozone system.
- The City's SWTP staff will provide Stantec with water samples for bench-scale testing.
- Up to two Stantec staff will perform the bench scale testing. The duration of the testing will be up to eight hours.
- Other Direct Cost (ODC) associated with the bench-scale testing will not exceed \$3,000.
- Up to three staff members will attend Workshop 1, Review of Source Water Quality Review, in person. If other team members are required to attend, they will attend via phone or videoconference application..
- A draft and final Technical Memorandum1 (TM 1) will summarize the results of the source water quality analysis and bench scale testing.

SWTP Existing Process Evaluation

- Stantec will provide comprehensive performance evaluation of the SWTP to identify limitations in the existing treatment processes that negatively impact the ability of the facility to reliably treat 22.5 MGD.
- Up to three alternative solutions will be evaluated to provide a reliable pretreatment process.
- Up to three alternative solutions for taste, odor and color treatment will be evaluated.
- Up to three staff members will attend Workshop 2, T&O and Pretreatment Evaluation Review, in person. If other team members are required to attend, they will attend via phone or videoconference application.
- Up to three staff members will attend Workshop 3, Membrane Facilities, Solids Handling, Clearwell and High Service Pumping Review, in person. If other team members are required to attend, they will attend via phone or videoconference application..
- A draft and final Technical Memorandum 2 (TM 2) will summarize the results of all activities under the Sources Water Documentation and SWTP Existing Process Evaluation.

TASK 3 – SWTP FUTURE SYSTEM EVALUATION

- Stantec will perform "Source Water Quality and Quantity Changes" and "Upcoming Rules and Regulations" concurrently with Task 1 to shorten project duration. The results of the two activities will be included in the draft and final TM 1.
- Stantec will evaluate the scalability of the existing process trains and will develop a tentative site layout for the existing and future SWTP. Assumed up to 40 hours of support for City staff to identify additional land and associated infrastructure required to meet future expansion.
- Up to three staff members will attend Workshop 4, Future System Evaluation Review, in person. If other staff members are required to attend, they will attend via phone or videoconference application.
- A draft and final Technical Memorandum 3 (TM 3) will summarize the results of SWTP Scalability and Site Constraints evaluation.

TASK 4 – CAPITAL IMPROVEMENT PROGRAM

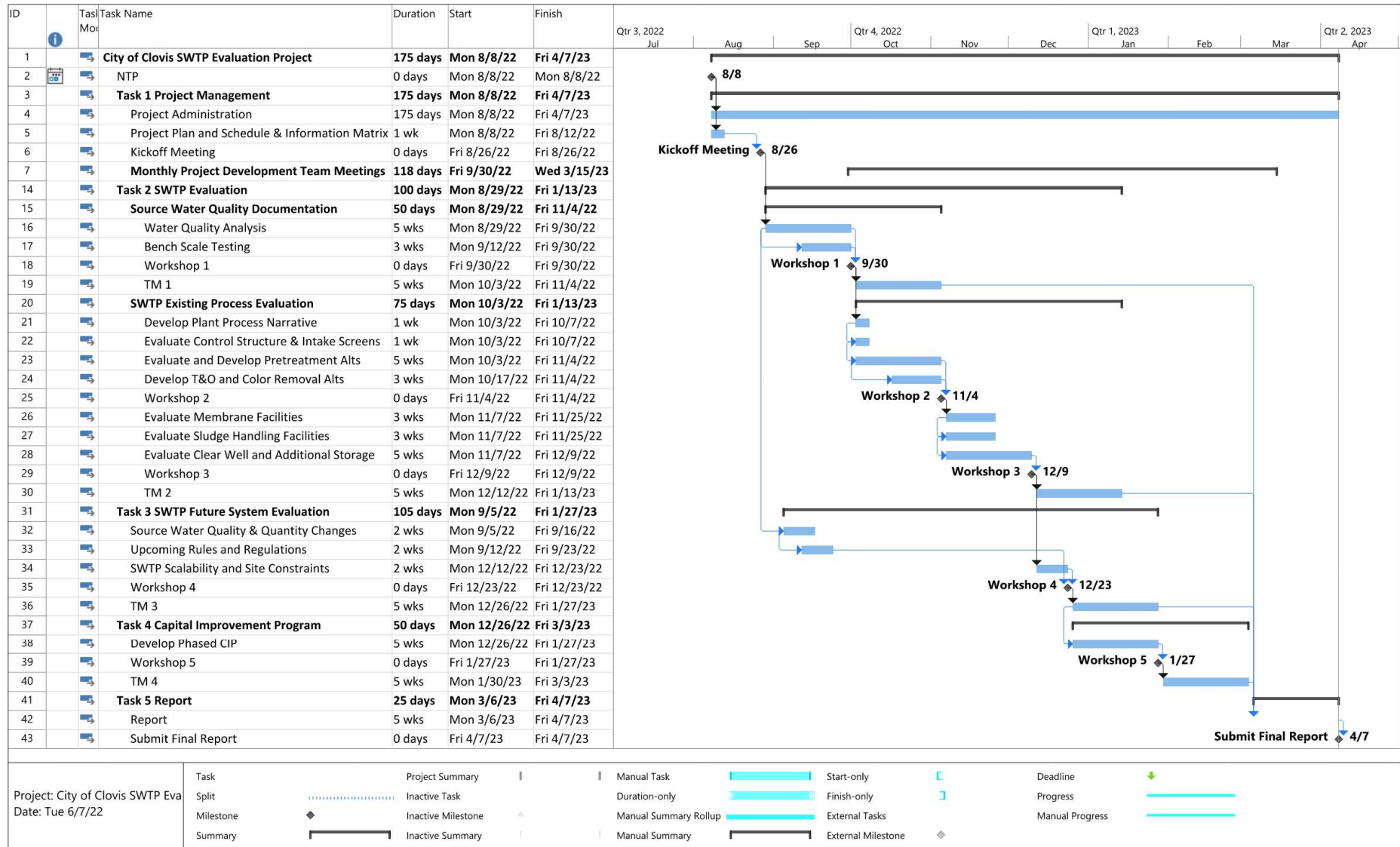
- Stantec will develop improvement recommendations (up to five alternatives) which will be grouped in 5-year increments with a 30-year planning horizon.
- Alternatives Cost Estimates: Class 5 cost estimates will be prepared for up to five alternatives.

-
- Up to three staff members will attend Workshop 5, Capital Improvement Program Review, in person. If other staff members are required to attend, they will attend via phone or videoconference application.
 - A draft and final Technical Memorandum 4 (TM 4) will summarize the results of the phased Capital Improvement Program.

TASK 5 – REPORT

- Stantec will consolidate all technical memorandums into one logical planning document and will prepare an Executive Summary to be included in the Report.
- Stantec will prepare a draft outline of the report and submit it prior to completion of the text for review and approval by City staff.
- Five hardcopies and an electronic PDF version of the Draft Report.
- Electronic PDF version of the Final Draft Report.
- Five signed hardcopies and an electronic PDF version of the Final Report.

SCHEDULE



COMPENSATION AND RATES



Task #	Task	Project Manager	Project Engineer	Technical Advisor	Process Lead	Facility Condition Assessment / Mechanical	Membrane Technical Expert	Ozone Technical Expert	Actiflo Technical Expert	Process Engineer	Process Engineer	PIF	Structural Lead	Structural Engineer	Structural Assistant	I&C Lead	
		Mike Price	Ayman Shawwa	David Pernitsky	Pete Kreft	Billy Wong	Bryan Black	Charles Bromley	Andrew Nishahara	Fabrizio Bulacia Padilla	Diana Rodriguez	Adrian Armenta	Craig Wilcox	Lloyd Soohoo	Manoj Jaiswal	David Wilcoxon	
Task #	Task	Billing Rate	\$365	\$270	\$320	\$270	\$285	\$270	\$285	\$185	\$150	\$200	\$130	\$365	\$270	\$85	\$285
100.100	Project Management	58	42	4	4	4	4	4	4	0	0	0	0	0	0	0	0
	Project Administration	24	16														
	Project Development Team Meetings	16	16														
	Project Implementation Plan and Schedule	8	4														
	Request for Information Matrix	2	2														
	Kickoff Meeting	8	4	4	4	4	4	4	4								
200.100	SWTP Evaluation	84	45	18	16	14	12	22	22	56	34	42	4	4	6	4	
	Source Water Quality analysis	2	4	1						2	4	24					
	Bench Scale Testing	2	4	1				2		16							
	Workshop 1	4	4	4	4	4		4	4								
	Draft TM 1	2	4	1				2	2	8	8	16					
	Final TM 1	8	2														
	Develop plant process narrative	2	4						8	2							
	Evaluate Control Structure and Intake Screens	2								8			4	2	4	2	
	Evaluate Pretreatment Process	8	4		1	2		2	4	4	4						
	Develop Pretreatment Alternatives	6		1			2	2	4								
	T&O and Color Removal Alternatives	4		1				2									
	Workshop 2	4	4	4	4	4	4	4	4								
	Evaluate membrane facilities	4			1		2										
	Evaluate Sludge Handling Facilities	4	2		1											1	
	Evaluate Clear Well & Additional Storage	8	1		1					8				2	2	1	
	Workshop 3	8	4	4	4	4	4	4	4		2						
	Draft TM 2	8	4	1						8	8						
	Final TM 2	8	4						2								
300.100	Future System Evaluation	56	34	10	10	20	6	6	6	32	44	28	0	0	0	0	
	Source Water Quality & Quantity Changes	16	8	1	2					16	16	16					
	Upcoming Rules and Regulations	8	8	1							4	4					
	SWTP Scalability and Site Constraints	16	8	2	4	16	2	2	2		8	4					
	Workshop 4	8	4	4	4	4	4	4	4								
	Draft TM 3	4	2							16	8	4					
	Final TM 3	4	4	2							8						
400.100	Capital Improvements Program	18	10	2	2	14	6	4	4	24	24	2	4	2	4	1	
	Developed Phased CIP	4	2		2	8	2	2	2	8	8		4	2	4	1	
	Workshop 5	8	4			4	2	2	2								
	Draft TM 4	2	2			2	2			16	8						
	Final TM 4	4	2	2							8	2					
500.100	Report	16	10	4	4	2	4	2	2	8	32	8	0	4	4	1	
	Draft	8	6	2	2	2	2	2	2	8	24	8		4	4	1	
	Final	8	4	2	2		2			8							
600.100	Condition Assessment	22	10	0	10	24	0	0	0	0	0	24	1	22	0	5	
	Site visit	8				8								8			
	Workshop	8	4		4	4								4		4	
	Draft TM	4	4		4	8					16	1	8			1	
	Final TM	2	2		2	4					8			2			
		254	151	38	46	78	32	38	38	120	134	104	9	32	14	11	



Task #	Task	IC Engineer	IC Assistant	Electrical Lead	Electrical Engineer	Cost Estimating	Technical Writer	PIR	Project Accountant	Admin Assistant	PIC	Labor Hours	Labor Budget	ODC	Total Budget
		Wendy Wu	Archana Belekar	Long Hoang	Nguyen, Timmy	Jim Loucks	Amy Lehman	Gail Eaton	Cherie Rivera	Tamika Lockheart	Rohit Shinde				
	Billing Rate	\$130	\$85	\$270	\$130	\$270	\$115	\$285	\$135	\$100	\$135				
100.100	Project Management	0	0	0	0	0	0	4	8	8	8	152	\$43,200	\$0	\$43,200
	Project Administration							4	8	8	8		\$17,200		
	Project Development Team Meetings												\$10,200		
	Project Implementation Plan and Schedule												\$4,000		
	Request for Information Matrix												\$1,300		
	Kickoff Meeting												\$10,500		
200.100	SWTP Evaluation	4	10	4	12	0	12	0	0	0	0	425	\$101,400	\$3,000	\$104,400
	Source Water Quality analysis												\$6,400		
	Bench Scale Testing												\$5,100	\$3,000	
	Workshop 1												\$8,000		
	Draft TM 1						4						\$8,500		
	Final TM 1						2						\$3,700		
	Develop plant process narrative												\$3,500		
	Evaluate Control Structure and Intake Screens	1	2	1	2								\$6,100		
	Evaluate Pretreatment Process		2		2								\$8,000		
	Develop Pretreatment Alternatives												\$4,400		
	T&O and Color Removal Alternatives												\$2,400		
	Workshop 2												\$9,000		
	Evaluate membrane facilities	1	2	1	2								\$3,100		
	Evaluate Sludge Handling Facilities	1	2		2								\$3,200		
	Evaluate Clear Well & Additional Storage	1	2	1	2								\$6,500		
	Workshop 3			1	2								\$11,300		
	Draft TM 2						4						\$7,600		
	Final TM 2						2						\$4,600		
300.100	Future System Evaluation	0	0	0	0	0	6	0	0	0	0	258	\$63,900	\$0	\$63,900
	Source Water Quality & Quantity Changes												\$16,600		
	Upcoming Rules and Regulations												\$6,800		
	SWTP Scalability and Site Constraints												\$17,900		
	Workshop 4												\$10,500		
	Draft TM 3						4						\$7,000		
	Final TM 3						2						\$5,100		
400.100	Capital Improvements Program	2	4	3	8	24	6	0	0	0	0	168	\$39,100	\$0	\$39,100
	Developed Phased CIP	2	4	3	4	24							\$20,200		
	Workshop 5												\$6,700		
	Draft TM 4						4						\$7,400		
	Final TM 4						2						\$4,800		
500.100	Report	2	8	1	4	0	10	0	0	0	0	126	\$26,800	\$0	\$26,800
	Draft	2	8	1	4		8						\$19,200		
	Final						2						\$7,600		
600.100	Condition Assessment	22	0	7	20	0	8	0	0	0	0	175	\$39,500	\$500	\$40,000
	Site visit	8			8								\$9,500	\$500	
	Workshop	4		4	4								\$10,600		
	Draft TM	8		1	8		4						\$13,600		
	Final TM	2		2			4						\$5,800		
		30	22	15	44	24	42	4	8	8	8	1304	\$313,900	\$3,500	\$317,400

**Stantec Consulting Services
2022 Hourly Rate Schedule**

Classification	Hourly/Unit Rate
Senior Technical Expert (Levels 19 or 20)	\$365
Principal Professional 18	\$320
Principal Professional 17	\$285.00
Principal Professional 16	\$270.00
Principal Professional 15	\$240.00
Principal Professional 14	\$200.00
Principal Professional 13	\$185.00
Principal Professional 12	\$150.00
Principal Professional 11	\$135.00
Senior Professional 10	\$130.00
Senior Administrator (Level 8 or higher)	\$115.00
Admin Assistant (Level 7 or lower)	\$100.00
Assistant Engineer (AE)	\$100.00

EXHIBIT B

INSURANCE REQUIREMENTS

Prior to commencement of the Services, Consultant shall take out and maintain at its own expense the insurance coverage required by this **Exhibit C**. Consultant shall cause any subcontractor with whom Consultant contracts for the performance of Services pursuant to this Agreement to take out and maintain equivalent insurance coverage. Said insurance shall be maintained at all times during Consultant's performance of Services under this Agreement, and for any additional period specified herein. All insurance shall be placed with insurance companies that are licensed and admitted to conduct business in the State of California and are rated at a minimum with an "A:VII" by A.M. Best Company, unless otherwise acceptable to the City.

a. Minimum Limits of Insurance. Consultant shall maintain the following types of insurance with limits no less than specified:

(i) Professional Liability Insurance (Errors and Omissions) in an amount not less than \$2,000,000.00 per occurrence or claim and \$2,000,000 in the aggregate. Said insurance shall be maintained for an additional period of five years following the earlier of completion of Consultant's Services under this Agreement or termination of this Agreement.

(ii) General Liability Insurance (including operations, products and completed operations coverages) in an amount not less than \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

(iii) Worker's Compensation Insurance as required by the State of California.

(iv) Automobile Liability Insurance in an amount not less than \$1,000,000 per accident for bodily injury and property damage.

(v) Umbrella or Excess Liability. In the event Consultant purchases an Umbrella or Excess insurance policy(ies) to meet the "Minimum Limits of Insurance," this insurance policy(ies) shall "follow form" and afford no less coverage than the primary insurance policy(ies). In addition, such Umbrella or Excess insurance policy(ies) shall also apply on a primary and non-contributory basis for the benefit of the City, its officers, officials, employees, agents and volunteers.

If Consultant maintains higher limits than the minimums shown above, the City shall be entitled to coverage at the higher limits maintained.

b. Other Insurance Provisions. The general liability policy is to contain, or be endorsed to contain, the following provisions:

(i) The City, its officers, officials, employees, agents, and volunteers are to be covered as insured's with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the Consultant; and with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Consultant's insurance (at least as broad as ISO Form 20 10 11 85 or both CG 20 10, CG 20 26, CG 20 33 or CG 20 38; and CG 20 37 forms if later revisions used).

(ii) For any claims related to the Services performed pursuant to this Agreement, the Consultant's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees, agents, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, agents or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.

(iii) Each insurance policy required by this section shall be endorsed to state that the City shall receive written notice at least thirty (30) days prior to the cancellation, non-renewal, or material modification of the coverages required herein.

(iv) Consultant grants to the City a waiver of any right to subrogation which any insurer of said Consultant may acquire against the City by virtue of the payment of any loss under such insurance. Consultant agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the City has received a waiver of subrogation endorsement from the insurer.

(v) Any deductibles or self-insured retentions must be declared to and approved by the City of Clovis Risk Services. The City may require the Consultant to purchase coverage with a lower deductible or retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention.

c. Evidence of Coverage. Consultant shall deliver to City written evidence of the above insurance coverages, including the required endorsements prior to commencing Services under this Agreement; and the production of such written evidence shall be an express condition precedent, notwithstanding anything to the contrary in this Agreement, to Consultant's right to be paid any compensation under this Agreement. City's failure, at any time, to object to Consultant's failure to provide the specified insurance or written evidence thereof (either as to the type or amount of such insurance), shall not be deemed a waiver of City's right to insist upon such insurance later.

d. Maintenance of Insurance. If Consultant fails to furnish and maintain the insurance required by this section, City may (but is not required to) purchase such insurance on behalf of Consultant, and the Consultant shall pay the cost thereof to City upon demand, and City shall furnish Consultant with any information needed to obtain such insurance. Moreover, at its discretion, City may pay for such insurance with funds otherwise due Consultant under this Agreement.

e. Subcontractors. If the Consultant should subcontract all or any portion of the work to be performed in this Agreement, the Consultant shall cover the subcontractor, and/or require each subcontractor to adhere to all the requirements contained herein. Similarly, any cancellation, lapse, reduction or change of subcontractor's insurance shall have the same impact as described above.

f. Special Risks or Circumstances. The City reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

g. Indemnity and Defense. Except as otherwise expressly provided, the insurance requirements in this section shall not in any way limit, in either scope or amount, the indemnity and defense obligations separately owed by Consultant to City under this Agreement.



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
 FROM: Planning and Development Services
 DATE: August 1, 2022
 SUBJECT: Consider Approval of items associated with quadrant intersections along the Herndon Avenue Corridor.

a. Consider Approval - Res. 22-____, Elimination of the implementation of the proposed quadrant intersections at Herndon Avenue with Willow and Peach Avenues, and

b. Consider Introduction – Ord. 22-____, Amending various sections of the Clovis Municipal Code relating to the quadrant intersection development fee.

Staff: Ryan C. Burnett, Engineering Program Supervisor

Recommendation: Approve

ATTACHMENTS:

1. Resolution 22-____
2. Ordinance 22-____
3. Quadrant Design Traffic Movements Exhibits
4. Correspondence from the City of Fresno
5. Herndon Avenue Corridor Study by Peters Engineering Group

CONFLICT OF INTEREST

None.

RECOMMENDATION

For the City Council to approve Resolution 22-____, A resolution of the Clovis City Council eliminating the implementation of the proposed quadrant intersections at Herndon Avenue with Willow and Peach Avenues; and

For the City Council to approve the introduction of Ordinance 22-____, Amending various sections of the Clovis Municipal Code relating to the quadrant intersection development fee.

EXECUTIVE SUMMARY

In 2001, the City Council approved amendments to the General Plan and the Herndon Shepherd Specific Plan to allow quadrant intersections at Herndon/Willow and at Herndon/Peach. At the time, the quadrant intersection design was chosen as the best option to address the anticipated future traffic conditions of the Herndon Avenue Corridor. Staff has reevaluated the quadrant intersection concept and has concluded that due to the impacts on drivers and better alternatives to address traffic flow, the quadrant intersections should not be implemented.

On June 23, 2022, the Planning Commission considered the elimination of the quadrant intersections and voted to recommend their elimination to Council. While formal amendments to the General Plan or Herndon Shepherd Specific Plan are not required, the Planning Commission and staff are recommending that the City Council take specific action to clarify that the quadrant intersection design will not be implemented.

If Council approves the attached resolution (**Attachment 1**) to eliminate the implementation of the quadrant intersections, then staff recommends Council also approve the attached ordinance amendment (**Attachment 2**) revising various sections of the Municipal Code to remove references to the quadrant intersection development fee. The proposed revisions would result in the elimination of the development impact fee specific for the quadrant intersection and the fee will no longer be collected once the ordinance takes effect thirty days after adoption.

BACKGROUND

On October 27, 2000, TJKM Transportation Consultants (TJKM) completed the Herndon Avenue Specific Study (2000 Study) for the Council of Fresno County Governments (COG). COG contracted for the 2000 Study to assist the County of Fresno, City of Fresno, and City of Clovis in planning for the future by analyzing the current and future traffic conditions of Herndon Avenue from State Route 99 to Academy Avenue. The 2000 Study was a result of a need to provide an efficient east-west corridor in the urban area.

The 2000 Study concluded that the majority of intersections on Herndon Avenue would operate at a Level of Service (LOS) between D and F in 2020, and recommended quadrant intersection design elements to improve future LOS throughout the corridor. There were four quadrant intersections recommended in the City of Fresno and three recommended in Clovis, which include the intersections of Herndon/Willow, Herndon/Peach, and Herndon/Clovis. Quadrant intersections are designed to improve projected levels of service in a corridor by eliminating left turns from the subject intersections. Eliminating left turns lengthens the traffic signal cycles for through traffic at the major intersections and is intended to allow traffic to flow more efficiently. The left turns are moved to smaller satellite intersections where impact to through traffic progression is less.

On December 11, 2000, the City Council accepted the recommendations of the 2000 Study and initiated General Plan Amendment 2001-06, to amend the General Plan and Herndon Shepherd Specific Plan to incorporate as an option, the quadrant intersections in Clovis and authorized a more detailed study by TJKM on the Herndon Avenue corridor within Clovis (Clovis Study).

On July 9, 2001, the City Council considered the Clovis Study and determined that use of a quadrant intersection at Herndon/Clovis was not necessary and approved GPA 2001-06, which amended the General Plan and Herndon Shepherd Specific Plan to permit, but not mandate, the use of the quadrant intersection at Herndon/Willow and Herndon/Peach. **Attachment 3** presents exhibits showing how traffic will flow if the quadrant intersections are implemented at Herndon/Willow and Herndon/Peach.

The quadrant intersections were originally intended to be fully implemented within 10 to 15 years of the 2000 study; however, they have not been fully implemented. The City of Fresno never installed any of the recommended quadrant intersections, including their components of the Herndon/Willow quadrant intersection. They have no intention of completing those improvements and are not supportive of converting that intersection to the quadrant intersection. Fresno is supportive of Clovis eliminating the implementation of the quadrant intersections (**Attachment 4**).

Earlier this year, City staff commissioned a new Herndon Avenue Corridor Study by Peters Engineering Group (2022 Study) to evaluate the continued viability and benefit of using the quadrant intersections in Clovis (**Attachment 5**). The 2022 Study, dated June 1, 2022, noted that while the quadrant intersections could still work to improve traffic flow for the main corridor, the following concerns were identified:

- The quadrant intersections considerably add to vehicle miles traveled, conflicting with recently adopted State laws and City policies related to vehicle miles traveled. The implementation of the quadrant intersections is expected to result in approximately 11,000 additional vehicle miles traveled each day by 2042.
- The elimination of left-turns at the intersections can confuse drivers. Quadrant intersections are rare and none exist in the Clovis/Fresno area.
- Emerging traffic management technologies, such as adaptive traffic signal control, offer equivalent or better alternatives to the quadrant intersections. Adaptive traffic signal control adjusts the signal timing based on real-time traffic conditions, thereby, optimizing corridor performance. City staff has secured competitive federal grant funding through the Highway Safety Improvement Program and through the Congestion Mitigation and Air Quality Improvement Program to implement adaptive traffic signal technology on Herndon Avenue from Willow Avenue to Locan Avenue.
- Other intersections will operate with less delay without the quadrant intersections. The quadrant intersections reroute the traffic flow to satellite intersections and side streets. Eliminating them will alleviate the traffic impacts to those areas.
- Substantial queues will occur at many of the study intersections whether or not the quadrant intersections are implemented.
- The costs of fully implementing the quadrant intersections are substantially more than modern technologies and there are limitations on fully implementing the quadrant intersections, particularly at Willow/Herndon due to the City of Fresno's lack of participation.

Also, as stated above, City staff has secured grant funds to implement the adaptive traffic signal technology.

General Plan and Herndon-Shepherd Specific Plan Polices

The quadrant intersections are not a requirement in the General Plan or the Herndon-Shepherd Specific Plan. When the City adopted the 2014 General Plan, the option to utilize the quadrant intersection at Willow/Herndon and Peach/Herndon did not carry over with the new Circulation Element. The General Plan Circulation Element is now silent on the development of the quadrant intersections.

The Herndon-Shepherd Specific Plan Element addresses the quadrant intersections as follows:

Section 4.3.2 Expressways

Quadrant design intersections, as depicted in Section 5.3.2 are permitted at Herndon Avenue intersections of Willow, and Peach Avenues.

Section 5.3.2 Implementation

Two Herndon Avenue intersections, Willow, and Peach Avenue may be constructed with quadrant design intersections...

Since there are no mandates in any City plan to build the quadrant intersections, there are no plan amendments or revisions required. To move forward with the quadrant intersections or to eliminate them is a policy decision on how to address the future traffic flows on Herndon Avenue.

As stated above, the 2022 Study shows that in general Herndon Avenue traffic flow can be improved by the quadrant intersections. In 2042, the 2022 Study indicates that the level of service is diminished without the quadrant intersections. Nevertheless, there are numerous downsides to implementing the quadrant intersections, as noted. Further, implementation of the adaptive traffic signal technology will substantially improve the current and projected conditions. The City of Fresno has not implemented the quadrant design concept west of Willow on Herndon, but they have successfully implemented adaptive signal technology. Due to the issues raised and the viable alternative in lieu of the quadrant intersection design, it is City staff's recommendation to not proceed with implementing the quadrant intersections.

Development Impact Fee

In 2002, the City adopted a development impact fee for the costs of constructing the quadrant intersections. To date, the fee has been used to provide reimbursements to the developer of the Target shopping center at the northeast corner of Herndon and Willow for improvements constructed at this location that partially implemented the quadrant design. All eligible funds were prioritized to the developer. As with any development impact fee program, reimbursements are subject to funding availability and developers are not guaranteed to receive full reimbursement.

If the quadrant intersections will no longer be implemented, there will not be a basis to continue collecting the quadrant intersection development impact fee and staff is proposing an ordinance

amendment for City Council approval to remove the fee. Any remaining funds collected will be dispersed as reimbursement to the developer of the Target shopping center.

CEQA

These items are exempt from the California Environmental Act ("CEQA) for the following independent reasons:

- Common Sense Exemption, CEQA Guidelines § 15061, there is no potential for the activity to have a significant effect on the environment. No physical change will be made to the environment. The status quo will remain as is. There is no impact from not implementing the quadrant intersections. The activity is overdue and no longer viable.
- Not a project, Pub. Resources Code § 21065, CEQA Guidelines § 15378, continuing administrative or maintenance activity. The activity is a review of existing City policy and considered general policy and procedures making.
- Ministerial project, Pub. Resources Code § 21080, CEQA Guidelines §§ 15268, 15300.1, 15369, the activity has little discretion. Based upon current information and change in circumstances, the activity is no longer viable and not feasible to implement at this time.

FISCAL IMPACT

There is no fiscal impact to the City if Council approves the elimination of the quadrant intersections and the associated development impact fee. If Council decides to keep the quadrant intersections, the development impact fee will remain in place and continue to provide funding based on current land acquisition and construction costs for the completion of the quadrant intersections.

REASON FOR RECOMMENDATION

Due to the reasons discussed above, the Planning Commission and staff recommend approval of the attached resolution and if approved, staff also recommends approval of the attached ordinance amendment. These actions will eliminate the implementation of the quadrant intersections and eliminate the associated development impact fee.

ACTIONS FOLLOWING APPROVAL

Staff will cease collection of the development impact fee for the quadrant intersection once the adopted ordinance is effective thirty days after adoption.

Prepared by: Sean Smith, Supervising Civil Engineer
Ryan C. Burnett, Engineering Program Supervisor

Reviewed by: City Manager *SA*

RESOLUTION NO. 22-__**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING ELIMINATION OF THE IMPLEMENTATION OF THE PROPOSED QUADRANT INTERSECTIONS AT HERNDON AVENUE WITH WILLOW AND PEACH AVENUES**

WHEREAS, on October 27, 2000, TJKM Transportation Consultants (“TJKM”) completed the Herndon Avenue Specific Study (“2000 Study”) for the Council of Fresno County Governments (“COG”). COG contracted for the 2000 Study to assist the County of Fresno, City of Fresno, and City of Clovis in planning for the future by analyzing the current and future traffic conditions of Herndon Avenue from State Route 99 to Academy Avenue; and

WHEREAS, the 2000 Study concluded that the majority of intersections on Herndon Avenue would operate at a Level of Service (LOS) between D and F in 2020 and proposed quadrant intersection design elements to improve future LOS throughout the corridor, including the Clovis intersections of Herndon/Willow, Herndon/Peach, and Herndon/Clovis; and

WHEREAS, on December 11, 2000, the City Council accepted the recommendations of the 2020 Study and initiated General Plan Amendment 2001-06, to amend the General Plan and Herndon Shepherd Specific Plan to incorporate as an option the quadrant intersections in Clovis and authorized a more detailed study by TJKM on the Herndon Avenue corridor within Clovis (“Clovis Study”); and

WHEREAS, on July 9, 2001, the City Council considered the Clovis Study and determined that use of a quadrant intersection at Herndon/Clovis was not necessary; and

WHEREAS, on July 9, 2001, the City Council approved GPA 2001-06, which amended the General Plan and Herndon Shepherd Specific Plan to permit, but not mandate, the use of the quadrant intersection at Herndon/Willow and Herndon/Peach; and

WHEREAS, some of the elements of the proposed Herndon/Willow quadrant intersection were completed as a component of the Target shopping center project. The City completed other components of the Herndon/Willow quadrant intersection and components of the Herndon/Peach quadrant intersection. Neither quadrant intersection has been completed; and

WHEREAS, the quadrant intersections were originally intended to be fully implemented within 10–15 years of the 2000 study. The City of Fresno never installed their

components of the Herndon/Willow quadrant intersection, have no intention of completing those improvements, and are not supportive of converting that intersection to the quadrant intersection; and

WHEREAS, the City commissioned a new Herndon Avenue Corridor Study by Peters Engineering Group (“2022 Study”) to evaluate the continued viability and benefit of using the quadrant intersections in Clovis. The 2022 Study, dated June 1, 2022, noted that while the quadrant intersections could still work, the following concerns were identified:

- The quadrant intersections considerably add to vehicle miles traveled, conflicting with recently adopted State laws and City policies.
- The elimination of left-turns at the intersections can confuse drivers.
- Emerging traffic management technologies, such as adaptive traffic signal control, offer equivalent or better alternatives to the quadrant intersections.
- Other intersections will operate with less delay without the quadrant intersections.
- Substantial queues will occur at many of the study intersections whether or not the quadrant intersections are implemented.
- The costs of fully implementing the quadrant intersections are substantially more expensive than modern technologies and there are limitations on fully implementing the quadrant intersections, particularly at Willow/Herndon due to the City of Fresno’s lack of participation; and

WHEREAS, when the City adopted the 2014 General Plan, the option to utilize the quadrant intersection at Willow/Herndon and Peach/Herndon did not carry over with the new Circulation Element; and

WHEREAS, based upon the foregoing, staff recommends elimination of the implementation of the proposed quadrant intersections at Herndon/Willow and Herndon/Peach; and

WHEREAS, in 2002 the City adopted a development impact fee for the costs of constructing the quadrant intersections; and

WHEREAS, to date, the fee has been used to provide reimbursements to the developer of the Target shopping center, with no reimbursements being made to the City. All eligible funds were prioritized to the developer. As with any development impact fee program, reimbursements are subject to funding availability and developers, including the City, are not guaranteed to receive full reimbursement; and

WHEREAS, once the option of the quadrant intersections is eliminated, there will no longer be a basis to collect the quadrant intersection development impact fee, an ordinance

amendment will be processed to remove the fee, and there will no longer be funds available for reimbursement as required by the City's reimbursement policy; and

WHEREAS, on June 23, 2022, the Planning Commission considered this item and voted to recommend approval of the elimination of the implementation of the quadrant intersections; and

WHEREAS, a public notice of this item was sent out to area residents within 800 feet of the two quadrant intersections and published in The Business Journal ten days prior to the City Council's consideration of this item; and

WHEREAS, this item is exempt from the California Environmental Act ("CEQA) for the following independent reasons:

- Common Sense Exemption, CEQA Guidelines § 15061, there is no potential for the activity to have a significant effect on the environment. No physical change will be made to the environment. The status quo will remain as is. There is no impact from not implementing the quadrant intersections. The activity is overdue and no longer viable.
- Not a project, Pub. Resources Code § 21065, CEQA Guidelines § 15378, continuing administrative or maintenance activity. The activity is a review of existing City policy and considered general policy and procedures making.
- Ministerial project, Pub. Resources Code § 21080, CEQA Guidelines §§ 15268, 15300.1, 15369, the activity has little discretion. Based upon current information and change in circumstances, the activity is no longer viable and not feasible to implement at this time.

WHEREAS, on August 1, 2022, 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 eliminating the implementation of the quadrant intersections, which are maintained at the offices of the City of Clovis Department of Planning and Development Services; and

WHEREAS, the Council, has reviewed and considered the staff report and all written materials submitted in connection with the request and hearing and considering the testimony presented during the public hearing; and

NOW, THEREFORE, BE IT RESOLVED, that the Clovis City Council finds that the activity is exempt from CEQA and approves the elimination of the implementation of the proposed quadrant intersections at Herndon Avenue with Willow and Peach Avenues.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote, to wit.

AYES:
NOES:
ABSENT:
ABSTAIN:

DATED:

Mayor

City Clerk

ORDINANCE 22-____**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CLOVIS AMENDING VARIOUS SECTIONS OF THE CLOVIS MUNICIPAL CODE RELATING TO THE DEVELOPMENT FEES**

The City Council of the City of Clovis ordains as follows:

Section 1 Subsection 3.6.05 shall be amended to read in its entirety as follows:**3.6.05 Fees subject to deferment.**

The following fees are subject to deferment, in accordance with the provisions of this section:

- (a) Oversize sewer charges;
- (b) Sewer major facilities fees;
- (c) House branch sewer charges;
- (d) Gross acreage charge (water);
- (e) Water major facilities fees;
- (f) Water meter;
- (g) Lateral installation fee (City-installed water services);
- (h) Capital outlay charges (community sanitation);
- (i) Park acquisition and development fee;
- (j) Utility undergrounding fee;
- (k) Underground administration charge;
- (l) Street fee administration charge;
- (m) Outside travel lane fee;
- (n) Center travel lane fee;
- (o) Traffic signal fee;
- (p) Bridges fee;
- (q) General plan fee;
- (r) Fire Department fee;
- (s) Police Department fee;
- (t) Nonpotable water system fee;
- (u) Intentionally deleted;
- (v) Library fee;
- (w) Administrative charges associated with fees that the developer elects to defer.

Section 2 Subsection 7.7.02 shall be amended to read in its entirety as follows:**7.7.02 Definitions.**

When used in this chapter, the following terms shall have the following meanings:

- (a) "Actual costs" shall mean those costs for construction of major street improvements as evidenced by a competitive bidding process acceptable to City reflecting the lowest responsible bid.

- (b) “Adjacent improvements” shall mean those certain planned major street improvements and applicable right-of-way acquisition starting from the planned ultimate property line and proceeding towards the opposite side of the street, consisting of frontage improvements, outside travel lane and center travel lanes (including median island and landscaping where required), excluding the outside travel lane and frontage improvements on the opposite side of the street from the development, located along and between the prolonged boundaries of the proposed development site perpendicular to the adjacent major street.
- (c) “Assisted living facility” shall mean a building or group of buildings containing individual living units or rooms for occupancy by infirm persons who require living assistance in the form of housekeeping services, meals, recreational programs, laundry services, shopping and transportation services, and/or limited medical care not involving a physician.
- (d) “Bridge” shall mean culverts, pipelines, and other structures that provide for the passage of streams and canals under major streets.
- (e) “City” shall mean the City of Clovis and any other not-for-profit or governmental entity wholly and completely founded, organized and controlled solely by the City.
- (f) “Center travel lanes” shall mean those certain planned travel lanes and applicable right-of-way of a major street located adjacent to the centerline (including median island and landscaping, two (2) twelve-foot (12') center travel lanes on a four (4) lane major street and four (4) twelve-foot (12') center travel lanes on a six (6) lane major street). On nonadjacent improvements where a twelve-foot (12') travel lane and a four-foot (4') shoulder are constructed, all of these improvements shall be considered center travel lane improvements. Modifications to previously constructed permanent center travel lane improvements to accommodate site specific development shall not be eligible for reimbursement.
- (g) “Deferment” shall mean a recorded document that will become a lien against the property that allows the owner/developer to postpone the installation of certain major street improvements until a time certain based upon finding(s) by the City Council or the City Engineer.
- (h) “Development entitlement” shall mean final approval granted by the City for tentative or final tract map, parcel map, conditional use permit, site plan review or building permit.
- (i) “Existing facilities” shall mean those related facilities which need to be relocated to accommodate required major streets construction, including, but not limited to, electrical and telephone facilities, irrigation ditches or pipes, private improvements, etc.
- (j) “Factored acreage” shall mean the total acreage of land by use as denoted in the General Plan or any specific plan within a service area which will contribute to the traffic demand for and/or will benefit from major street improvements multiplied by the VMT factor associated with such land use. The factored acreage will be the basis for computing the per acre major street development fees to be charged the owner/developer within any service area. The per acre fees will be converted to a per square footage fee for all non-residential land uses.
- (k) “Frontage improvements” shall mean those certain planned major street improvements and applicable right-of-way, including landscaping and irrigation,

- curb, gutter, sidewalk, drive approach, streetlights and remaining portion of parking lane and/or bike lane, that are to be located between the outside travel lane and the property line parallel to the centerline of the major street.
- (l) “Gross acreage” shall mean the total area of land, receiving approval of a development entitlement, including one-half (1/2) the right-of-way on the boundary streets.
 - (m) “Improved major cross street” shall mean those certain major streets that currently have at least twenty-four feet (24') of structurally sound pavement and have been constructed to the planned cross-section and grade for said street.
 - (n) “Industrial” shall generally mean the manufacture, fabrication, processing, reduction, or destruction of any article, substance, or commodity, or any other treatment thereof, in such a manner as to change the form, character, or appearance thereof, including storage elevators, truck storage yards, warehouses, wholesale storage, and other similar types of enterprises. For purposes of development impact fees, “industrial” shall include properties zoned C-M, M-1, M-2, and M-P.
 - (o) “Local street” shall mean those local streets that are not major streets and which provide direct access to adjacent properties.
 - (p) “Major street” shall mean those certain collectors, arterials, and expressways that are shown on the circulation element of the General Plan or approved specific plans, which, because of the designated location with respect to other streets and other sources of traffic, are used or designed to carry relatively heavy volumes of traffic through an urban area, or between urban areas, or as an approach to a highway or a freeway.
 - (q) “Nonadjacent improvements” shall mean those certain planned major street improvements and applicable right-of-way acquisition, consisting of the outside travel lane opposite the adjacent improvements plus extension of the planned major street improvements consisting of the center travel lanes, the outside travel lanes, bridges, traffic signals, and related intersection improvements to provide major street development from the project’s adjacent improvements to the nearest improved major cross street serving said project, as planned and determined by the City Engineer, such requirements for projects at major street intersections to be determined by a traffic analysis, provided by the developer, determining which major street will carry the majority of the traffic for the project.
 - (r) “Office” shall mean any administrative, clerical, or professional office maintained as a business. For purposes of development fees, “office” shall include properties zoned C-P, R-T, and P-F.
 - (s) “Owner/developer” shall mean any person shown as the owner of land on the last equalized assessment roll or any person entitled to be shown as owner of land on the next assessment roll and/or the authorized representative of the owner of land. City is not an owner/developer.
 - (t) “Outside travel lanes” shall mean those certain planned travel lanes of a major street that are located between the frontage improvements and the center travel lanes.
 - (u) “Project” shall mean the physical site for which a development entitlement is given as received.

- (v) “Public infrastructure” for purposes of applying fees and exemptions pursuant to this chapter shall mean any City-owned facility or improvement that is funded by a City of Clovis development impact fee including water well sites, booster pump sites that are part of or appurtenant to the City water and recycled water systems, water reservoir sites, water recharge sites, water treatment facility sites, water reuse facility sites, sewer lift station sites and police and fire facilities.
- (w) “Public facilities” shall mean those that provide for the development of governmental, educational, and public utility facilities owned, leased, or operated by such agencies, districts, public utilities, or other entities created for public purposes by the statutes of the State or by the government of the United States.
- (x) Intentionally deleted.
- (y) “Retail” shall mean a business selling goods, wares, or merchandise directly to the ultimate consumer. For purposes of development fees, “retail” shall include properties zoned C-1, C-2, C-3, and PCC.
- (z) “Special facilities” shall mean those certain planned major street improvements that pertain to and serve a limited service area including, but not limited to, traffic signals, bridges, and other street and/or intersection improvements which are provided to safely accommodate vehicular and pedestrian traffic.
- (aa) “Service areas” shall mean those certain areas of the City that are designated as areas of burden and/or benefit for the collection, distribution, and use of related major street development fees.
 - (1) “Service Area 1” shall consist of all properties within the corporate limits and/or the City’s adopted sphere of influence located north of the centerline of Herndon Avenue, east of the centerline of Willow Avenue, and south of the centerline of Shepherd Avenue.
 - (a) “Service Subarea R-T” is inside Service Area 1 and shall consist of all properties within the City’s adopted sphere of influence bounded by State Highway 168 to the south, the centerline of the Enterprise Canal to the east and northeast, a line that is one-eighth (1/8) mile south of the centerline of Nees Avenue to the north, and a line that is one-eighth (1/8) mile east of the centerline of Armstrong Avenue to the west; excepting therefrom the area bounded by the centerline of the Enterprise Canal to the east, State Highway 168 to the south, the centerline of Temperance Avenue to the west, and the south property line of the City of Clovis owned property for the trail as described in the grant deed dated 9-11-00, document number 20000110090, or future deeds adjusting the said south trail property line to the north.
 - (2) “Service Area 2” shall consist of all properties within the City’s corporate limits and/or the City’s adopted sphere of influence located north of the centerline of the Gould Canal, east of the centerline of Fowler Avenue, south of the centerline of Herndon Avenue, and west of the centerline of Locan Avenue.
 - (3) “Service Area 3” shall consist of all properties within the City’s corporate limits and/or the City’s adopted sphere of influence located north of the

City’s southerly sphere of influence boundary, west of the centerline of Fowler Avenue, and south of the centerline of Herndon Avenue.

- (4) “Service Area 4” shall consist of all properties within the corporate limits and/or the City’s adopted sphere of influence located east of the centerline of Locan Avenue and south of the centerline of Herndon Avenue.
- (5) “Service Area 5” shall consist of all properties within the corporate limits and/or the City’s adopted sphere of influence located north of the centerline of Shepherd Avenue.
- (bb) “Service organization” shall mean a voluntary nonprofit organization where members meet regularly to perform charitable works either by direct hands-on efforts or by raising money for other organizations.
- (cc) “Traffic signal” shall mean those certain improvements which are provided to safely accommodate vehicular and pedestrian traffic. Said improvement includes, but is not limited to, poles, mast arms, safety lighting, signals, detectors, signal coordination facilities, and pedestrian facilities.
- (dd) “VMT factor” shall represent the relative vehicle miles traveled per acre by land use as determined by the Fresno County Council of Governments traffic model and justification reports on file with the City. All factors are relative to Single-Family Residential – Medium Density, which is set at a value of 1.0. The factors shall be as follows:

(ee)

VMT Factor	Land Use Category (Density Range or Building Square Footage per Acre)
0.1	Single-Family Residential – Rural (0 – 0.5 units/gross acre)
0.2	Single-Family Residential – Very Low Density (0.6 – 2.0 units/gross acre)
0.7	Single-Family Residential – Low Density (2.1 – 4.0 units/gross acre)
1.0	Single-Family Residential – Medium Density (4.1 – 7.0 units/gross acre)
1.2	Multiple-Family Residential – Medium High Density (7.1 – 15.0 units/gross acre)
2.2	Multiple-Family Residential – High Density (15.1 – 25.0 units/gross acre)
3.3	Multiple-Family Residential – Very High Density (25.1 – 43 units/gross acre)
2.5	Retail
1.1	Office
0.5	Industrial
1.0	Schools
1.1	Public Facilities

Section 3 Subsection 7.7.07 shall be amended to read in its entirety as follows:

7.7.07 Major street development fees.

- (a) Fee basis and application. Except as noted below, all fees will be calculated on the basis of estimated total construction and right-of-way acquisition costs of the relevant improvements within the service area divided by the total of the service area's factored acreage. The major street development fee rates shall be established by resolution adopted by the City Council, based upon the justification reports, as those reports may be subsequently amended or supplemented, and upon a determination that there is a reasonable relationship between the amount of the fee and the cost of the public improvement, or portion thereof, attributable to development of which the major street development fees are imposed. The major street development fees shall be included in the Master Development Fee Schedule and shall include an administrative charge, not to exceed the percentage shown in the Master Development Fee Schedule, to cover the cost of the City's record keeping and handling, except that if sufficient fees are held in the particular fund and general interest sufficient to cover such costs, the administrative charge will be taken from such interest. The major street development fees shall be based on the following:
- (1) Residential projects shall pay major street development fees per dwelling unit. A dwelling unit shall be defined as a room or suite of rooms which is occupied exclusively by one family (adjoining suites shall be considered separate units) for living and sleeping purposes, including a single-family residence, mobile home unit, apartment, townhouse, flat or condominium. Equivalent dwelling unit (EDU) shall mean, in general, a unit of development that is approximately equivalent in impact to the base unit as established in the justification reports on file with the City.
 - (2) Retail, office, and industrial projects, assisted living facilities, and churches shall pay major street development fees per one thousand (1,000) square feet of building area.
 - (3) Mini-storage facilities shall pay major street development fees per gross acre and shall be assessed based on the VMT factor associated with industrial land use.
 - (4) The rates charged for all projects except assisted living facilities, mini-storage facilities, and churches shall be based on the zoning of the property. Retail rates will apply on properties that are zoned C-1, C-2, C-3, and PCC. Office rates will apply to properties zoned C-P, R-T, and P-F. Industrial rates will apply to properties zoned C-M, M-1, M-2, and M-P. For land uses, except those listed above, that are allowed in multiple zone districts the higher of the rate for the land use or the rate associated with the zoning shall apply.
 - (5) Major street development fees for assisted living facilities shall be assessed at industrial rates regardless of the underlying zoning.
 - (6) Major street development fees for churches shall be assessed at office rates regardless of the underlying zoning.

- (7) When structural additions are added to an existing multifamily residential structure which adds dwelling units, street fees shall be assessed and collected for each new dwelling unit based on the ratio of the additional dwelling units to the total dwelling units including the new dwelling units, multiplied by the total gross acreage of the lot.
 - (8) No street fees will be required for modifications to existing single-family residential structures meeting the following criteria:
 - (a) The structure was originally constructed within the City's corporate limits; or
 - (b) The structure lies within the City's original 1912 corporate limits.
 - (9) The fee for modifications to existing single-family residential add to the building square footage but do not meet the above criteria and have not fully paid street fees shall be based on the ratio of the additional building square footage to the total building square footage including the building addition, multiplied by the gross area of the lot.
 - (10) When structural additions are added to an existing nonresidential structure which has not fully paid its street fees, street fees shall be assessed and collected based on the new square footage.
 - (11) All fees will be adjusted annually to reflect actual construction costs or the percentage increase or decrease in the Engineering News Record Index for the California Cities for the twelve (12) month period preceding December. All fees shall include an administrative charge not to exceed the percentage shown in the Master Development Fee Schedule of the sum of all major street fees to cover the cost of City's record keeping and handling, except that if sufficient fees are held in the particular fund and general interest sufficient to cover such costs, the administrative charge will be taken from such interest.
- (b) Fee categories and coverage.
- (1) Outside travel lane fee. This fee shall be for funding the right-of-way (land cost only) and the actual construction cost (plus engineering and inspection) of the frontage improvements and outside travel lane improvements. For purposes of administering the outside travel lane fee and reimbursements on projects approved after the effective date of the ordinance codified in this chapter, landscaping and irrigation facilities between the curb and the property line and right-of-way beyond ten feet (10') from the ultimate face of curb are excluded from the frontage improvements and are not funded by the outside travel lane fee. Project approval means at least one final map has been approved pursuant to an active tentative map or a building permit has been issued pursuant to an approved site plan review.
 - (2) Center travel lane fee. This fee shall be for funding the right-of-way (land cost only) and the actual construction costs (plus engineering and inspection) of the center travel lane improvements. For all developments in Service Area 3, said fee shall not be required.
 - (3) Special facility contributions. These are contributions made to fund the actual cost of special facilities, as described in Section 7.7.02, or for the

relocation of existing facilities to their ultimate location other than such facilities within the adjacent improvement area bounded by the centerline of the street and the parcel boundaries, and shall be collected at the time of development of the parcel(s) for which said facilities have been relocated.

- (4) Bridge fee. This fee shall be for funding the actual construction cost (plus engineering and inspection) of the bridge improvements.
 - (5) Traffic signal fee. This fee shall be for funding the actual construction cost (plus engineering and inspection) of the traffic signal improvements.
 - (6) Local street fee. This fee shall be the actual construction costs, including engineering and inspection, plus the right-of-way costs of the portion of street and right-of-way constructed and provided in excess of one-half (1/2) the ultimate required right-of-way.
- (c) Exemptions.
- (1) Any development considered to be public infrastructure shall be exempt from the payment of center travel lane, outside travel lane, traffic signal, bridge, and administrative fees under this section.
 - (2) Fresno Metropolitan Flood Control District master planned permanent storm drain retention basins shall be exempt from the payment of center travel lane, outside travel lane, traffic signal, bridge, and administrative fees under this section. The outside travel lane improvement costs and the center and outside travel lane right-of-way acquisition costs along the master planned permanent storm drain retention basins shall not be included in the costs used as the basis for calculating the fee rates as noted above.

Section 4 This Ordinance shall go into effect and be in full force from and after thirty (30) days after its final passage and adoption.

APPROVED: August 1, 2022

Mayor

City Clerk

* * * * *

The foregoing Ordinance was introduced and read at a regular meeting of the City Council held on August 1, 2022, and was adopted at a regular meeting of said Council held on September 6, 2022, by the following vote, to wit:

AYES:

NOES:

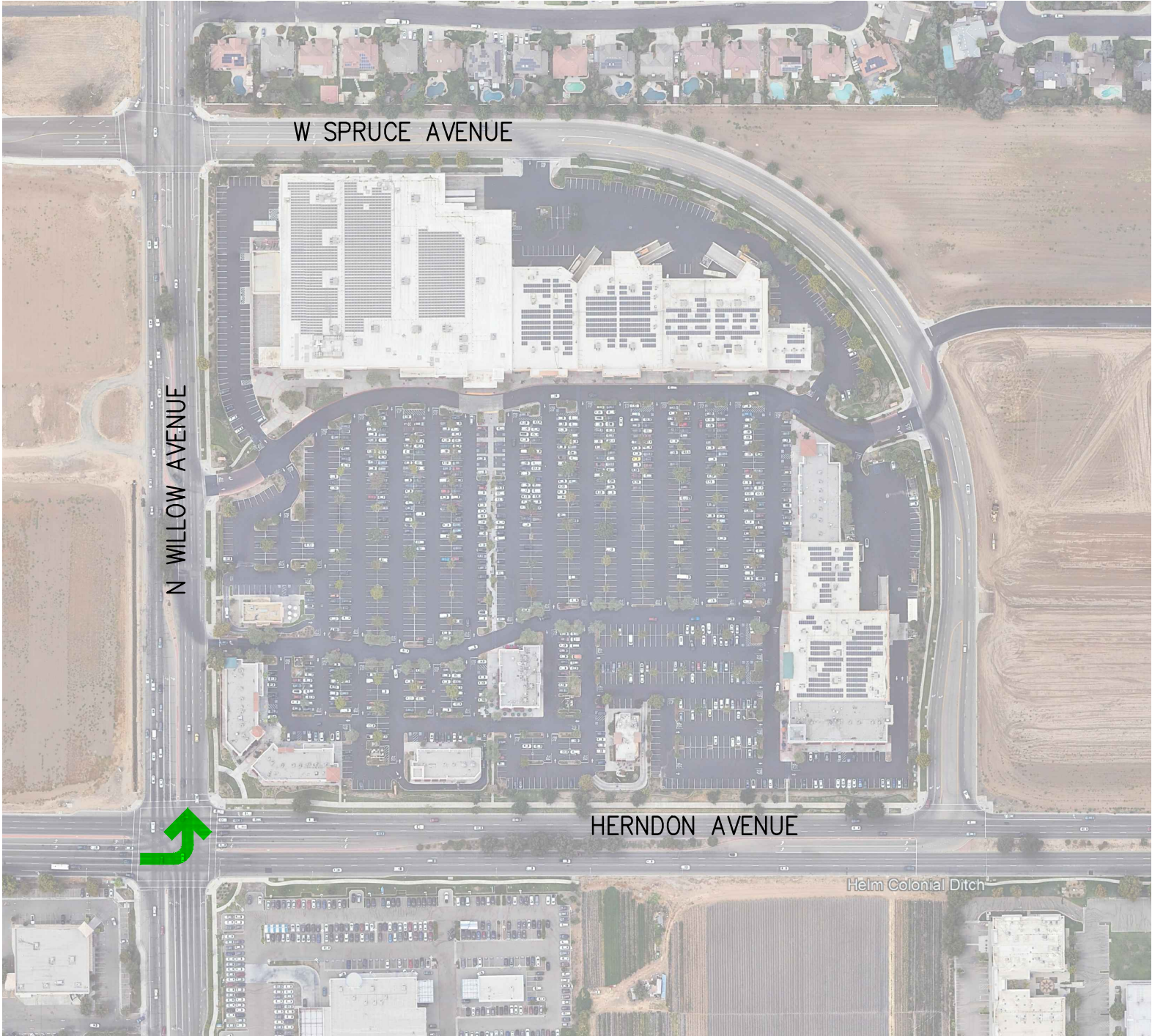
ABSENT:

ABSTAIN:

DATED: September 6, 2022

City Clerk

Herndon/Willow and Herndon/Peach Quadrant Design Traffic Movements



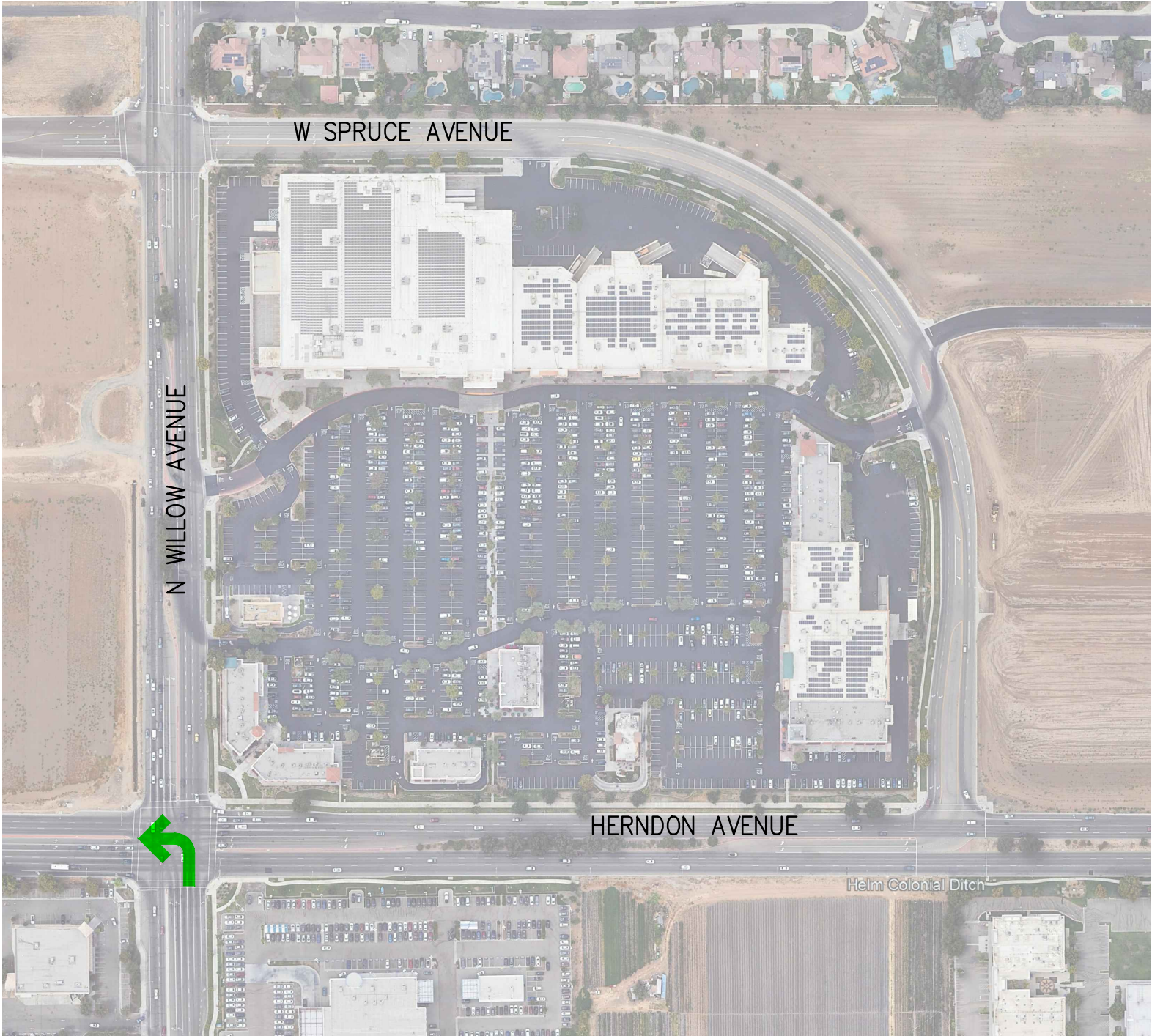
EASTBOUND-TO-NORTHBOUND (EXISTING)
INTERSECTION OF HERNDON & WILLOW AVENUES





EASTBOUND-TO-NORTHBOUND (QUAD)
INTERSECTION OF HERNDON & WILLOW AVENUES





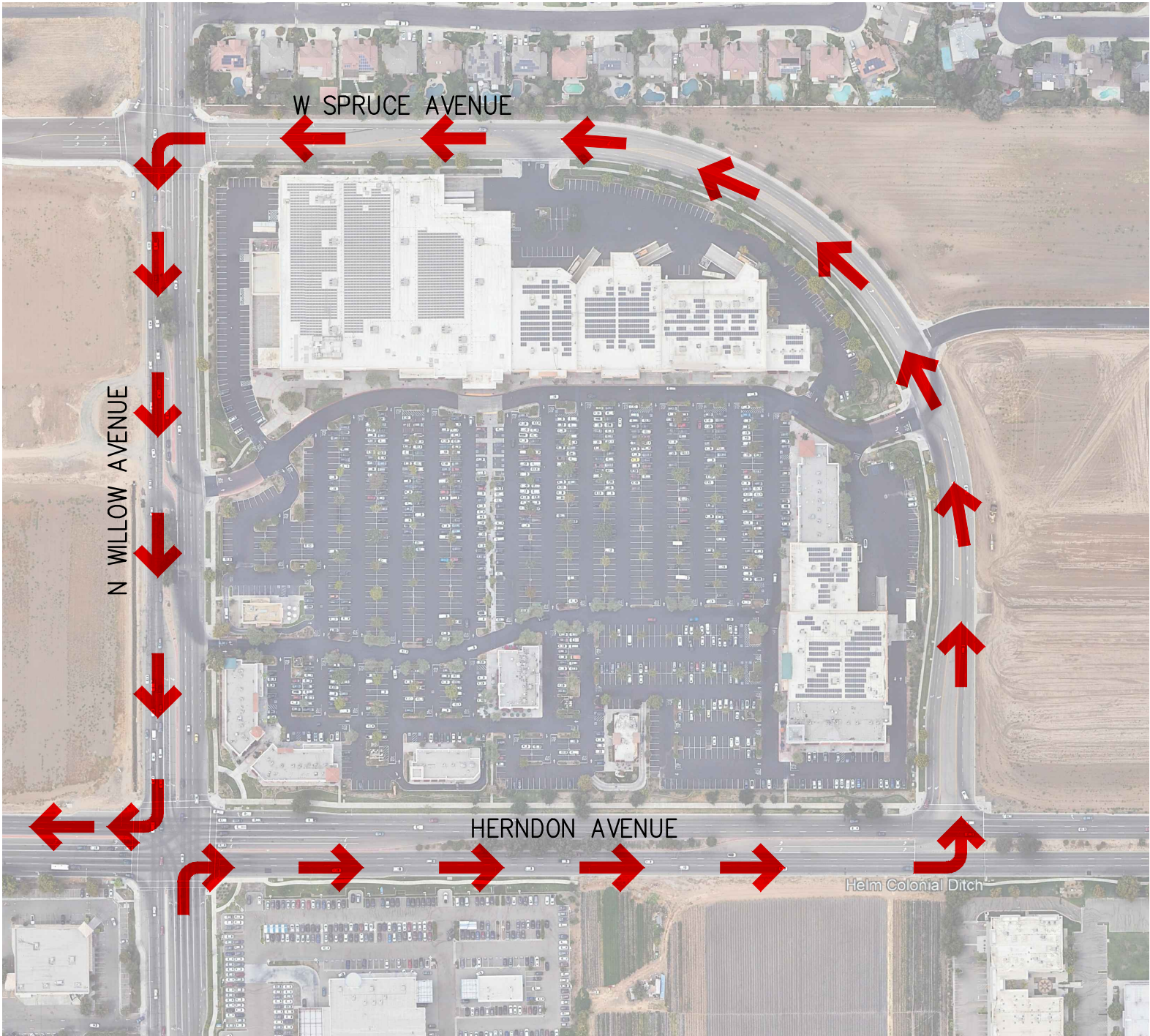
NORTHBOUND-TO-WESTBOUND (EXISTING)
INTERSECTION OF HERNDON & WILLOW AVENUES





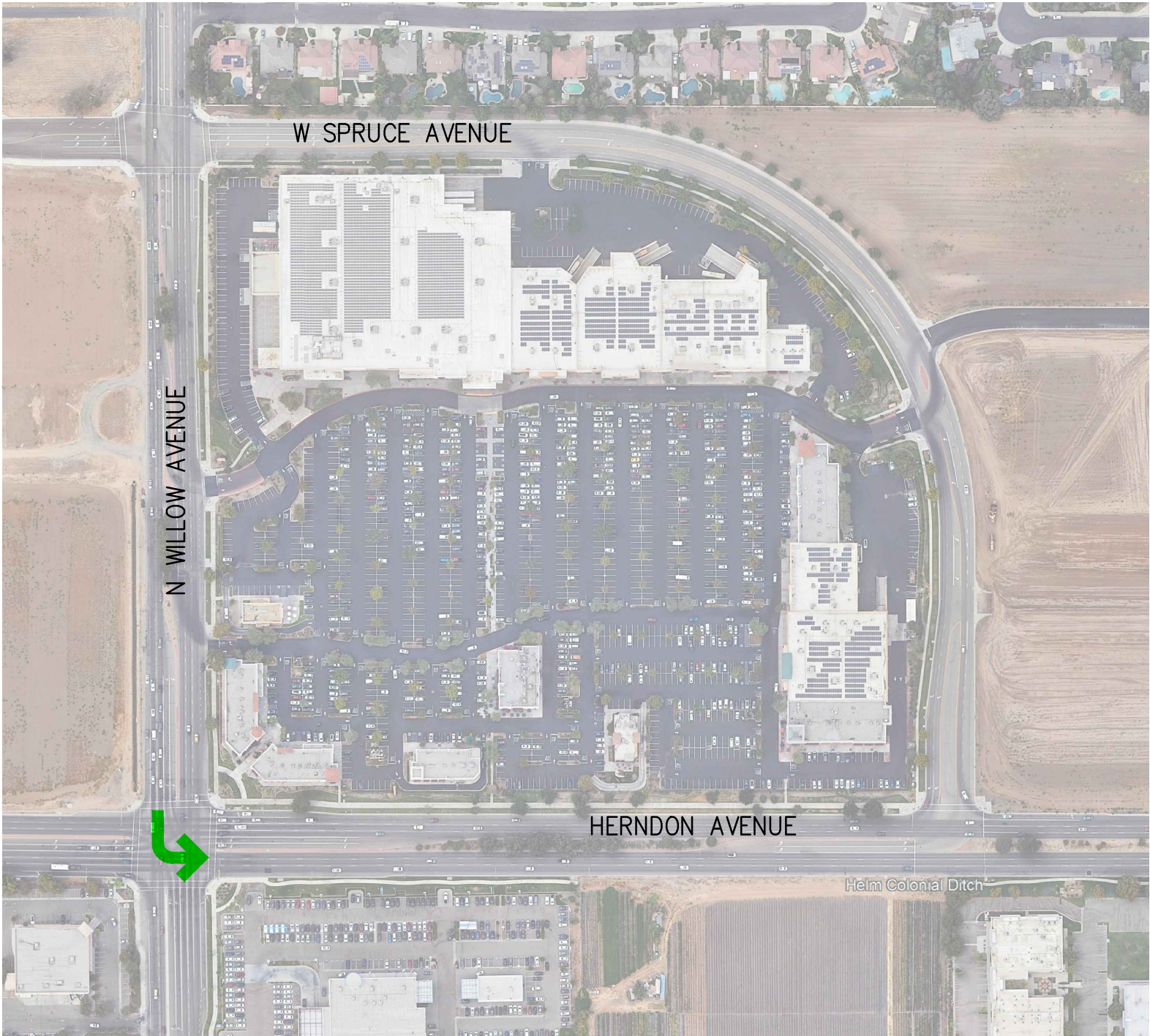
NORTHBOUND-TO-WESTBOUND (QUAD-OPTION 1)
INTERSECTION OF HERNDON & WILLOW AVENUES





NORTHBOUND-TO-WESTBOUND (QUAD-OPTION 2)
INTERSECTION OF HERNDON & WILLOW AVENUES





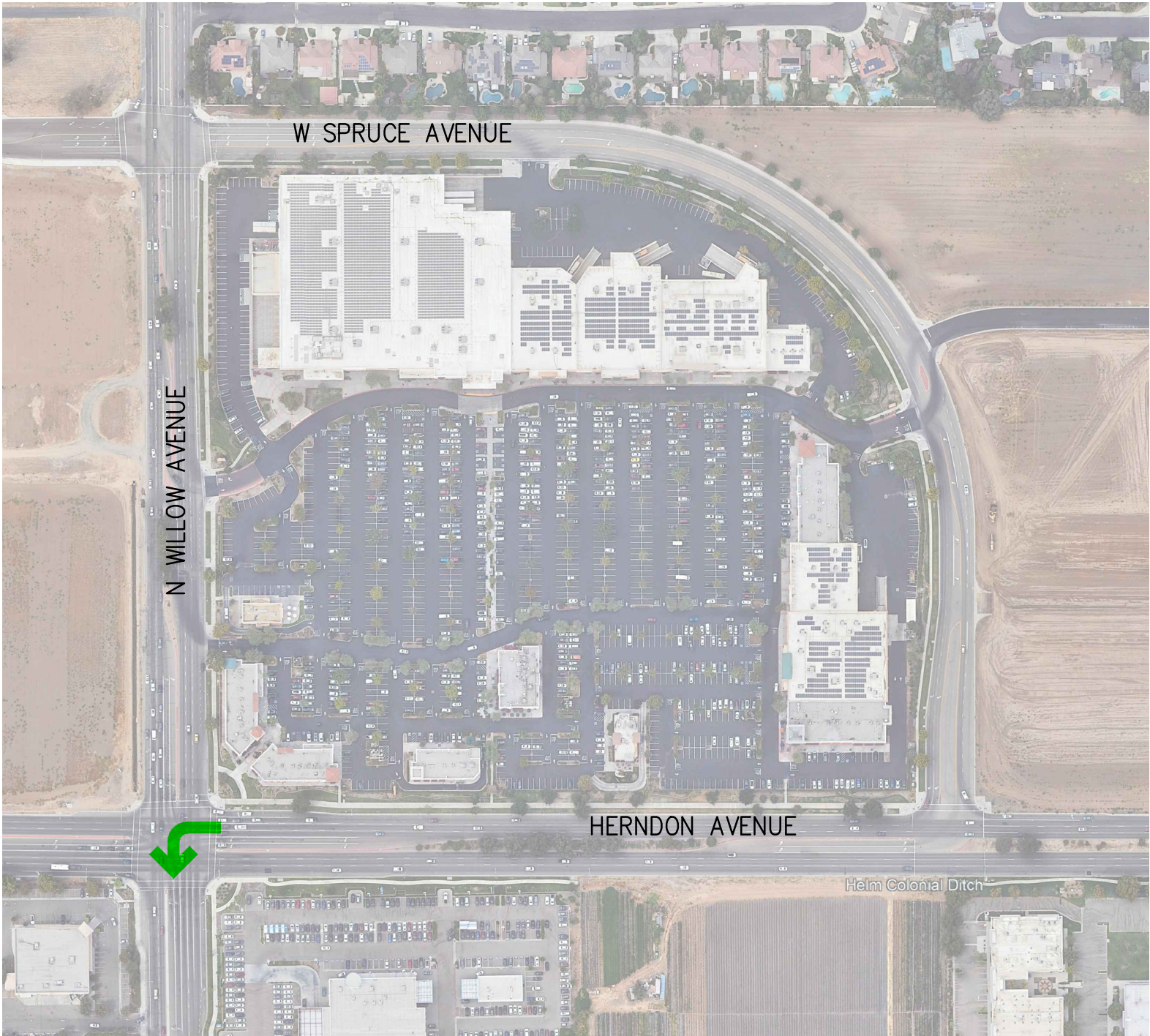
SOUTHBOUND-TO-EASTBOUND (EXISTING)
INTERSECTION OF HERNDON & WILLOW AVENUES





SOUTHBOUND-TO-EASTBOUND (QUAD)
INTERSECTION OF HERNDON & WILLOW AVENUES





WESTBOUND-TO-SOUTHBOUND (EXISTING)
INTERSECTION OF HERNDON & WILLOW AVENUES





WESTBOUND—TO—SOUTHBOUND (QUAD)
INTERSECTION OF HERNDON & WILLOW AVENUES





EASTBOUND-TO-NORTHBOUND (EXISTING)
INTERSECTION OF HERNDON & PEACH AVENUES





EASTBOUND-TO-NORTHBOUND (QUAD)
INTERSECTION OF HERNDON & PEACH AVENUES





NORTHBOUND-TO-WESTBOUND (EXISTING)
INTERSECTION OF HERNDON & PEACH AVENUES





NORTHBOUND-TO-WESTBOUND (QUAD)
INTERSECTION OF HERNDON & PEACH AVENUES





SOUTHBOUND-TO-EASTBOUND (EXISTING)
INTERSECTION OF HERNDON & PEACH AVENUES





SOUTHBOUND-TO-EASTBOUND (QUAD)
INTERSECTION OF HERNDON & PEACH AVENUES





WESTBOUND-TO-SOUTHBOUND (EXISTING)
INTERSECTION OF HERNDON & PEACH AVENUES





WESTBOUND-TO-SOUTHBOUND (QUAD)
INTERSECTION OF HERNDON & PEACH AVENUES



Correspondence from the City of Fresno


PUBLIC WORKS DEPARTMENT

City Hall
 2600 Fresno Street, 4th Floor
 Fresno, California 93721
 Ph. (559) 621-8800
 www.fresno.gov

Scott L. Mozier, P.E.
 Public Works Director

November 30, 2021

Ryan Burnett, Program Supervisor
 City of Clovis, Planning and Development Services – Engineering Division
 1033 Fifth Street
 Clovis, CA 93612

SUBJECT: REVIEW OF THE OCTOBER 13, 2021 HERNDON AVENUE CORRIDOR STUDY BETWEEN WILLOW AVENUE AND STATE ROUTE 168 PREPARED BY PETERS ENGINEERING GROUP TIS 21-011

PROJECT OVERVIEW

Traffic Operations and Planning staff has reviewed the Herndon Avenue Corridor Study between Willow Avenue and State Route 168 prepared by Peters Engineering Group. The study analyzes the impact of removing the quad intersection concept at the Herndon Avenue and Willow Avenue intersection from the City of Clovis Herndon-Shepherd Specific Plan.

The intersection of Herndon Avenue and Willow Avenue is located in both the City of Fresno's and City of Clovis' jurisdictions. The quad intersection concept has been partially implemented on the City of Clovis side with the construction of the Helm Avenue/Spruce Avenue bypass road. Left-turns at the intersection of Herndon Avenue and Willow Avenue have not been eliminated. The City of Fresno is not supportive of eliminating left-turns at the Herndon Avenue and Willow Avenue intersection and has no plans to implement the quad intersection concept. The City of Fresno is supportive of eliminating the quad intersection concept from the Herndon Avenue Specific Plan and allowing left-turns at the Herndon Avenue at Helm Avenue intersection.

If you have any further questions regarding this matter, please contact me at (559) 621-8792 or jill.gormley@fresno.gov.

Sincerely,

Jill Gormley, TE
 City Traffic Engineer / Traffic Operations & Planning Manager
 Public Works Department, Traffic Operations & Planning Services

C: Louise Gilio, Traffic Planning Supervisor
 Harman Dhaliwal, Supervising PE
 Andrew Benelli, Assistant Director

Herndon Avenue Corridor Study by Peters Engineering Group

HERNDON AVENUE CORRIDOR STUDY

Between Willow Avenue and State Route 168

Clovis, California

Prepared For:

City of Clovis
1033 Fifth Street
Clovis, California 93612

Date:

June 1, 2022

Job No.:

21-010.01



PETERS ENGINEERING GROUP

A CALIFORNIA CORPORATION



PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

EXECUTIVE SUMMARY

This report presents the results of traffic analyses on the Herndon Avenue corridor between Willow Avenue and State Route (SR) 168 in Clovis, California. The purpose of the analyses is to compare the operational characteristics of the corridor with and without the quad intersection concept.

The City of Clovis General Plan classifies Herndon Avenue as an expressway between Willow Avenue and SR 168. The Herndon-Shepherd Specific Plan was amended in accordance with the recommendations of City of Clovis Memorandum dated July 9, 2001 (based on the Herndon Avenue Specific Study dated November 3, 2000) to allow implementation of a quad intersection concept on Herndon Avenue at Willow Avenue and at Peach Avenue based on projected year 2020 congestion that has not occurred to the degree predicted. The quad intersection concept was intended to improve traffic flow on Herndon Avenue by eliminating conflicting turning movements (primarily left turns) at the major intersections and converting them to a series of right-turn movements, if possible. To do so, a bypass road in one or more quadrants adjacent to an intersection is required, along with at least two additional signalized intersections at each location. Each of the three signalized intersections comprising a planned quad intersection requires fewer traffic signal phases, potentially facilitating improved coordination of the traffic signals in the eastbound and westbound directions on Herndon Avenue despite the requirement for additional signalized intersections on Herndon Avenue.

The quad intersection concept has been partially implemented in the northeast quadrant of the intersection of Willow and Herndon Avenues with construction of the Spruce Avenue / Helm Avenue bypass road and signalization at the Willow/Spruce and Helm/Herndon intersections, but left turns have not been eliminated at the intersection of Willow and Herndon Avenues. The roadways comprising the quad intersection at Peach Avenue are also generally existing, but the additional traffic signals have not been constructed and left turns have not been eliminated at the intersection of Peach and Herndon Avenues. The following intersections would require signalization and geometric modifications to implement quad intersections:

- the existing intersection of Herndon Avenue and the eastern Peach Avenue, and
- the existing intersection of the new Peach Avenue (west) and the old Peach Avenue (east) approximately 800 feet south of Herndon Avenue

The City of Fresno has eliminated plans for the implementation of the quad intersection concept on the west side of Willow Avenue and has not implemented the concept at any City of Fresno intersections.

The City of Clovis is considering eliminating the quad intersection concept, including elimination of plans to remove left-turn movements at the Herndon Avenue intersections at

Willow and Peach Avenues, and is considering altering the configuration of the intersection of Herndon and Helm Avenues to allow southbound-to-eastbound left turns.

This report includes traffic counts and analysis of the following intersections:

1. Chestnut and Herndon Avenues
2. Willow and Herndon Avenues
3. Helm and Herndon Avenues
4. Peach and Herndon Avenues (western signalized)
5. Peach and Herndon Avenues (eastern one-way stop at old Peach Avenue)
6. Villa and Herndon Avenues
7. Minnewawa and Herndon Avenues
8. DeWitt and Herndon Avenues
9. Willow and Spruce Avenues
10. Willow and Magill Avenues
11. Cedar and Herndon Avenues
12. Maple and Herndon Avenues

The study time periods are the weekday a.m. and p.m. peak hours determined between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. Intersection and arterial corridor operational analyses were performed for the following scenarios:

1. Year 2042 conditions with quad intersections;
2. Year 2042 conditions without quad intersections.

Standard traffic engineering practices and methods were employed to establish the existing and future traffic volumes, and to analyze the traffic conditions that are expected to occur in the future for each of the analysis scenarios. The conclusions and recommendations resulting from the study are summarized below.

The analyses generally confirm the conclusions of the Herndon Avenue Specific Study, specifically that the quad intersection concept could provide better arterial operations and progression along Herndon Avenue by eliminating left-turn movements at major intersections and generally converting them to a series of right-turn and through movements. The average speeds during the peak hours on Herndon Avenue in the year 2042 between Chestnut Avenue and DeWitt Avenue are expected to range from 23 to 31 miles per hour, including time spent sitting at red lights. If the quad intersection concept is not implemented, the average speeds are expected to drop to a range of 11 to 28 miles per hour.

The analyses indicate that intersections not on Herndon Avenue, such as Willow/Spruce Avenues and Willow/Magill Avenues, are likely to operate with less delay if quad intersections are not implemented because fewer trips will be diverted through those intersections and to the bypass roads.

The reduction of vehicle miles traveled (VMT) is currently a high priority for the State of California per SB 743. It is estimated that implementation of the quad intersection configuration on Herndon Avenue at Willow Avenue and at Peach Avenue would result in approximately an additional 11,000 vehicle miles traveled per day in the year 2042.

The analyses suggest that excessive queues are expected to occur at many of the study intersections whether or not quad intersections are implemented. Implementation of state-of-

the-art coordination systems, such as adaptive signal control technology that adjusts signal timing in real time, should be implemented to optimize traffic progression.

It should be noted that, since the roadways comprising the quad intersection configurations are generally existing, removing the quad intersections from the Herndon-Shepherd Specific Plan does not necessarily preclude consideration and implementation of quad intersections in the future based on actual observed conditions. The decision not to implement quad intersections may be considered as an indefinite postponement of the concept that could be revisited in the future.

Considering the factors mentioned above, as well as the potential for driver confusion and the costs of implementation, it is recommended that the quad intersection concept be postponed indefinitely or eliminated from the Herndon-Shepherd Specific Plan.



Mr. Ryan Burnett, AICP
City of Clovis
1033 Fifth Street
Clovis, California 93612

June 1, 2022

Subject: Herndon Avenue Corridor Study
Between Willow Avenue and State Route 168
Clovis, California

Dear Mr. Burnett:

1.0 INTRODUCTION

This report presents the results of traffic analyses on the Herndon Avenue corridor between Willow Avenue and State Route (SR) 168 in Clovis, California. The purpose of the analyses is to compare the operational characteristics of the corridor with and without the quad intersection concept.

2.0 PROJECT DESCRIPTION

The City of Clovis General Plan classifies Herndon Avenue as an expressway between Willow Avenue and SR 168. The Herndon-Shepherd Specific Plan was amended in accordance with the recommendations of City of Clovis Memorandum dated July 9, 2001 (based on the Herndon Avenue Specific Study dated November 3, 2000) to allow implementation of a quad intersection concept on Herndon Avenue at Willow Avenue and at Peach Avenue based on projected year 2020 congestion that has not occurred to the degree predicted. The quad intersection concept was intended to improve traffic flow on Herndon Avenue by eliminating conflicting turning movements (primarily left turns) at the major intersections and converting them to a series of right-turn movements, if possible. To do so, a bypass road in one or more quadrants adjacent to an intersection is required, along with at least two additional signalized intersections at each location. Each of the three signalized intersections comprising a planned quad intersection requires fewer traffic signal phases, potentially facilitating improved coordination of the traffic signals in the eastbound and westbound directions on Herndon Avenue despite the requirement for additional signalized intersections on Herndon Avenue.

Table 1 presents a summary of movements that would be eliminated with implementation of quad intersections, and how those movements would be accomplished with the quad intersections in effect. Table 1 also indicates whether the alternate movements can be accomplished without requiring left turns at any of the intersections.

Table 1
Quad Intersection Modifications

Intersection Existing Left-Turn Movement	Quad Intersection Movements	Any Left Turn Required for Quad?
Willow / Herndon		
Eastbound to Northbound	Proceed eastbound past Willow, turn left from Herndon to Helm (quad bypass), turn right from Spruce to northbound Willow.	Yes
Westbound to Southbound	Prior to arriving at Willow, turn right to Helm (quad bypass), turn left from Spruce to southbound Willow, proceed through on southbound Willow at Herndon.	Yes
Northbound to Westbound	Proceed northbound on Willow, turn right to Spruce (quad bypass), turn right from Helm to westbound Herndon, proceed through on westbound Herndon at Willow.	No
	Alternative: Turn right to eastbound Herndon, turn left from Herndon to Helm (quad bypass), turn left from Spruce to southbound Willow, turn right to westbound Herndon.	Yes
Southbound to Eastbound	Prior to arriving at Herndon, turn left to Spruce (quad bypass), turn left from Helm to eastbound Herndon.	Yes
Peach / Herndon		
Eastbound to Northbound	Proceed eastbound past Peach west, turn right on Peach east, turn right to Peach west, proceed northbound on Peach west past Herndon.	No
Westbound to Southbound	Prior to arriving at Peach west, turn left from Herndon to Peach east and proceed southbound.	Yes
Northbound to Westbound	Proceed northbound on Peach east, turn left to westbound Herndon, proceed westbound past Peach west.	Yes
Southbound to Eastbound	Proceed southbound on Peach west past Herndon, turn left to Peach east northbound, turn right to eastbound Herndon.	Yes

The quad intersection concept has been partially implemented in the northeast quadrant of the intersection of Willow and Herndon Avenues with construction of the Spruce Avenue / Helm Avenue bypass road and signalization at the Willow/Spruce and Helm/Herndon intersections, but left turns have not been eliminated at the intersection of Willow and Herndon Avenues. The roadways comprising the quad intersection at Peach Avenue are also generally existing, but the additional traffic signals have not been constructed and left turns have not been eliminated at the intersection of Peach and Herndon Avenues. The following intersections would require signalization and geometric modifications to implement quad intersections:

- the existing intersection of Herndon Avenue and the eastern Peach Avenue, and
- the existing intersection of the new Peach Avenue (west) and the old Peach Avenue (east) approximately 800 feet south of Herndon Avenue

The City of Fresno has eliminated plans for the implementation of the quad intersection concept on the west side of Willow Avenue and has not implemented the concept at any City of Fresno intersections.

The City of Clovis is considering eliminating the quad intersection concept, including elimination of plans to remove left-turn movements at the Herndon Avenue intersections at Willow and Peach Avenues, and is considering altering the configuration of the intersection of Herndon and Helm Avenues to allow southbound-to-eastbound left turns.

A site vicinity map is presented in the attached Figure 1, Site Vicinity Map, following the text of this report.

3.0 STUDY AREA

This report includes traffic counts and analysis of the following intersections:

1. Chestnut and Herndon Avenues
2. Willow and Herndon Avenues
3. Helm and Herndon Avenues
4. Peach and Herndon Avenues (western signalized)
5. Peach and Herndon Avenues (eastern one-way stop at old Peach Avenue)
6. Villa and Herndon Avenues
7. Minnewawa and Herndon Avenues
8. DeWitt and Herndon Avenues
9. Willow and Spruce Avenues
10. Willow and Magill Avenues
11. Cedar and Herndon Avenues
12. Maple and Herndon Avenues

4.0 ANALYSIS SCENARIOS

The study time periods are the weekday a.m. and p.m. peak hours determined between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m.

Intersection and arterial corridor operational analyses were performed for the following scenarios:

1. Year 2042 conditions with quad intersections;
2. Year 2042 conditions without quad intersections.

5.0 ROADWAY CLASSIFICATIONS

The City of Clovis General Plan designates Herndon Avenue as an expressway between Willow Avenue and SR 168. The following roadways are designated as collector streets: Peach Avenue, Villa Avenue south of Herndon Avenue, and the Helm Avenue/Spruce Avenue bypass. Villa Avenue north of Herndon Avenue and Willow Avenue are designated as arterial streets.

The City of Fresno has planned three southbound through lanes on Willow Avenue north of Herndon Avenue and two southbound through lanes on Willow Avenue south of Herndon Avenue. To implement the quad intersection concept with three southbound through lanes

on Willow Avenue, a lane drop would likely be required on southbound Willow Avenue prior to arriving at Magill Avenue.

6.0 LEVEL OF SERVICE

The Transportation Research Board *Highway Capacity Manual, 6th Edition*, (HCM) 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 and 3.

Table 2
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, 6th Edition*, Transportation Research Board, 2016

Table 3
Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Volume-to-capacity ratio is no greater than 1.0. Progression is exceptionally favorable or the cycle length is very short.	<10
B	Volume-to-capacity ratio is no greater than 1.0. 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, 6th Edition*, Transportation Research Board, 2016

The State of California does not recognize traffic congestion and delay as an environmental impact per CEQA. However, the City of Clovis General Plan requires a minimum LOS D at

intersections under the City’s jurisdiction. The City of Clovis *Interim Transportation Impact Analysis Guidelines* dated July 14, 2020 (City Guidelines) state the following:

“All City intersections and roadway segments shall operate at a LOS D or better under the near-term conditions, unless a finding of overriding consideration was adopted in the General Plan EIR. Under long-term conditions, all City intersections and roadway segments shall operate at a LOS D or better, except for the roadway segments adopted in the General Plan EIR to operate at LOS E or F. Exceptions to this standard may be allowed on a case by case basis where lower levels of service would result in other public benefits, such as:

- a) Preserving agriculture or open space land*
- b) Preserving the rural/historic character of a neighborhood*
- c) Preserving or creating a pedestrian-friendly environment in Old Town or mixed-use village districts*
- d) Avoiding adverse impacts to pedestrians, cyclists, and transit riders*
- e) Where right-of-way constraints would make capacity expansion infeasible”*

7.0 LANE CONFIGURATIONS AND INTERSECTION CONTROL

The existing lane configurations and intersection control at the study intersections are illustrated in Figure 2, Existing Lane Configurations and Intersection Control. The lane configurations assumed for the year 2042 analysis scenarios, based on information presented in the Herndon Avenue Specific Study dated November 3, 2000 and the City of Clovis Memorandum dated July 9, 2001, are presented in the following figures:

Figure 3: Year 2042 Lane Configurations and Intersection Control With Quad Intersections

Figure 4: Year 2042 Lane Configurations and Intersection Control Without Quad Intersections

8.0 EXISTING TRAFFIC VOLUMES

Existing traffic volumes were determined by performing manual turning movement counts at the study intersections between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. on a weekday. In addition, 24-hour road segment counts were performed at the following locations:

- Herndon Avenue between Helm and Peach Avenues
- Herndon Avenue between Peach and Villa Avenues
- Herndon Avenue between Villa and DeWitt Avenues
- Helm Avenue between Herndon and Spruce Avenues
- Peach Avenue between Herndon Avenue and Magill Avenue
- Spruce Avenue between Helm Avenue and Peach Avenue.

The traffic count data sheets are presented in Appendix A and include the dates the counts were performed. The existing peak-hour turning movement volumes are presented in Figure 5, Existing Peak-Hour Traffic Volumes.

The traffic volumes were compared with available counts performed prior to the COVID pandemic and it was determined that peak-hour traffic volumes have returned to approximately pre-pandemic conditions. Therefore, no adjustment to compensate for the pandemic was applied.

9.0 YEAR 2042 TRAFFIC VOLUMES

9.1 Travel Model

The Fresno Council of Governments (COG) maintains a travel model that is typically used to forecast future traffic volumes. Year 2042 traffic volumes were projected using the Increment Method, which is described in a document available from COG entitled “*Model Steering Committee Recommended Procedures for Using Traffic Projections from the Fresno COG Travel Model dated December 2002.*” In general, the Increment Method forecasts future traffic volumes by estimating the additional trips that will result from regional growth as calculated by the model between the base year and the horizon year. The additional trips are added to the existing traffic volumes, resulting in a forecast of the future traffic volumes. The Fresno County travel model data output is presented in Appendix B.

9.2 Vacant Sites and Land Uses

A review of the trips projected by the travel model to be generated as a result of eventual development of vacant sites in the vicinity of the Herndon Avenue corridor suggests that the local trips may be underestimated by the model. Vacant sites in the vicinity of the Herndon Avenue corridor, including those currently being developed, are indicated on Figure 6, Vacant Sites, and are summarized in Table 4. The assumed development is also presented in the table and is generally based on an assumed floor area ratio of 25 percent for office and commercial uses.

Table 4
Vacant Sites and Land Uses

Site Number	Site Location	Site Area (acres)	Planned Land Use	Assumed Development
1	North side of Herndon Avenue between Helm and Peach Avenues	24±	General Commercial	262,000 sq. ft. shopping center
2	North side of Spruce Avenue between Helm and Peach Avenues	12.5±	Tract 6262	185 units
3	South side of Herndon Avenue between Honda North and Institute of Technology	6.25±	Office	68,000 sq. ft. general office
4	South side of Herndon Avenue between Institute of Technology and Peach Avenue	7.25±	Office	79,000 sq. ft. general office
5	South side of Herndon Avenue between Peach Avenue (west) and Peach Avenue (east)	5.5±	Office	60,000 sq. ft. general office
6	South of the intersection of Peach and Magill Avenues	4.9±	Low Density Residential	19 units
7	Southwest of the intersection of Herndon and Villa Avenues	8.0±	General Commercial	87,000 sq. ft. shopping center
8	Northwest of the intersection of Herndon and Willow Avenues (City of Fresno)	18.86 gross	Commercial / Business Park	140,000 sq. ft. shopping center

Trips generated by other vacant sites not mentioned in Table 4 are accommodated by growth projected in the Fresno County travel model.

9.3 Trip Generation

Data provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*, were used to estimate the number of trips anticipated to be generated by proposed projects. Table 5 presents trip generation estimates for the site listed in Table 4.

Table 5
Trip Generation Estimates

Site	ITE Land Use	Size	A.M. Peak Hour					P.M. Peak Hour				
			Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
1	Shopping Center (820)	262 ksf	FC1	62:38	175	108	283	FC2	48:52	533	577	1,110
2	Multifamily Housing (220)	185	0.46	23:77	20	66	86	0.56	63:37	66	38	104
3	Office (710)	68 ksf	1.16	86:14	68	11	79	1.15	16:84	13	66	79
4	Office (710)	79 ksf	1.16	86:14	79	13	92	1.15	16:84	15	76	91
5	Office (710)	60 ksf	1.16	86:14	60	10	70	1.15	16:84	11	58	69
6	Single Family Housing (210)	19	0.74	25:75	4	11	15	0.99	63:37	12	7	19
7	Shopping Center (820)	87 ksf	FC1	62:38	121	75	196	FC2	48:52	236	255	491
8a	Fast Food (934)	4.5 ksf	40.19	51:49	92	89	181	32.67	52:48	76	71	147
8b	Shopping Center (820)	135.32 2 ksf	FC1	62:38	136	84	220	FC2	48:52	326	354	680

Reference: *Trip Generation Manual, 10th Edition*, Institute of Transportation Engineers 2017

Rates are reported in trips per 1,000 square feet or trips per unit as applicable

FC1: Fitted curve: $T = 0.50(X) + 151.78$

FC2: Fitted curve: $\ln(T) = 0.74\ln(X) + 2.89$

9.4 Projected Year 2042 Volumes

Projected year 2042 traffic volumes are presented in the following figures:

Figure 7: Year 2042 Peak-Hour Traffic Volumes With Quad Intersections

Figure 8: Year 2042 Peak-Hour Traffic Volumes Without Quad Intersections

10.0 OPERATIONAL ANALYSES

10.1 Intersection Level of Service Analysis

The intersection levels of service were determined using the computer program Synchro 11, which incorporates HCM procedures for calculating levels of service. The intersection analysis sheets are presented in Appendix C.

Tables 6 and 7 present the results of the intersection analyses. For signalized intersections, the overall intersection LOS and the average delay per vehicle are presented. For one-way stop-controlled intersections, the HCM does not define an overall intersection LOS; therefore, the average delay and LOS for the approach with the greatest delay is presented. Delays and LOS worse than the target LOS D are presented in bold type and are underlined.

**Table 6
 Intersection LOS Summary – Year 2042 With Quad Intersections**

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Chestnut / Herndon	Signals	33.7	C	<u>60.7</u>	<u>E</u>
Willow / Herndon	Signals	28.8	C	28.6	C
Helm / Herndon	Signals	15.6	B	14.7	B
Peach / Herndon (west)	Signals	8.9	A	12.3	B
Peach / Herndon (east)	Signals	7.6	A	12.4	B
Villa / Herndon	Signals	23.0	C	25.1	C
Minnewawa / Herndon	One-way stop	30.2	D	<u>>300</u>	<u>F</u>
DeWitt / Herndon	Signals	12.4	B	12.1	B
Willow / Spruce	Signals	19.1	B	45.7	D
Willow / Magill	Signals	18.7	B	<u>56.3</u>	<u>E</u>
Cedar / Herndon	Signals	30.5	C	<u>51.6</u>	<u>E</u>
Maple / Herndon	Signals	15.8	B	18.3	B

Table 7
Intersection LOS Summary – Year 2042 Without Quad Intersections

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Chestnut / Herndon	Signals	36.7	D	54.2	D
Willow / Herndon	Signals	<u>87.6</u>	<u>F</u>	<u>79.3</u>	<u>E</u>
Helm / Herndon	Signals	6.0	A	12.2	B
Peach / Herndon (west)	Signals	19.0	B	33.9	C
Peach / Herndon (east)	One-way stop*	<u>41.1</u>	<u>E</u>	<u>284.5</u>	<u>F</u>
Villa / Herndon	Signals	24.4	C	26.6	C
Minnewawa / Herndon	One-way stop*	30.2	D	<u>>300</u>	<u>F</u>
DeWitt / Herndon	Signals	14.7	B	12.8	B
Willow / Spruce	Signals	14.4	B	23.6	C
Willow / Magill	Signals	18.7	B	<u>61.7</u>	<u>E</u>
Cedar / Herndon	Signals	31.4	C	52.4	D
Maple / Herndon	Signals	15.0	B	22.3	C

* The LOS and delay reported for one-way stop is the approach with the greatest delay. Through traffic on Herndon Avenue does not stop.

10.2 Intersection Queuing Analysis

SimTraffic microsimulation software was utilized to estimate the maximum queues that would occur at the study intersections. The maximum queues were determined based on an average of 10 simulations with a seed time of 10 minutes and a run time of 60 minutes. The maximum queues are presented in Tables 8 and 9, along with the existing storage capacity on each movement. The storage capacities are based on measurements from available aerial photographs. Maximum queues that exceed the storage capacity are indicated in bold type and are underlined. The queuing and blocking reports are presented in Appendix D.

Notes and abbreviations for Tables 8 and 9:

- + Connects to a two-way left-turn lane that provides additional storage.
- # Two through lanes within the noted distance and one through lane beyond that distance.
- S: Shared movement
- DNS: Does not stop
- TBD: To be designed

Table 8
Intersection Queuing Summary – Year 2042 With Quad Intersections

Intersection	Number of Lanes, Storage (feet), and Queue Length (feet)												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Chestnut / Herndon	Lanes	2	3	1	2	3	1	1	1	1	2	1	1
	Storage	290	2,525	225	255	1,800	200	210	2,550	125	235	2,800	200
	A.M.	218	378	282	266	632	290	313	446	108	340	590	340
	P.M.	405	2,045	310	133	409	290	315	920	912	340	580	340
Willow / Herndon	Lanes		3	1		3	1		3	1		3	1
	Storage		1,800	225		1,235	140		560	215		1,110	115
	A.M.		359	310		588	240		570	305		1,164	355
	P.M.		800	315		242	200		527	305		1,162	355
Helm / Herndon	Lanes	2	3			3	2				2		2
	Storage	300	1,245			1,250	200				TBD		>650
	A.M.	195	108			310	278				197		310
	P.M.	241	205			301	270				273		242
Peach / Herndon (west)	Lanes		3	1		3	1		2			2	1
	Storage		1,300	125		520	110		>400			>830	125
	A.M.		197	117		157	95		134			218	148
	P.M.		328	176		305	205		120			288	156
Peach / Herndon (east)	Lanes		3	1	1	3		1		2			
	Storage		485	TBD	315	1,175		TBD		TBD			
	A.M.		192	42	193	241		244		128			
	P.M.		212	36	182	367		344		265			
Villa / Herndon	Lanes	1	3	1	2	3	1	2	2	S	2	2	1
	Storage	250	1,175	110	255	1,900	165	180	2,525		150	350#	150
	A.M.	101	140	115	114	343	255	250	268		246	280	178
	P.M.	126	323	205	156	514	255	264	281		248	304	137
Minnewawa/ Herndon	Lanes		3	S		3				1			
	Storage		DNS			DNS				1,225			
	A.M.		DNS			DNS				92			
	P.M.		DNS			DNS				175			
DeWitt / Herndon	Lanes	1	3	S	1	3	1	S	1	S	1	1	S
	Storage	275	1,900		270	425	425		150		65	65	
	A.M.	90	174		119	346	105		32		126	73	
	P.M.	147	285		90	431	316		120		55	59	
Willow / Spruce	Lanes	2	2	S	2	1	1	2	3	1	2	3	1
	Storage	100	100#		200	1,370	1,370	125	1,100	85	225	1,265	100
	A.M.	95	454		310	764	627	198	420	210	310	815	240
	P.M.	190	177		294	414	703	250	389	210	310	796	240
Willow / Magill	Lanes	1	1	S	1	1	1	1	2	S	1	2	1
	Storage	75	400		100	800	80	140	1,880		175	565	75
	A.M.	82	66		48	33	71	126	510		203	375	45
	P.M.	133	157		90	85	114	240	547		250	614	619
Cedar / Herndon	Lanes	2	3	1	2	3	1	2	2	1	2	2	1
	Storage	250	2,500	180	250	2,500	155	250	875	220	215	1,150	140
	A.M.	316	422	268	123	343	245	266	358	184	143	236	169
	P.M.	340	1,184	270	340	511	245	325	441	302	305	534	230
Maple / Herndon	Lanes	2	3	1	1	3	1	2	1	S	2	1	1
	Storage	260	2,500	165	275	2,500	170	115	2,500		140	2,750	140
	A.M.	189	314	94	62	906	235	146	185		217	295	222
	P.M.	217	381	255	104	176	116	95	131		230	698	230

Table 9
Intersection Queuing Summary – Year 2042 Without Quad Intersections

Intersection	Number of Lanes, Storage (feet), and Queue Length (feet)												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Chestnut / Herndon	Lanes	2	3	1	2	3	1	1	1	1	2	1	1
	Storage	290	2,525	225	255	1,800	200	210	2,550	125	235	2,800	200
	A.M.	249	890	<u>310</u>	110	408	<u>290</u>	<u>313</u>	421	100	<u>340</u>	601	<u>340</u>
	P.M.	<u>405</u>	2,118	<u>310</u>	<u>259</u>	495	<u>290</u>	<u>315</u>	863	<u>701</u>	<u>340</u>	593	<u>340</u>
Willow / Herndon	Lanes	2	3	1	2	3	1	2	3	1	2	2	1
	Storage	275	1,800	225	255	1,235	140	315	560	215	250	1,110	115
	A.M.	265	488	<u>315</u>	<u>365</u>	<u>1,286</u>	<u>240</u>	<u>415</u>	<u>595</u>	141	<u>355</u>	<u>1,143</u>	<u>355</u>
	P.M.	<u>390</u>	<u>1,846</u>	<u>315</u>	<u>365</u>	1,205	<u>240</u>	<u>415</u>	<u>591</u>	<u>305</u>	<u>355</u>	<u>1,143</u>	<u>355</u>
Helm / Herndon	Lanes	2	3			3	1				2		2
	Storage	300	1,245			1,250	200				TBD		>650
	A.M.	123	376			<u>1,299</u>	<u>305</u>				126		127
	P.M.	177	348			494	<u>302</u>				156		144
Peach / Herndon (west)	Lanes	1	3	1	1	3	1	1	1	1	1	1	1
	Storage	285	1,300	125	150	1,765	110	230	>400	50	100+	>830	125
	A.M.	174	250	101	<u>250</u>	573	<u>205</u>	130	188	<u>137</u>	179	316	<u>232</u>
	P.M.	230	369	<u>220</u>	<u>239</u>	477	<u>205</u>	<u>233</u>	212	<u>140</u>	180	879	<u>310</u>
Peach / Herndon (east)	Lanes		3	S	1	3				1			
	Storage		DNS		315	DNS				>650			
	A.M.		DNS		<u>402</u>	DNS				56			
	P.M.		DNS		85	DNS				133			
Villa / Herndon	Lanes	1	3	1	2	3	1	2	2	S	2	2	1
	Storage	250	1,175	110	255	1,900	165	180	2,525		150	350#	150
	A.M.	101	145	<u>126</u>	140	391	<u>249</u>	<u>226</u>	272		<u>248</u>	326	<u>151</u>
	P.M.	137	346	<u>205</u>	190	300	<u>248</u>	<u>226</u>	312		<u>249</u>	341	148
Minnewawa/ Herndon	Lanes		3	S		3				1			
	Storage		DNS			DNS				1,225			
	A.M.		DNS			DNS				86			
	P.M.		DNS			DNS				235			
DeWitt / Herndon	Lanes	1	3	S	1	3	1	S	1	S	1	1	S
	Storage	275	1,900		270	425	425		150		65	65	
	A.M.	84	225		147	423	98		37		<u>120</u>	<u>73</u>	
	P.M.	166	248		146	<u>438</u>	310		103		<u>113</u>	60	
Willow / Spruce	Lanes	2	2	S	2	1	1	2	3	1	2	3	1
	Storage	100	100#		200	1,370	1,370	125	1,100	85	225	1,265	100
	A.M.	86	217		49	24	79	83	263	<u>169</u>	<u>310</u>	863	<u>240</u>
	P.M.	<u>180</u>	1,964		133	72	171	<u>249</u>	477	<u>209</u>	<u>310</u>	859	<u>240</u>
Willow / Magill	Lanes	1	1	S	1	1	1	1	2	S	1	2	1
	Storage	75	400		100	800	80	140	1,880		175	565	75
	A.M.	<u>91</u>	107		55	81	<u>87</u>	<u>240</u>	547		<u>179</u>	386	<u>150</u>
	P.M.	<u>127</u>	162		100	126	<u>125</u>	<u>239</u>	555		<u>250</u>	<u>594</u>	<u>151</u>
Cedar / Herndon	Lanes	2	3	1	2	3	1	2	2	1	2	2	1
	Storage	250	2,500	180	250	2,500	155	250	875	220	215	1,150	140
	A.M.	<u>283</u>	341	<u>248</u>	122	241	<u>187</u>	<u>298</u>	364	<u>272</u>	166	234	<u>181</u>
	P.M.	<u>340</u>	774	<u>270</u>	<u>256</u>	354	<u>245</u>	<u>339</u>	686	<u>310</u>	<u>305</u>	647	<u>230</u>
Maple / Herndon	Lanes	2	3	1	1	3	1	2	1	S	2	1	1
	Storage	260	2,500	165	275	2,500	170	115	2,500		140	2,750	140
	A.M.	191	554	<u>231</u>	52	246	<u>202</u>	<u>129</u>	155		<u>202</u>	275	<u>225</u>
	P.M.	207	857	<u>216</u>	120	540	<u>260</u>	97	140		<u>229</u>	717	<u>230</u>

10.3 Road Segment Analysis

SimTraffic microsimulation software was utilized to estimate the average speeds on Herndon Avenue. The road segment analysis sheets are presented in Appendix E and the results are summarized in Tables 10 through 13.

Table 10
Segment Speeds – Year 2042 With Quad Intersections - Eastbound

Segment	Distance (miles)	A.M. Peak Hour		P.M. Peak Hour	
		Travel Time (sec)	Speed (mph)	Travel Time (sec)	Speed (mph)
Cedar to Maple	0.50	59.3	30	75.2	24
Maple to Chestnut	0.50	57.2	31	173.3	10
Chestnut to Willow	0.36	50.6	26	75.1	17
Willow to Helm	0.26	24.4	38	33.1	28
Helm to Peach	0.26	28.2	33	30.6	31
Peach to Villa	0.36	44.9	29	64.2	20
Villa to DeWitt	0.39	37.0	38	45.8	31
TOTALS	2.63	301.6	31	497.3	19

Table 11
Segment Speeds – Year 2042 With Quad Intersections - Westbound

Segment	Distance (miles)	A.M. Peak Hour		P.M. Peak Hour	
		Travel Time (sec)	Speed (mph)	Travel Time (sec)	Speed (mph)
DeWitt to Villa	0.39	52.3	27	61.6	23
Villa to Peach	0.36	40.9	32	50.9	25
Peach to Helm	0.26	33.3	28	43.2	22
Helm to Willow	0.26	52.1	18	28.8	33
Willow to Chestnut	0.36	79.6	16	62.2	21
Chestnut to Maple	0.50	57.4	31	49.8	36
Maple to Cedar	0.50	61.4	29	84.5	21
TOTALS	2.63	377.0	25	381.0	25

Table 12
Segment Speeds – Year 2042 Without Quad Intersections - Eastbound

Segment	Distance (miles)	A.M. Peak Hour		P.M. Peak Hour	
		Travel Time (sec)	Speed (mph)	Travel Time (sec)	Speed (mph)
Cedar to Maple	0.50	63.6	28	65.0	28
Maple to Chestnut	0.50	75.1	24	160.8	11
Chestnut to Willow	0.36	83.6	16	203.5	6
Willow to Helm	0.26	34.5	27	38.0	25
Helm to Peach	0.26	30.9	30	41.2	23
Peach to Villa	0.36	38.6	34	54.0	24
Villa to DeWitt	0.39	38.2	37	42.9	33
TOTALS	2.63	364.5	26	605.4	16

Table 13
Segment Speeds – Year 2042 Without Quad Intersections - Westbound

Segment	Distance (miles)	A.M. Peak Hour		P.M. Peak Hour	
		Travel Time (sec)	Speed (mph)	Travel Time (sec)	Speed (mph)
DeWitt to Villa	0.39	52.6	27	53.4	26
Villa to Peach	0.36	50.9	25	65.8	20
Peach to Helm	0.26	188.5	5	44.2	21
Helm to Willow	0.26	218.4	4	88.5	11
Willow to Chestnut	0.36	72.1	18	67.5	19
Chestnut to Maple	0.50	53.6	34	67.6	27
Maple to Cedar	0.50	53.6	34	58.6	31
TOTALS	2.63	689.7	14	445.6	21

11.0 DISCUSSION OF OPERATIONAL ANALYSES

11.1 Year 2042 With Quad Intersections

The following four intersections are expected to operate below the target LOS D in the year 2042 with the quad intersection concept implemented:

- Cedar and Herndon Avenues
- Chestnut and Herndon Avenues
- Minnewawa and Herndon Avenues
- Willow and Magill Avenues

Maximum queues exceeding the storage capacity are expected to occur in various turn lanes (left turn and right turn) at several intersections, and extension of turn lanes may be required in the future. Since the SimTraffic analysis takes into account spillback and blocking of adjacent lanes, the greatest concern with respect to the queuing analysis is spillback in a through lane that backs up to, and blocks, the previous upstream intersection. This condition

is likely to occur on southbound Willow Avenue where maximum queues from Magill Avenue are expected to back up into Herndon Avenue and on southbound Willow Avenue where maximum queues from Herndon Avenue are expected to back up into Spruce Avenue. This condition is also expected to occur on northbound Willow Avenue where maximum queues from Herndon Avenue are expected to back up into Magill Avenue.

The average peak-hour speeds on Herndon Avenue between DeWitt and Cedar Avenues, which consider time spent sitting at red lights, are expected to range from 19 to 31 miles per hour (MPH) in the eastbound direction and are expected to be 25 MPH in the westbound direction.

Since the City of Fresno did not implement the quad intersection concept northwest of the intersection of Willow and Herndon Avenues, and the intersection at Peach Avenue would have only one bypass road, the primary goal of eliminating all left-turn movements across Herndon Avenue cannot be achieved (refer to Table 1). Furthermore, in a highly commercial area, the bypass roads are also required to provide access to commercial properties, resulting in a high concentration of trips and turning movements on the bypass roads in addition to the trips being rerouted from the left-turn movements.

11.2 Year 2042 Without Quad Intersections

The following four intersections are expected to operate below the target LOS D in the year 2042 without the quad intersection concept implemented:

- Willow and Herndon Avenues
- Peach and Herndon Avenues (east traffic on Herndon Avenue does not stop)
- Minnewawa and Herndon Avenues (traffic on Herndon Avenue does not stop)
- Willow and Magill Avenues

The following four City of Clovis intersections are expected to operate with less delay without the quad intersection concept than with the quad intersections:

- Helm and Herndon Avenues
- Peach and Herndon Avenues (eastern one-way stop, traffic on Herndon Avenue does not stop)
- Minnewawa and Herndon Avenues (one-way stop, traffic on Herndon Avenue does not stop)
- Willow and Spruce Avenues

The signalized intersections listed above are expected to operate with less delay without the quad intersections primarily because fewer trips would be diverted to those intersections (refer to Table 1). The one-way stop intersections exhibit substantially less delay because traffic on Herndon Avenue is not required to stop.

Maximum queues exceeding the storage capacity are expected to occur in various turn lanes (left turn and right turn) at several intersections, and extension of turn lanes may be required in the future. Spillback is likely to occur on all four legs approaching the intersection of Willow and Herndon Avenues. Spillback is also likely to occur on southbound Willow Avenue where maximum queues from Magill Avenue are expected to back up into Herndon

Avenue. Spillback is also expected to occur on westbound Herndon Avenue where maximum queues from Helm Avenue are expected to back up to Peach Avenue.

The intent of the quad intersection configuration is to eliminate left-turn movements from Herndon Avenue and cause them to occur as right turns, and as right or left turns at other intersections, so that fewer trips will conflict with the through movements on Herndon Avenue. Therefore, the average peak-hour speeds on Herndon Avenue without the quad intersections are naturally expected to be less than those with quad intersections. The average peak-hour speeds on Herndon Avenue between DeWitt and Cedar Avenues, which consider time spent sitting at red lights, are expected to range from 16 to 26 MPH in the eastbound direction and are expected to range from 14 to 21 MPH in the westbound direction.

11.3 Other Considerations

Vehicle Miles Traveled (VMT) and Induced Travel

The City Guidelines and the State of California Governor’s Office of Planning and Research *Technical Advisory on Evaluating Transportation Impacts in CEQA* dated December 2018 (Technical Advisory) provide guidance relative to analyzing VMT for purposes of determining transportation impacts in accordance with the California Environmental Quality Act (CEQA). Under Senate Bill (SB) 743, CEQA requirements have been updated to identify vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts. In general, projects that increase VMT by causing vehicles to travel longer distances per capita, that increase the total regional VMT, or that induce an increase in vehicle travel may cause a significant transportation impact as defined by CEQA. The quad intersection concept causes drivers to travel longer distances. Table 14 presents a description of the turning movements that would be altered by the quad intersection concept, the number of vehicles making the movement, and the additional distance traveled.

Table 14
Year 2042 VMT Increase Caused by Quad Intersections

Intersection Left-Turn Movement	Additional Distance with Quad Intersection (miles)	Estimated Daily Volume*	Quad Intersection Daily VMT Increase
Willow / Herndon			
Eastbound to Northbound	0.47	4,294	2,003
Westbound to Southbound	0.41	3,656	1,494
Northbound to Westbound	0.91	6,325	5,787
Southbound to Eastbound	-0.06	2,763	-159
Intersection Total:			9,126
Peach / Herndon			
Eastbound to Northbound	0.46	1,744	797
Westbound to Southbound	0.05	1,063	55
Northbound to Westbound	0.07	1,275	90
Southbound to Eastbound	0.25	3,231	799
Intersection Total:			1,742
CORRIDOR TOTAL:			10,868

* The daily turning-movement volume was estimated considering that 16 percent of the daily road segment trips occur during the a.m. and p.m. peak hours combined based on the traffic counts.

Table 14 indicates that the additional distance required to make certain turning movements with implementation of the quad intersection concept is expected to result in almost 11,000 additional vehicle miles traveled each day in the year 2042 as compared to the standard intersection configuration that generally exists today.

Implementation of the quad intersection concept could potentially be considered a capacity-increasing project that, for purposes of CEQA, would be considered as to induce additional vehicle travel. The induced-travel calculator suggested by Caltrans (available at this link: <https://ncst.ucdavis.edu/research-product/induced-travel-calculator>) does not contain site-specific data and is limited to estimates based on lane additions. Therefore, the specific effects of induced travel are not considered in these analyses, but it may be reasonable to assume that the average speeds presented in Tables 10 and 11 would actually be slightly less than the analyses predict if a substantial amount of new travel is induced or redistributed from other streets.

Driver Confusion

The quad intersection concept, if implemented, would exist at no other location in the Clovis/Fresno area. There will be a need for a substantial amount of additional signage identifying the required route to accomplish the desired movement. In some cases, a right turn must be made in advance of an intersection to accomplish the actual intent of turning left at the intersection. Where left turns will be prohibited, the intersections will remain open and there may be a high potential for illegal and potentially hazardous left turns, whether intentional or mistaken.

Alternative Travel Routes and Cost

The quad intersection concept was generally proposed with the intent of providing a much faster route of travel through north Fresno between Clovis and SR 99. SR 168 was not yet complete when the study was performed, but now provides a feasible alternative to traveling on Herndon Avenue between Clovis and SR 99 that many motorists utilize. The cost of implementing quad intersections in Clovis could be several million dollars, as major intersection and traffic signal modifications would occur on two existing intersections and two new traffic signals would be constructed with associated intersection construction.

Adaptive Traffic Signal Control

Adaptive Signal Control Technology (ASCT) is included in the Federal Highway Administration (FHWA) Every Day Counts (EDC) program, which is an initiative designed to identify and deploy innovation aimed at reducing the time it takes to deliver highway projects, enhance safety, and protect the environment. ASCT utilizes traffic signal software and hardware to measure traffic flow in real-time and automatically adjusts signal timing to promote coordination of traffic along arterial streets (increase average speeds) and to minimize or eliminate spillback. By utilizing appropriately-designed vehicle detection, ASCT dynamically adjusts the cycle length, offset, and splits based on current or historical demand. ASCT increases the probability that traffic signals will be green when a platoon of vehicles arrives. On road segments where saturation and spillback occur, ASCT can reduce the amount of time that saturation occurs by optimizing conditions leading up to the peak period and by providing real-time response to clear the saturation and spillback conditions as quickly as possible. ASCT was not considered in the Herndon Avenue Specific Study but has become a feasible alternative for improving traffic signal coordination during the past 20 years. The cost of implementing ASCT is typically minimal as compared to other measures, particularly the construction costs associated with quad intersections.

A case study of an ASCT project in Chula Vista, California determined that travel times on East H Street decreased by 8.8 percent and the average cumulative stopped delay decreased by 32.9 percent.

The City of Fresno has successfully implemented ASCT on Shaw Avenue and Herndon Avenue in the past few years, and is planning to implement ASCT on additional corridors. The City of Clovis is planning to implement ASCT as well, including along the Herndon Avenue corridor that is the subject of this report. The benefits of ASCT may not be fully reflected in the analyses presented herein because it adjusts signal timing in real time based on current conditions, so the conditions after implementation of ASCT could be better than the conditions presented in the tables above. As such, current ASCT technology offers an alternative to quad intersections that was not considered at the time of the Herndon Avenue Specific Study.

12.0 CONCLUSIONS AND RECOMMENDATIONS

Standard traffic engineering practices and methods were employed to establish the existing and future traffic volumes, and to analyze the traffic conditions that are expected to occur in

the future for each of the analysis scenarios. The conclusions and recommendations resulting from the study are summarized below.

The analyses generally confirm the conclusions of the Herndon Avenue Specific Study, specifically that the quad intersection concept could provide better arterial operations and progression along Herndon Avenue by eliminating left-turn movements at major intersections and generally converting them to a series of right-turn and through movements. The average speeds during the peak hours on Herndon Avenue in the year 2042 between Cedar Avenue and DeWitt Avenue are expected to range from 19 to 31 miles per hour, including time spent sitting at red lights. If the quad intersection concept is not implemented, the average speeds are expected to drop to a range of 14 to 26 miles per hour.

The analyses indicate that intersections not on Herndon Avenue, such as Willow/Spruce Avenues and Willow/Magill Avenues, are likely to operate with less delay if quad intersections are not implemented because fewer trips will be diverted through those intersections and to the bypass roads.

The reduction of vehicle miles traveled (VMT) is currently a high priority for the State of California per SB 743. It is estimated that implementation of the quad intersection configuration on Herndon Avenue at Willow Avenue and at Peach Avenue would result in approximately an additional 11,000 vehicle miles traveled per day in the year 2042.

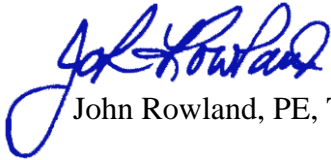
The analyses suggest that excessive queues are expected to occur at many of the study intersections whether or not quad intersections are implemented. Implementation of state-of-the-art coordination systems, such as adaptive signal control technology that adjusts signal timing in real time, should be implemented to optimize traffic progression.

It should be noted that, since the roadways comprising the quad intersection configurations are generally existing, removing the quad intersections from the Herndon-Shepherd Specific Plan does not necessarily preclude consideration and implementation of quad intersections in the future based on actual observed conditions. The decision not to implement quad intersections may be considered as an indefinite postponement of the concept that could be revisited in the future.

Considering the factors mentioned above, as well as the potential for driver confusion and the costs of implementation, it is recommended that the quad intersection concept be postponed indefinitely or eliminated from the Herndon-Shepherd Specific Plan.

Thank you for the opportunity to perform these traffic analyses. Please feel free to contact me if you have any questions.

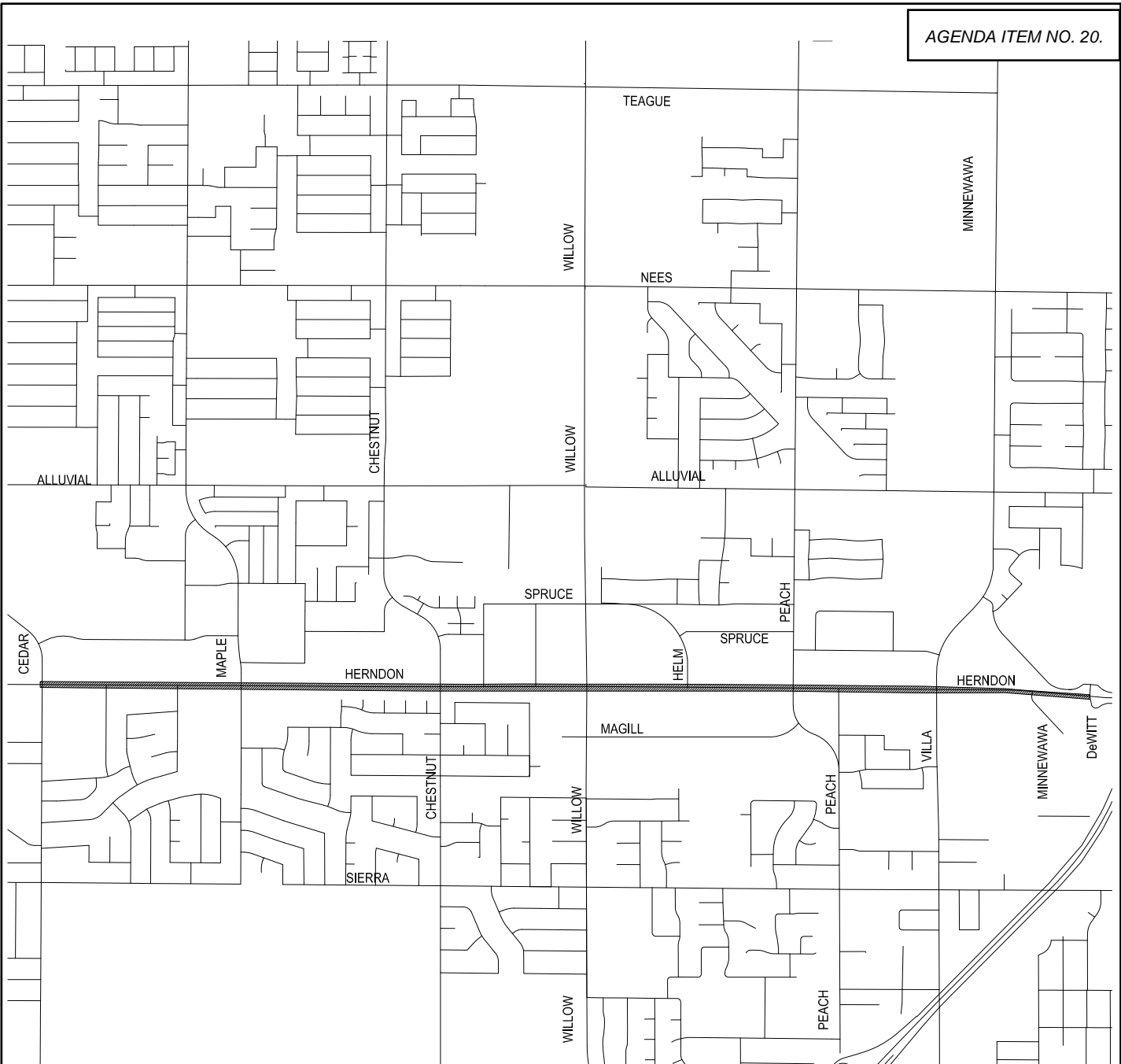
PETERS ENGINEERING GROUP


John Rowland, PE, TE



- Attachments: Figures 1 through 8
Appendix A - Traffic Count Data Sheets
Appendix B - Fresno County Travel Model Output
Appendix C - Intersection Analyses
Appendix D - Queuing and Blocking Analyses
Appendix E - Arterial Analyses

FIGURES

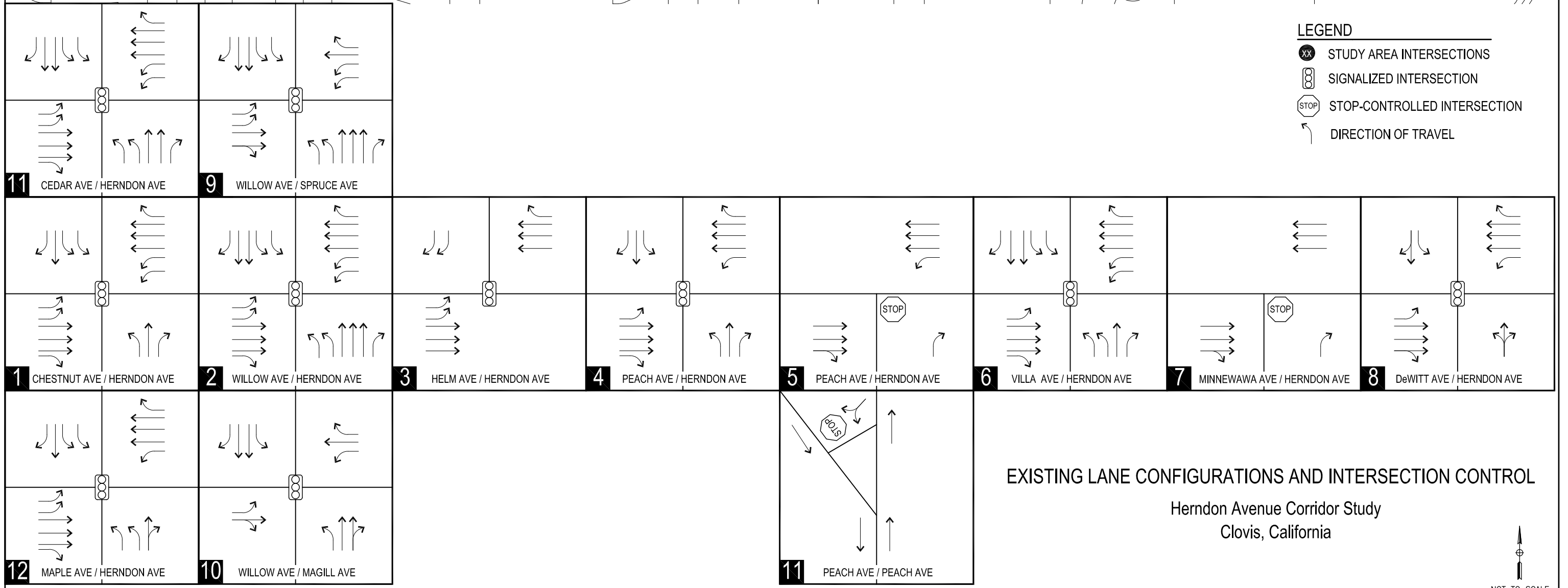
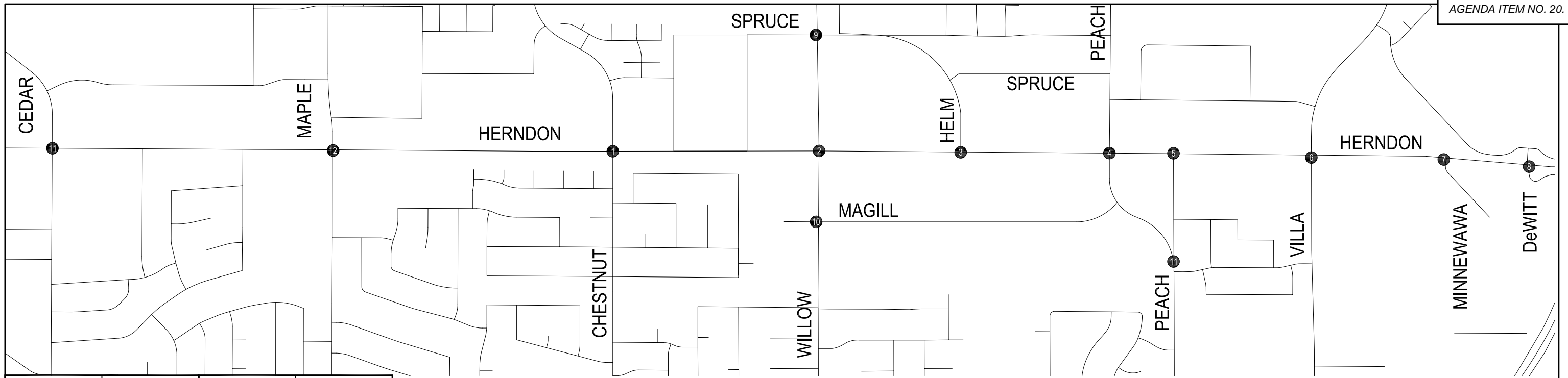


Herndon Avenue Corridor Study
Clovis, California

LEGEND

 PROJECT LOCATION

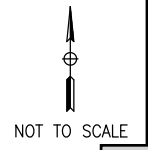
VICINITY MAP

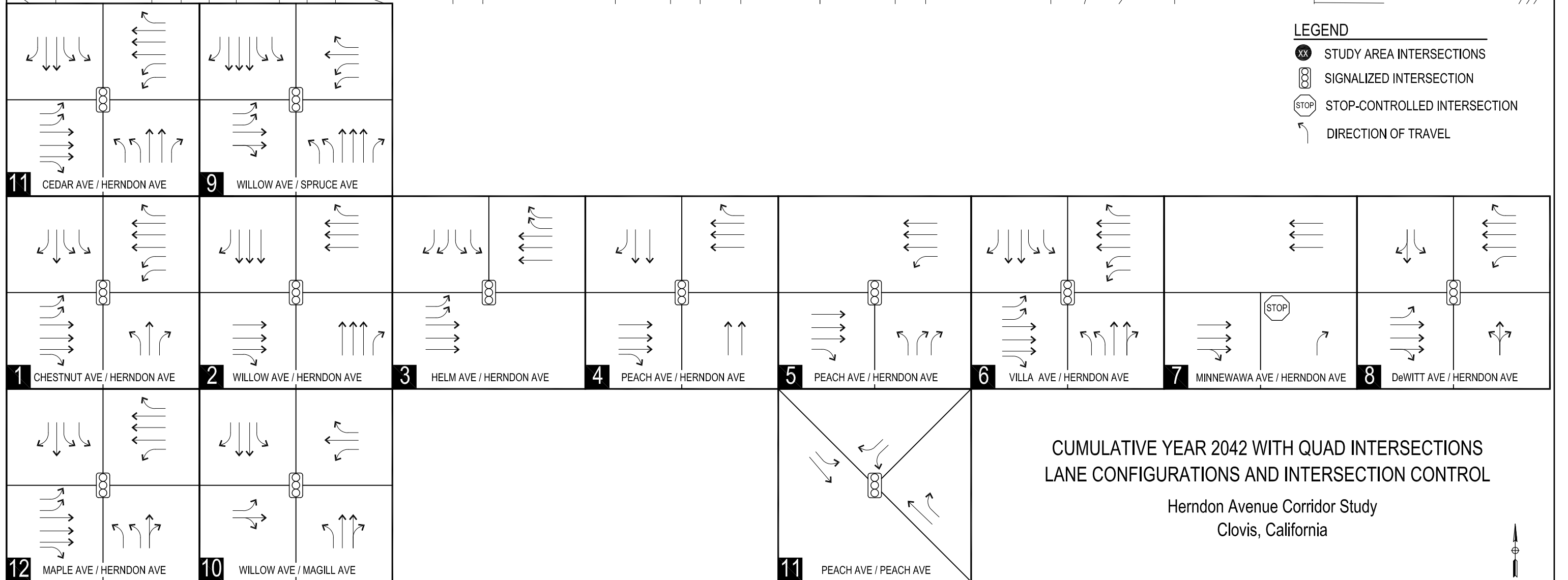
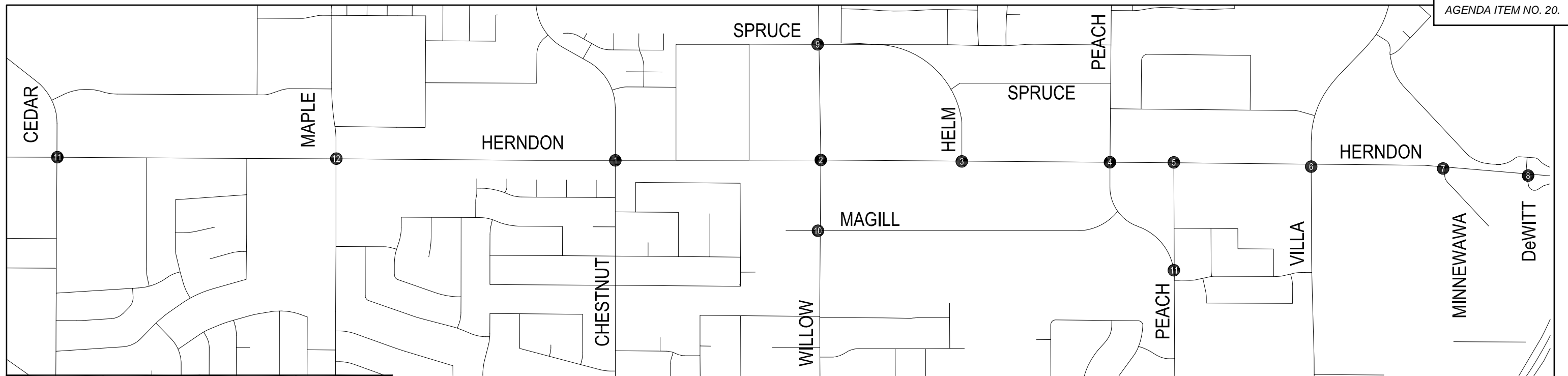


LEGEND

- XX STUDY AREA INTERSECTIONS
- ⊞ SIGNALIZED INTERSECTION
- STOP STOP-CONTROLLED INTERSECTION
- ↔ DIRECTION OF TRAVEL

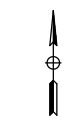
EXISTING LANE CONFIGURATIONS AND INTERSECTION CONTROL
 Herndon Avenue Corridor Study
 Clovis, California



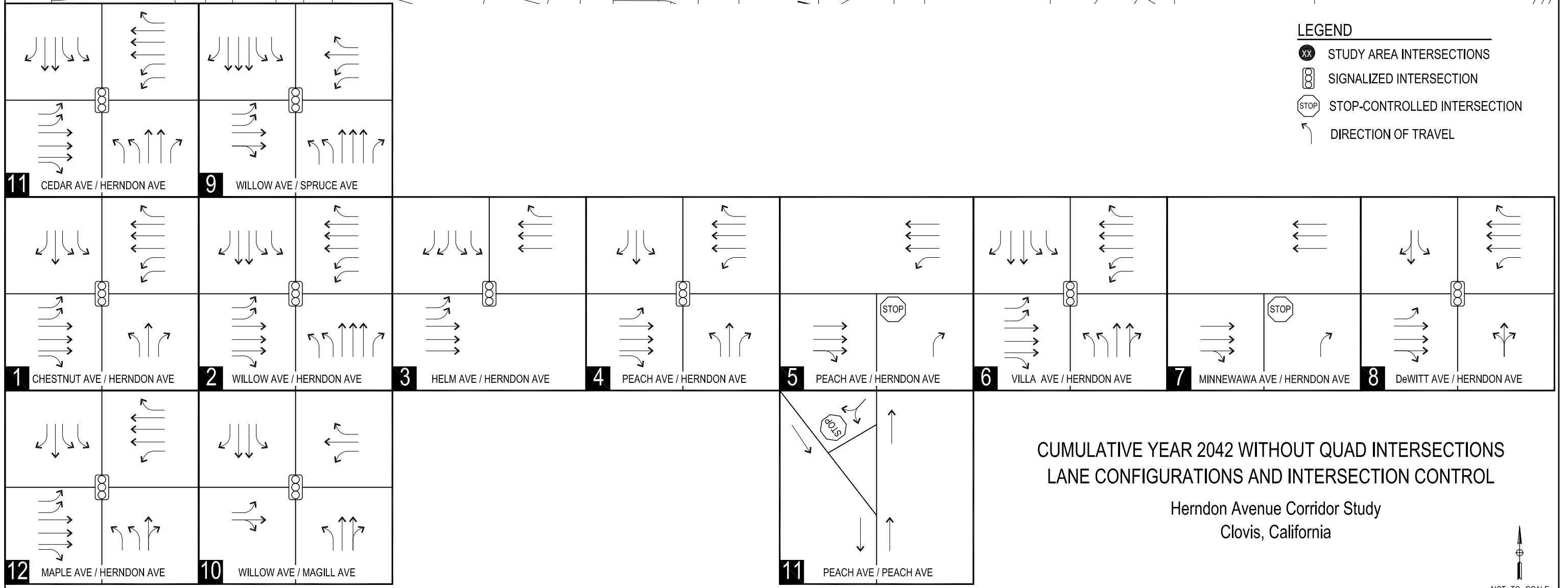
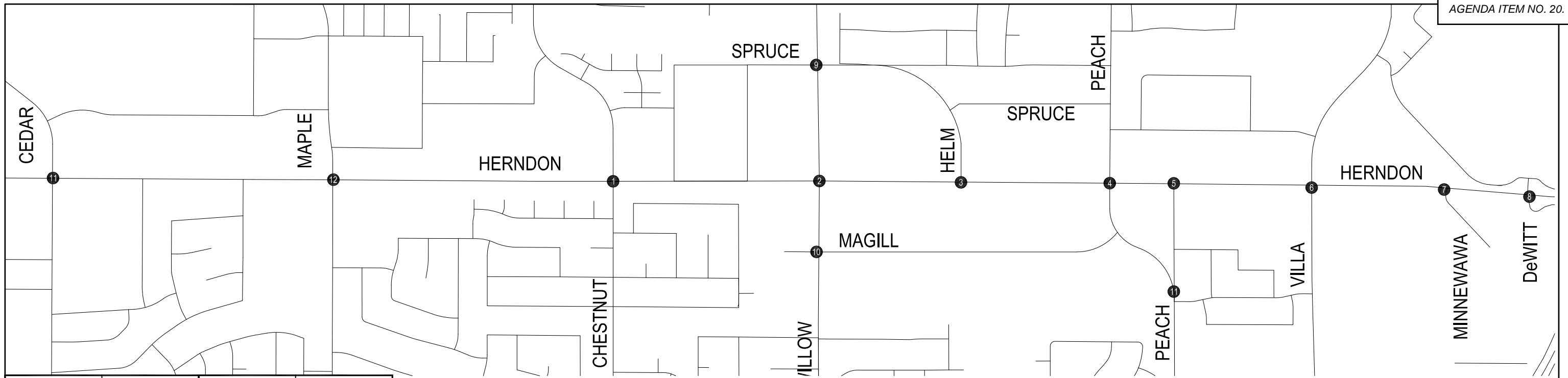


CUMULATIVE YEAR 2042 WITH QUAD INTERSECTIONS
LANE CONFIGURATIONS AND INTERSECTION CONTROL

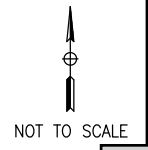
Herndon Avenue Corridor Study
Clovis, California

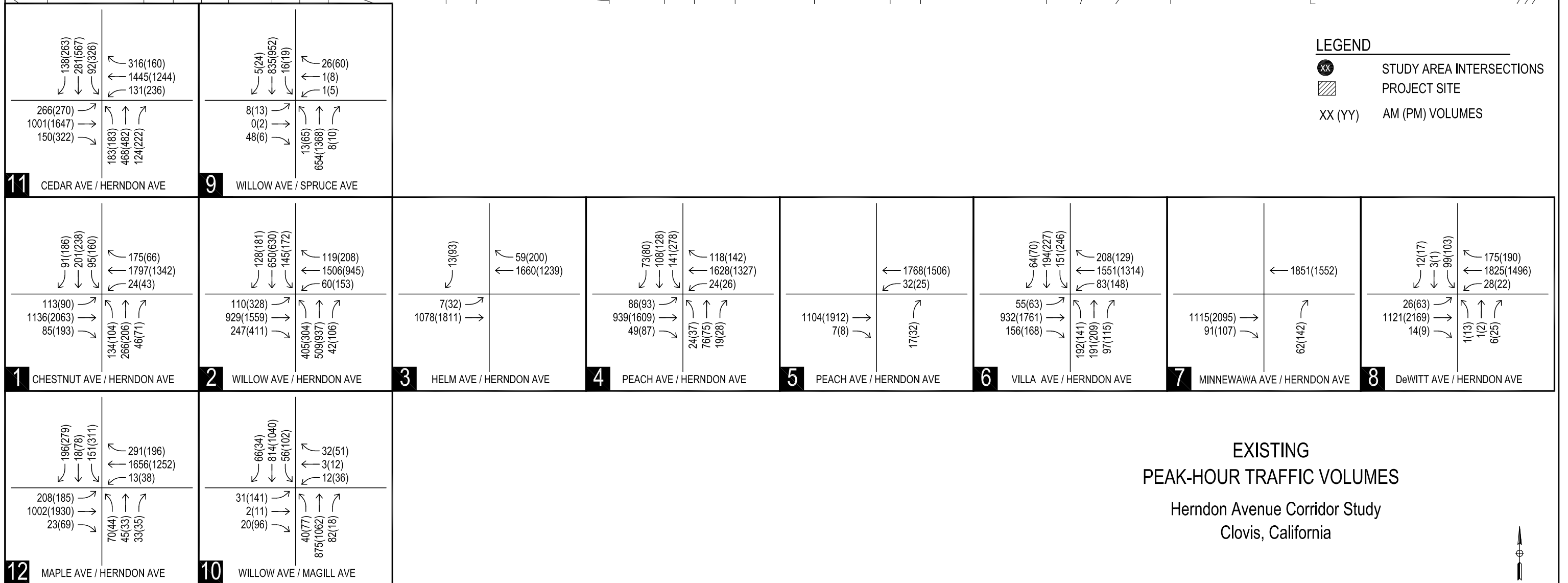
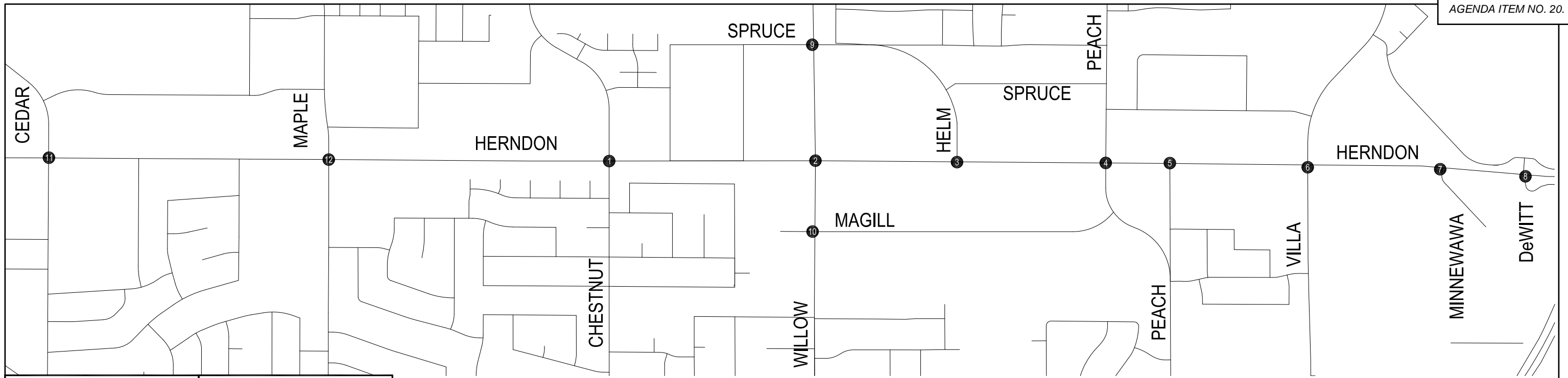


NOT TO SCALE



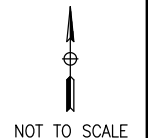
CUMULATIVE YEAR 2042 WITHOUT QUAD INTERSECTIONS
 LANE CONFIGURATIONS AND INTERSECTION CONTROL
 Herndon Avenue Corridor Study
 Clovis, California

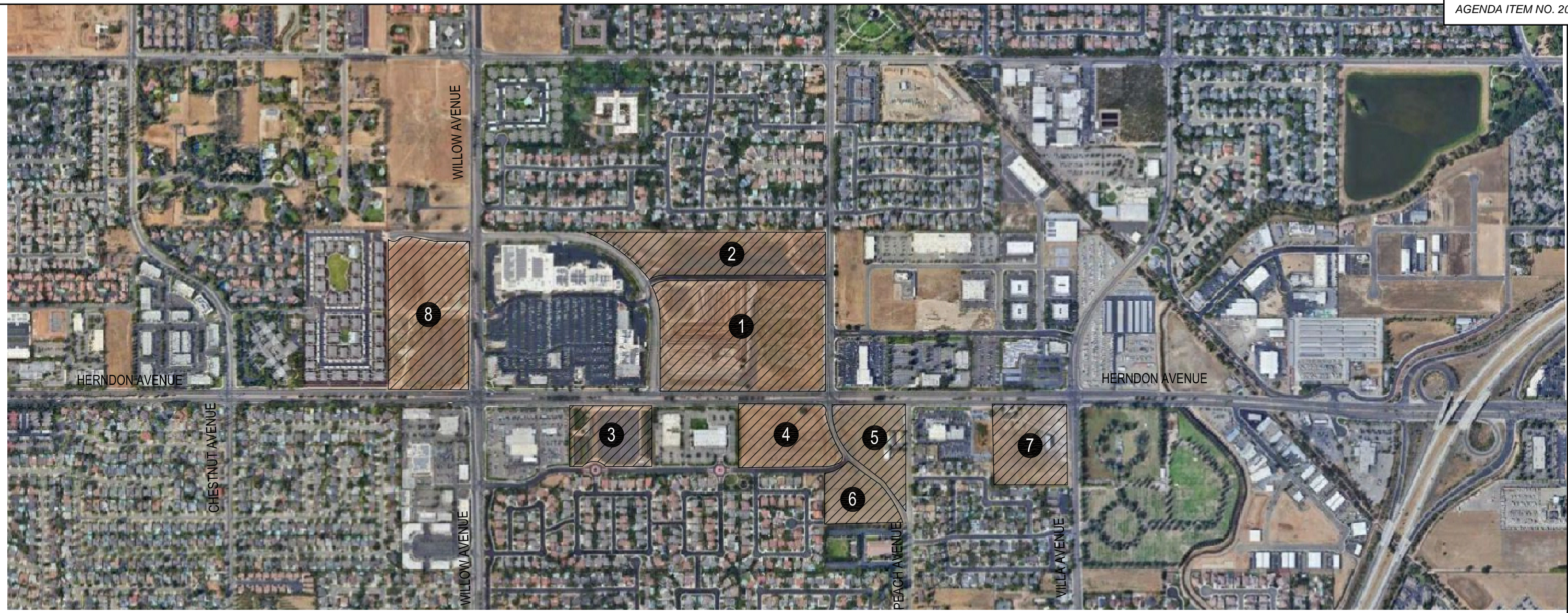




LEGEND
 ● XX STUDY AREA INTERSECTIONS
 ▨ PROJECT SITE
 XX (YY) AM (PM) VOLUMES

EXISTING PEAK-HOUR TRAFFIC VOLUMES
 Herndon Avenue Corridor Study
 Clovis, California

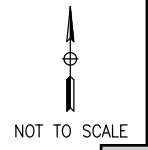


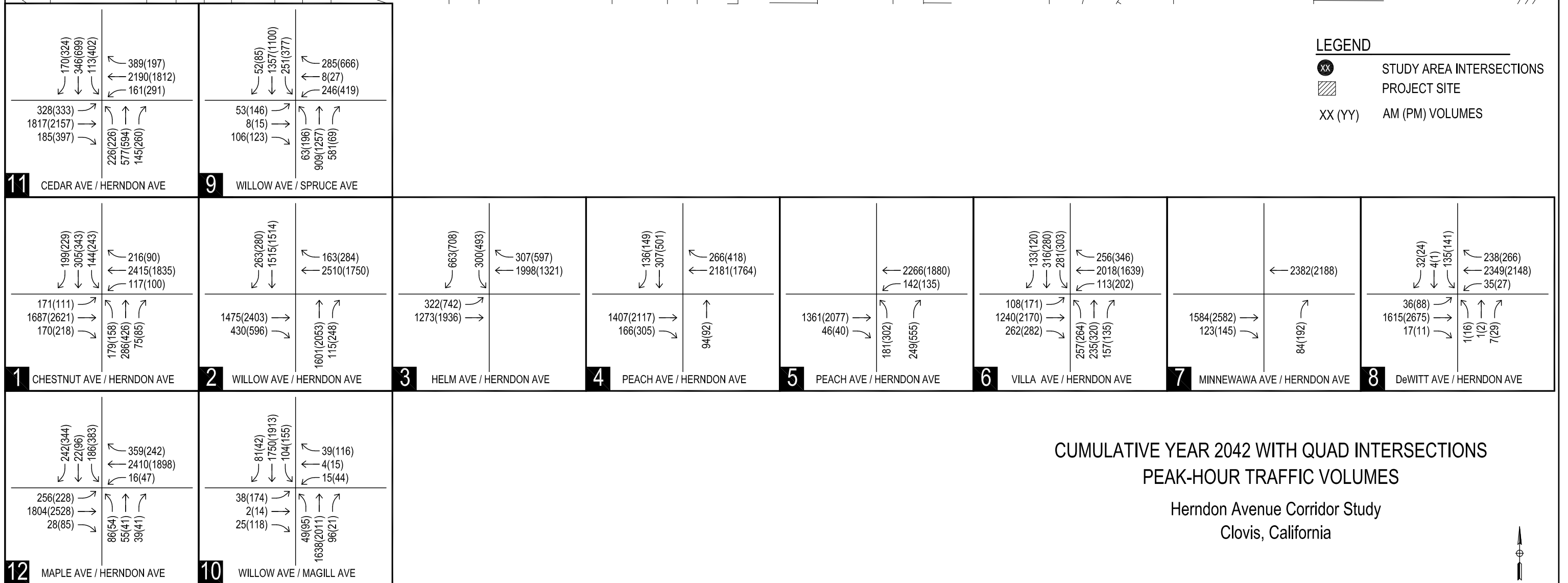
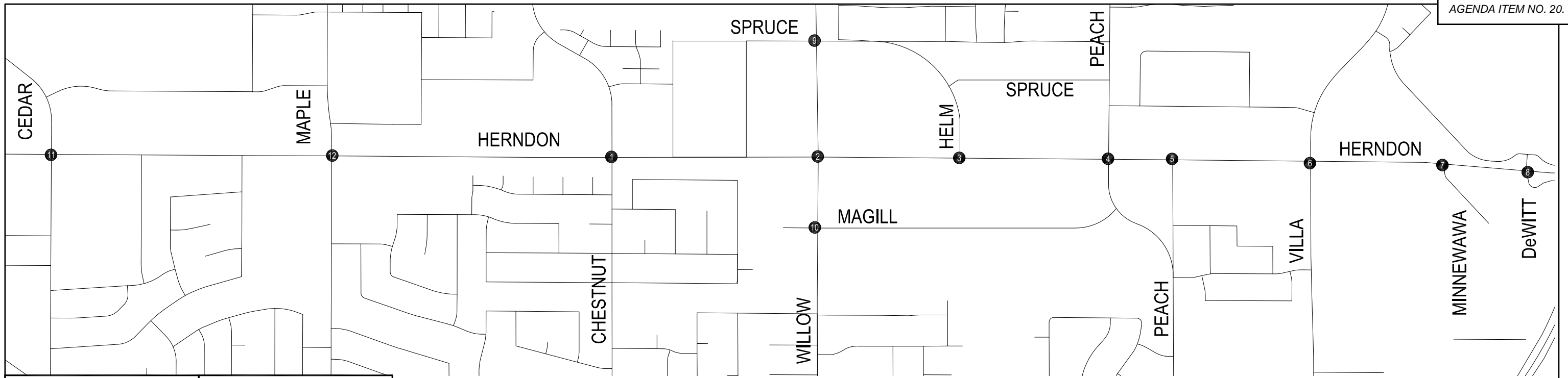


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- VACANT SITE NUMBER
- ▨ VACANT SITE LOCATION

VACANT SITES
 Herndon Avenue Corridor Study
 Clovis, California



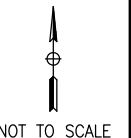


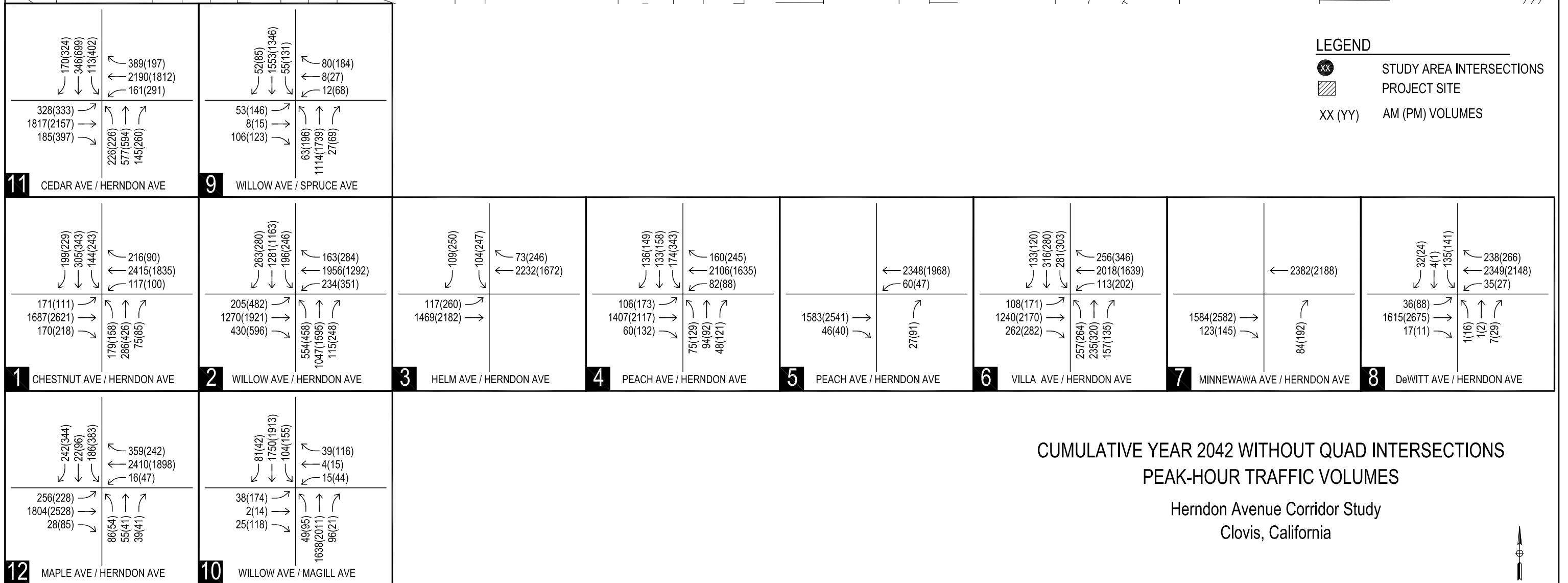
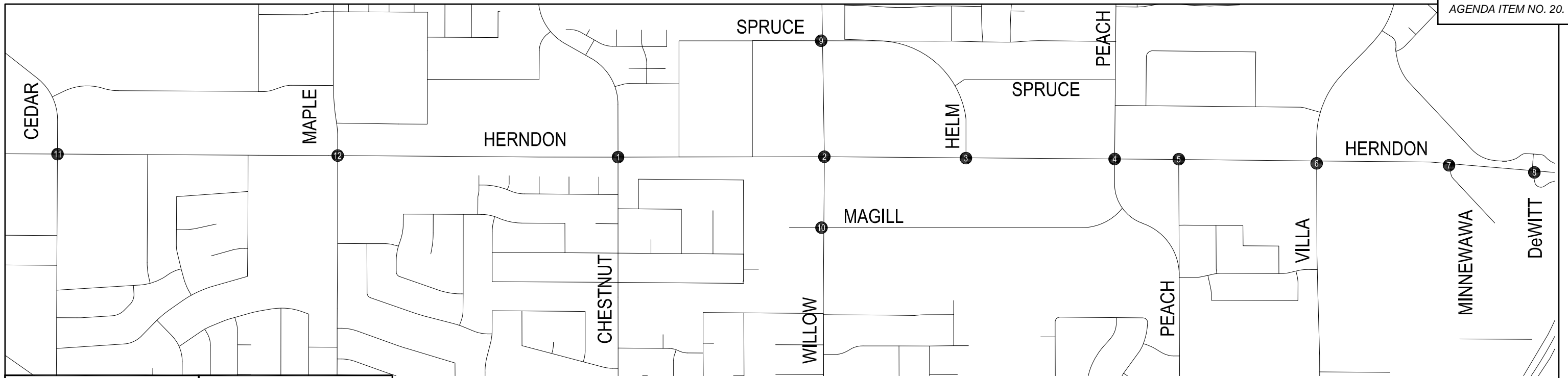
LEGEND

- ⊗ STUDY AREA INTERSECTIONS
- ▨ PROJECT SITE
- XX (YY) AM (PM) VOLUMES

CUMULATIVE YEAR 2042 WITH QUAD INTERSECTIONS
PEAK-HOUR TRAFFIC VOLUMES

Herndon Avenue Corridor Study
Clovis, California

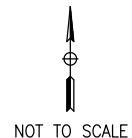




LEGEND
 ● STUDY AREA INTERSECTIONS
 ▨ PROJECT SITE
 XX (YY) AM (PM) VOLUMES

CUMULATIVE YEAR 2042 WITHOUT QUAD INTERSECTIONS
 PEAK-HOUR TRAFFIC VOLUMES

Herndon Avenue Corridor Study
 Clovis, California



NOT TO SCALE

APPENDIX A

TRAFFIC COUNT DATA SHEETS

Intersection Turning Movements



Metro Traffic Data Inc.
 310 N. Irwin Street - Suite 20
 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotrafficdata.com

Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Chestnut Ave @ Herndon Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

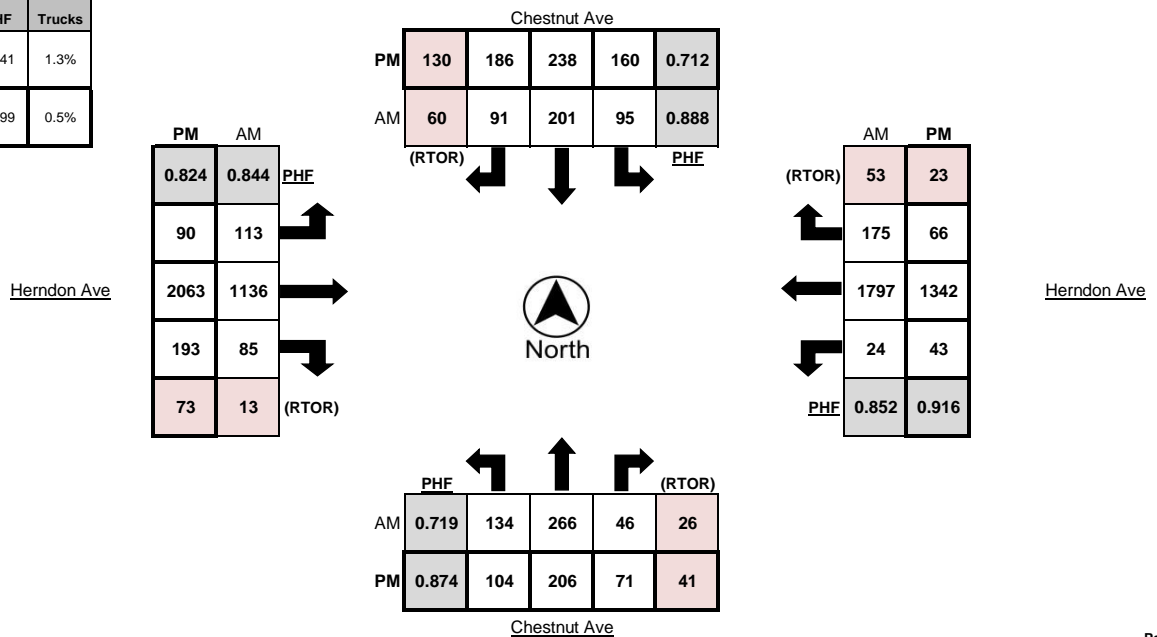
LATITUDE 36.8376
 LONGITUDE -119.7362
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	18	19	7	4	0	13	30	21	18	1	12	159	23	5	2	2	283	18	3	10
7:15 AM - 7:30 AM	23	36	7	5	1	9	32	13	9	0	12	215	24	6	4	4	370	25	2	9
7:30 AM - 7:45 AM	36	62	15	9	1	28	49	32	17	1	19	254	17	6	4	7	483	29	13	3
7:45 AM - 8:00 AM	48	98	9	6	1	27	53	21	13	2	30	342	23	2	5	6	516	64	16	5
8:00 AM - 8:15 AM	26	49	9	5	1	20	49	21	16	1	29	304	19	2	7	6	384	44	13	10
8:15 AM - 8:30 AM	24	57	13	6	2	20	50	17	14	0	35	236	26	3	6	5	414	38	11	5
8:30 AM - 8:45 AM	21	36	8	7	1	19	33	32	27	0	36	202	12	5	4	2	373	33	5	11
8:45 AM - 9:00 AM	28	37	8	6	0	25	29	31	26	1	37	225	13	2	4	3	374	37	7	5
TOTAL	224	394	76	48	7	161	325	188	140	6	210	1937	157	31	36	35	3197	288	70	58

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	15	60	18	10	0	35	52	42	29	3	31	455	43	12	5	12	304	17	5	3
4:15 PM - 4:30 PM	22	52	13	6	0	29	45	38	15	0	21	478	37	14	2	6	332	25	6	0
4:30 PM - 4:45 PM	24	52	21	11	1	41	50	50	35	1	24	441	39	15	2	16	339	15	4	3
4:45 PM - 5:00 PM	27	36	14	10	0	29	49	42	32	2	26	530	45	20	3	8	315	14	3	3
5:00 PM - 5:15 PM	27	64	18	9	1	58	86	61	37	1	19	455	55	15	3	12	321	15	9	1
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5:30 PM - 5:45 PM	30	57	14	2	0	22	55	26	18	0	25	474	37	15	1	20	317	17	7	1
5:45 PM - 6:00 PM	24	40	14	1	1	20	37	18	9	0	11	380	41	12	1	18	269	20	6	1
TOTAL	195	415	130	60	3	266	427	310	201	8	178	3850	351	126	19	99	2564	145	47	13

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	134	266	46	26	5	95	201	91	60	4	113	1136	85	13	22	24	1797	175	53	23
4:30 PM - 5:30 PM	104	206	71	41	2	160	238	186	130	5	90	2063	193	73	10	43	1342	66	23	8

	PHF	Trucks
AM	0.841	1.3%
PM	0.899	0.5%





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 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotraffdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

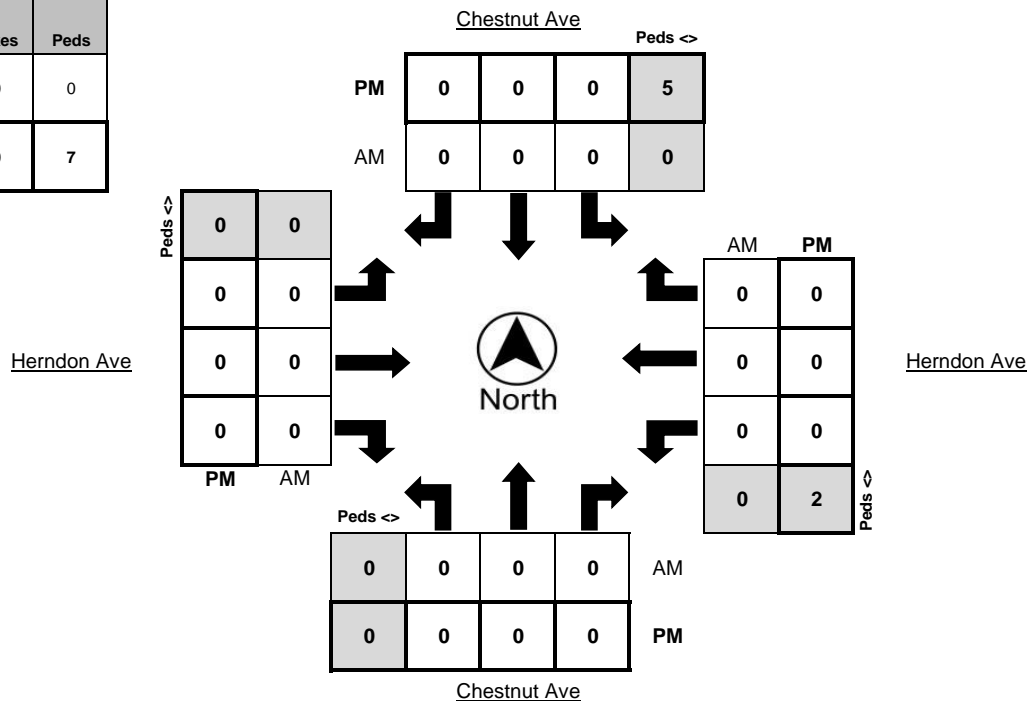
LOCATION Chestnut Ave @ Herndon Ave **LATITUDE** 36.8376
COUNTY Fresno **LONGITUDE** -119.7362
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	9	0	0	0	0	0	0	0	3	0	0	0	1

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	5	0	0	0	0	0	0	0	2	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	7





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310 N. Irwin Street - Suite 20
Hanford, CA 93230
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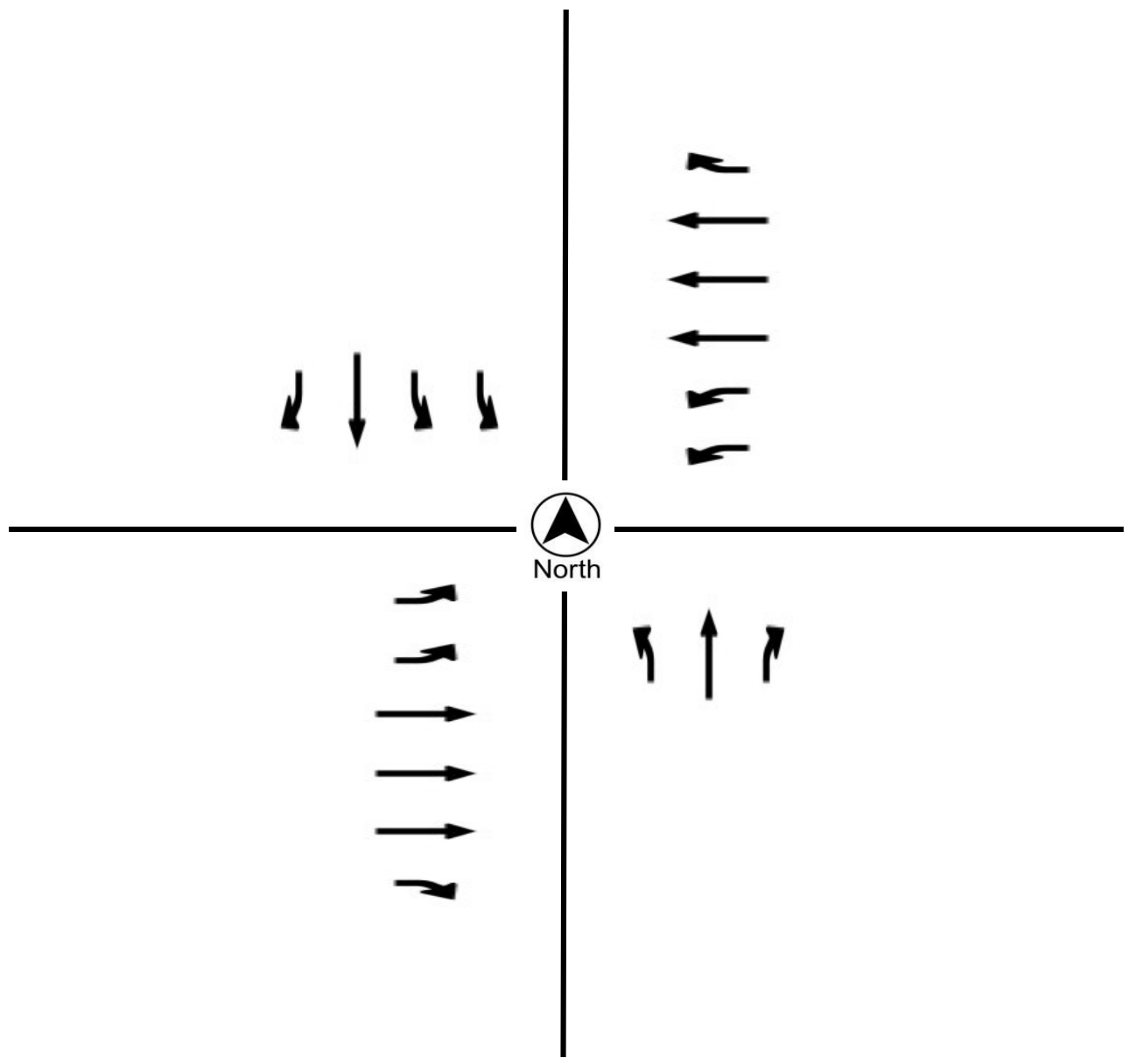
Turning Movement Report

Prepared For: **Peters Engineering Group**
862 Pollasky Ave
Clovis, CA 93612

LOCATION Chestnut Ave @ Herndon Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 136 Seconds

N/S STREET Chestnut Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS All approaches have protected left turns.





Metro Traffic Data Inc.
 310 N. Irwin Street - Suite 20
 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotraffdata.com

Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Willow Ave @ Herndon Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

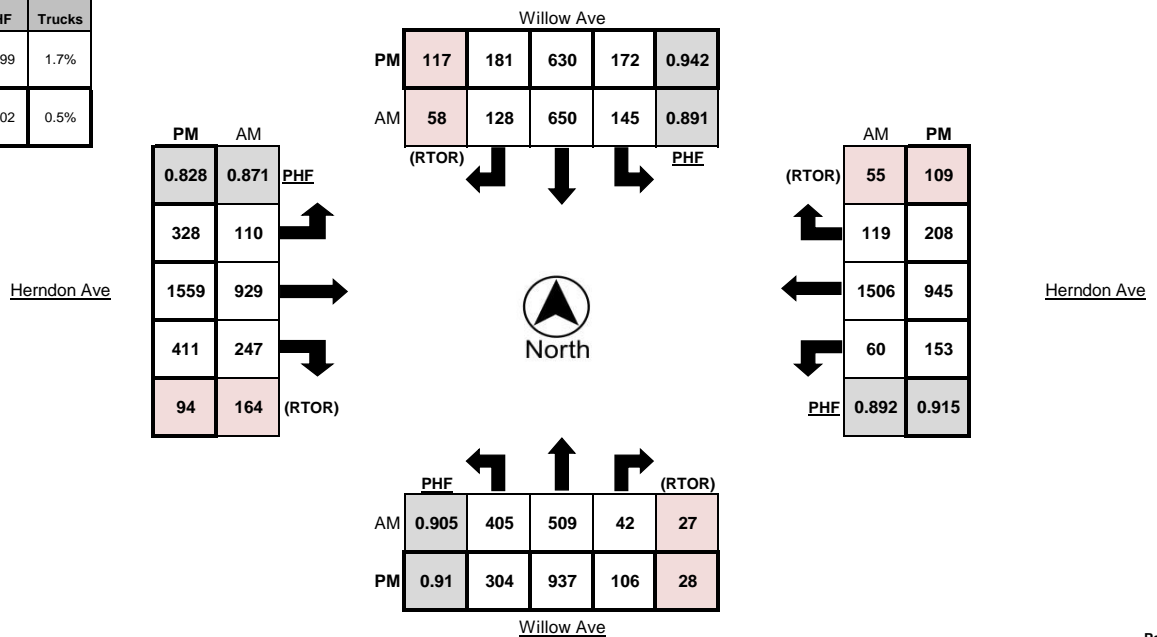
LATITUDE 36.8375
 LONGITUDE -119.7296
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	39	86	2	2	9	21	156	20	14	4	20	131	24	18	5	9	221	24	18	10
7:15 AM - 7:30 AM	74	107	13	6	7	28	110	24	16	3	32	155	48	38	3	18	300	25	19	7
7:30 AM - 7:45 AM	113	141	10	6	4	41	180	38	11	3	22	216	69	51	4	8	398	31	20	1
7:45 AM - 8:00 AM	120	133	6	3	4	35	178	35	19	5	25	266	78	45	3	26	421	25	6	8
8:00 AM - 8:15 AM	89	125	16	10	9	35	150	21	8	5	23	234	58	34	6	15	313	25	13	10
8:15 AM - 8:30 AM	83	110	10	8	5	34	142	34	20	4	40	213	42	34	7	11	374	38	16	6
8:30 AM - 8:45 AM	67	122	9	9	10	27	114	32	17	4	31	136	47	27	1	20	291	28	7	10
8:45 AM - 9:00 AM	58	117	14	11	4	31	97	28	18	4	33	183	41	26	5	25	322	40	5	6
TOTAL	643	941	80	55	52	252	1127	232	123	32	226	1534	407	273	34	132	2640	236	104	58

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	61	190	26	12	2	20	117	41	26	3	78	342	92	28	6	41	233	47	32	4
4:15 PM - 4:30 PM	66	227	25	13	3	55	160	34	18	5	83	353	85	28	2	40	257	62	39	1
4:30 PM - 4:45 PM	70	207	26	10	1	39	168	47	22	4	79	310	107	32	2	42	255	50	21	4
4:45 PM - 5:00 PM	72	196	29	12	2	39	148	39	25	2	80	383	101	28	4	41	222	53	25	5
5:00 PM - 5:15 PM	80	261	29	5	3	37	177	47	29	1	70	358	103	18	5	38	232	45	30	0
5:15 PM - 5:30 PM	72	245	35	9	1	45	147	50	32	1	98	471	125	25	2	38	266	53	18	1
5:30 PM - 5:45 PM	80	235	13	2	0	51	158	45	31	0	80	347	82	23	0	36	225	57	36	2
5:45 PM - 6:00 PM	62	212	28	3	1	57	168	38	23	1	58	272	82	22	0	29	222	57	44	1
TOTAL	563	1773	211	66	13	343	1243	341	206	17	626	2836	777	204	21	305	1912	424	245	18

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	405	509	42	27	22	145	650	128	58	17	110	929	247	164	20	60	1506	119	55	25
4:45 PM - 5:45 PM	304	937	106	28	6	172	630	181	117	4	328	1559	411	94	11	153	945	208	109	8

	PHF	Trucks
AM	0.899	1.7%
PM	0.902	0.5%





Metro Traffic Data Inc.
 310 N. Irwin Street - Suite 20
 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Willow Ave @ Herndon Ave

LATITUDE 36.8375

COUNTY Fresno

LONGITUDE -119.7296

COLLECTION DATE Tuesday, March 9, 2021

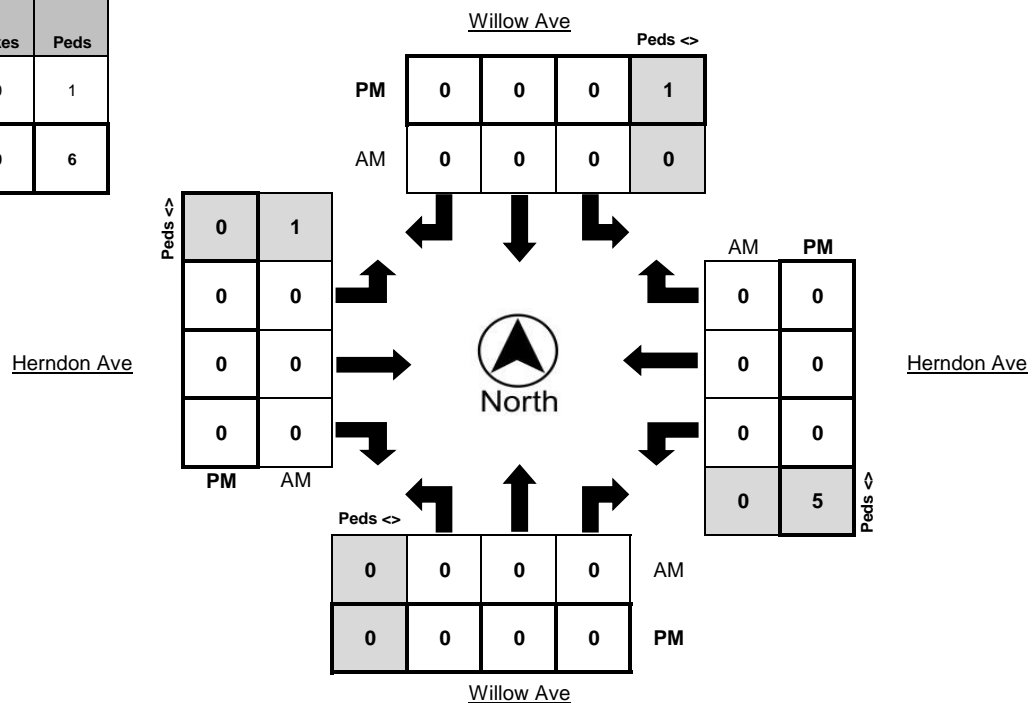
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
TOTAL	0	0	0	2	0	0	0	1	0	0	0	11	0	0	0	3

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	5	0	0	0	0

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	0	6





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Turning Movement Report

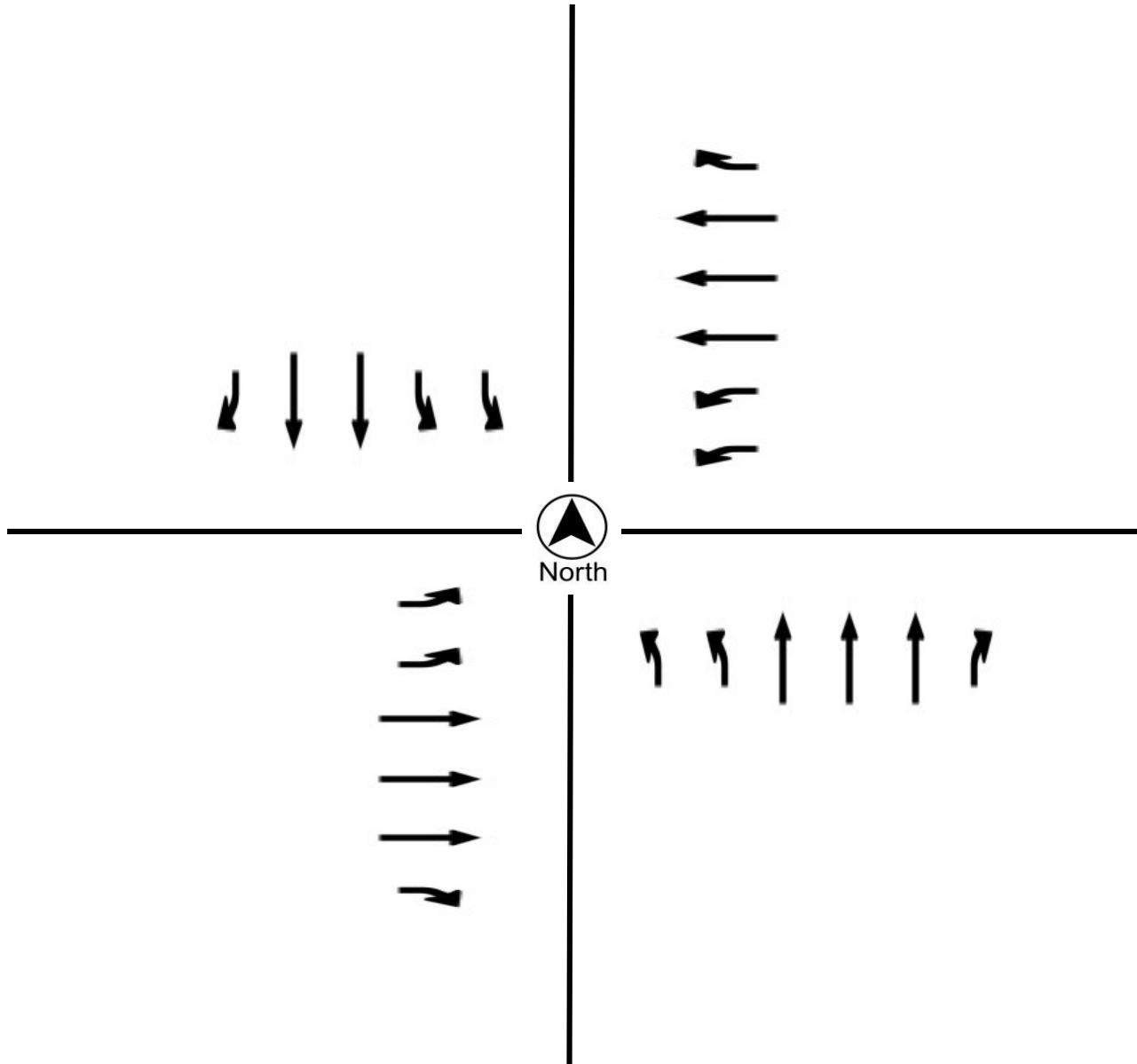
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Willow Ave @ Herndon Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 150 Seconds

N/S STREET Willow Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS All approaches have protected left turns.





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Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Helm Ave @ Herndon Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

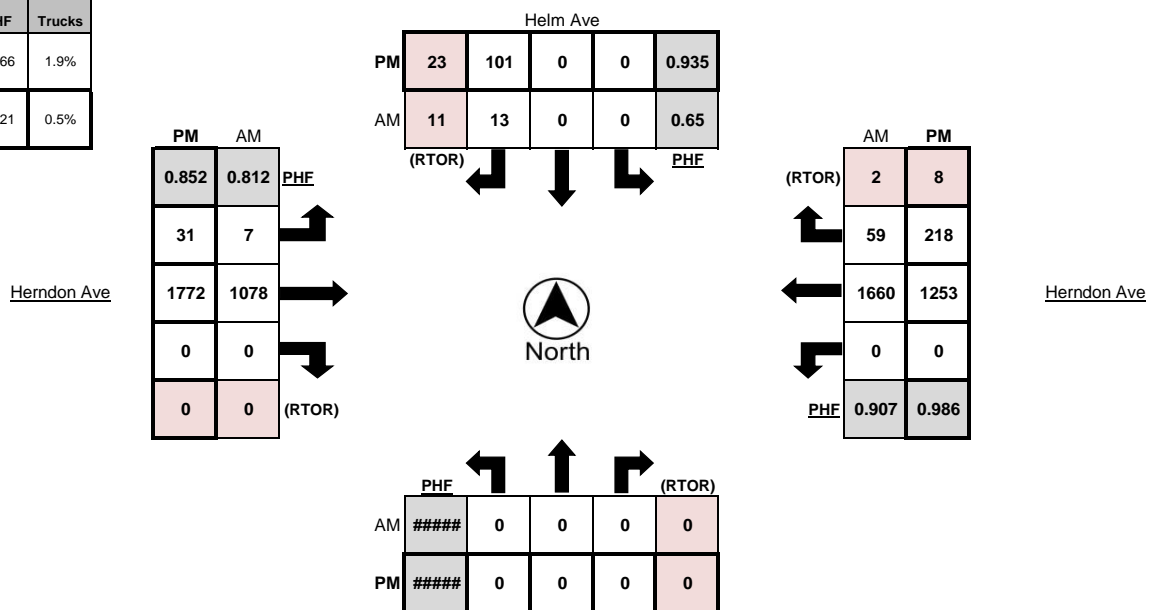
LATITUDE 36.8375
 LONGITUDE -119.7249
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	1	1	0	1	158	0	0	3	0	283	2	0	8
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	1	1	0	5	189	0	0	3	0	340	15	0	5
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	2	2	0	2	237	0	0	3	0	431	12	1	6
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	5	4	2	2	332	0	0	5	0	460	14	1	4
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	1	0	1	279	0	0	6	0	357	20	0	8
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	5	4	0	2	230	0	0	9	0	412	13	0	10
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	3	2	0	2	201	0	0	5	0	331	19	0	10
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	7	5	0	4	223	0	0	5	0	364	35	1	5
TOTAL	0	0	0	0	0	0	0	25	20	2	19	1849	0	0	39	0	2978	130	3	56

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	34	8	0	5	397	0	0	3	0	286	37	0	4
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	27	14	1	9	422	0	0	6	0	305	44	1	5
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	26	5	0	10	367	0	0	3	0	319	54	0	1
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	27	5	2	8	459	0	0	2	0	314	50	7	3
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	25	4	0	5	425	0	0	2	0	308	62	1	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	23	9	0	8	521	0	0	2	0	312	52	0	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	18	3	0	11	406	0	0	2	0	305	36	1	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	28	6	0	4	370	0	0	0	0	267	60	1	1
TOTAL	0	0	0	0	0	0	0	208	54	3	60	3367	0	0	20	0	2416	395	11	17

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	13	11	2	7	1078	0	0	23	0	1660	59	2	28
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	101	23	2	31	1772	0	0	9	0	1253	218	8	6

	PHF	Trucks
AM	0.866	1.9%
PM	0.921	0.5%





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Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Helm Ave @ Herndon Ave

LATITUDE 36.8375

COUNTY Fresno

LONGITUDE -119.7249

COLLECTION DATE Tuesday, March 9, 2021

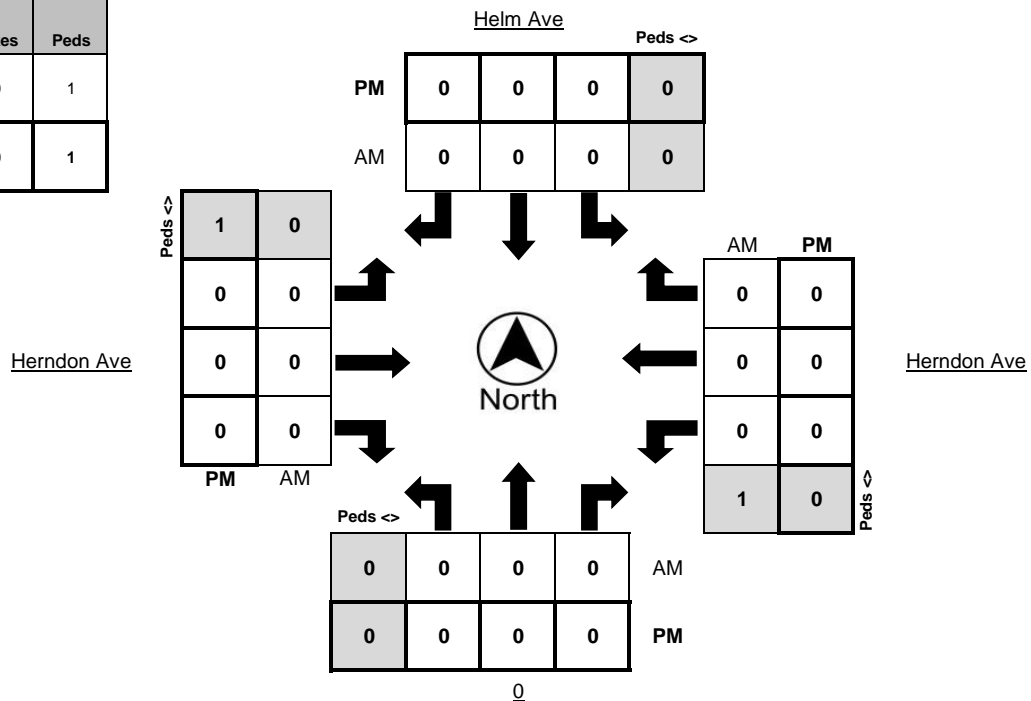
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	0	1





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Turning Movement Report

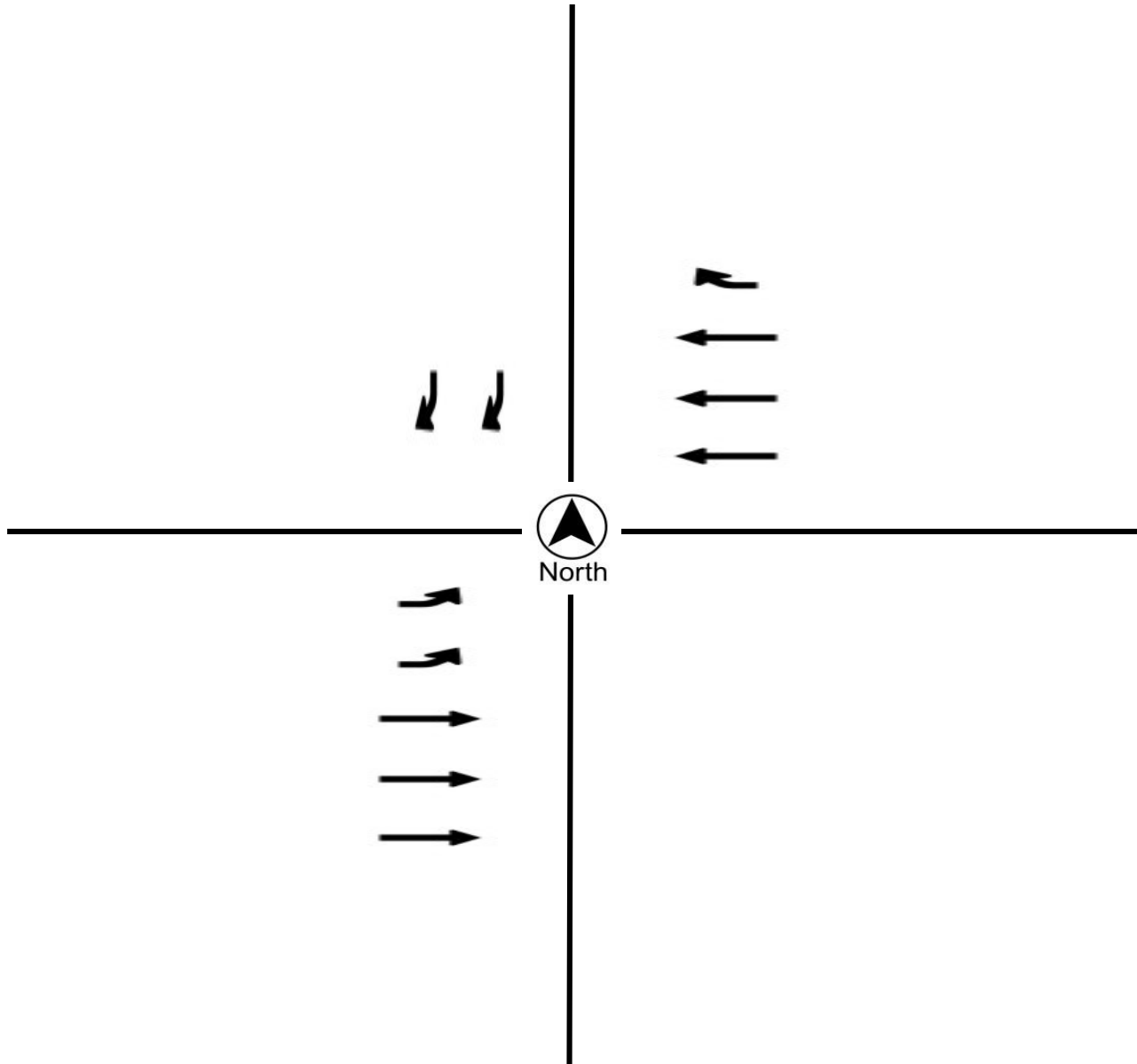
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Helm Ave @ Herndon Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 191 Seconds

N/S STREET Helm Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS Eastbound left turns are protected.





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Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Peach Ave @ Herndon Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

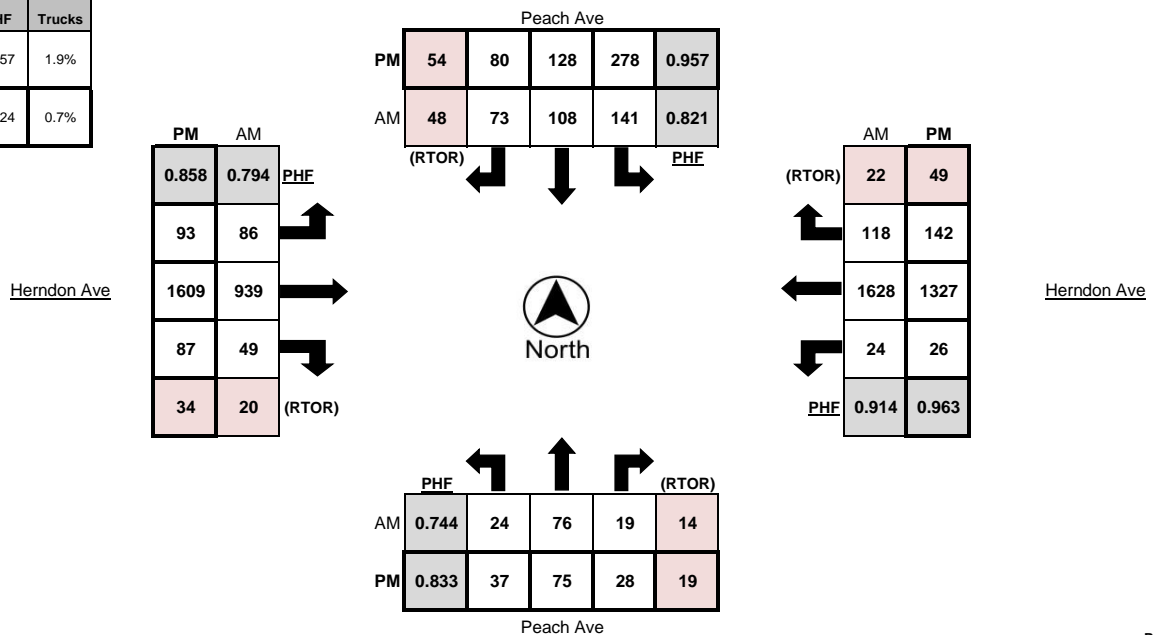
LATITUDE 36.8375
 LONGITUDE -119.7202
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	2	5	6	6	0	31	5	11	9	0	8	154	0	0	3	1	269	16	1	9
7:15 AM - 7:30 AM	14	22	6	5	0	28	17	22	12	0	19	167	4	1	3	5	321	31	1	9
7:30 AM - 7:45 AM	6	30	4	3	0	37	29	17	10	0	22	192	11	5	2	7	424	24	0	3
7:45 AM - 8:00 AM	7	23	8	5	0	39	38	21	16	1	28	301	9	5	5	7	451	26	2	7
8:00 AM - 8:15 AM	7	9	4	4	0	31	22	11	5	1	22	242	16	3	8	5	371	33	7	10
8:15 AM - 8:30 AM	4	14	3	2	1	34	19	24	17	1	14	204	13	7	6	5	382	35	13	16
8:30 AM - 8:45 AM	6	12	2	2	0	37	12	15	13	4	8	188	5	0	6	1	339	20	0	8
8:45 AM - 9:00 AM	6	10	2	2	0	27	18	12	4	0	24	190	10	4	5	3	371	30	2	10
TOTAL	52	125	35	29	1	264	160	133	86	7	145	1638	68	25	38	34	2928	215	26	72

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	1	23	5	2	0	53	34	16	7	2	18	361	12	7	2	3	314	26	7	3
4:15 PM - 4:30 PM	6	10	8	8	0	55	38	25	15	3	18	399	14	8	7	7	332	38	11	4
4:30 PM - 4:45 PM	7	30	10	7	1	60	25	29	15	0	17	341	18	2	3	4	318	27	12	3
4:45 PM - 5:00 PM	11	16	4	3	0	73	29	24	20	3	19	391	20	6	2	4	325	40	19	3
5:00 PM - 5:15 PM	10	24	8	5	1	60	35	23	12	2	26	385	19	5	3	11	335	40	13	2
5:15 PM - 5:30 PM	8	17	9	7	0	59	38	18	12	0	27	466	28	14	2	9	341	38	10	3
5:30 PM - 5:45 PM	8	18	7	4	0	86	26	15	10	1	21	367	20	9	1	2	326	24	7	3
5:45 PM - 6:00 PM	9	20	10	8	0	66	34	14	14	3	16	335	25	14	0	7	287	44	11	1
TOTAL	60	158	61	44	2	512	259	164	105	14	162	3045	156	65	20	47	2578	277	90	22

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	24	76	19	14	1	141	108	73	48	3	86	939	49	20	21	24	1628	118	22	36
4:45 PM - 5:45 PM	37	75	28	19	1	278	128	80	54	6	93	1609	87	34	8	26	1327	142	49	11

	PHF	Trucks
AM	0.857	1.9%
PM	0.924	0.7%





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Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Peach Ave @ Herndon Ave

LATITUDE 36.8375

COUNTY Fresno

LONGITUDE -119.7202

COLLECTION DATE Tuesday, March 9, 2021

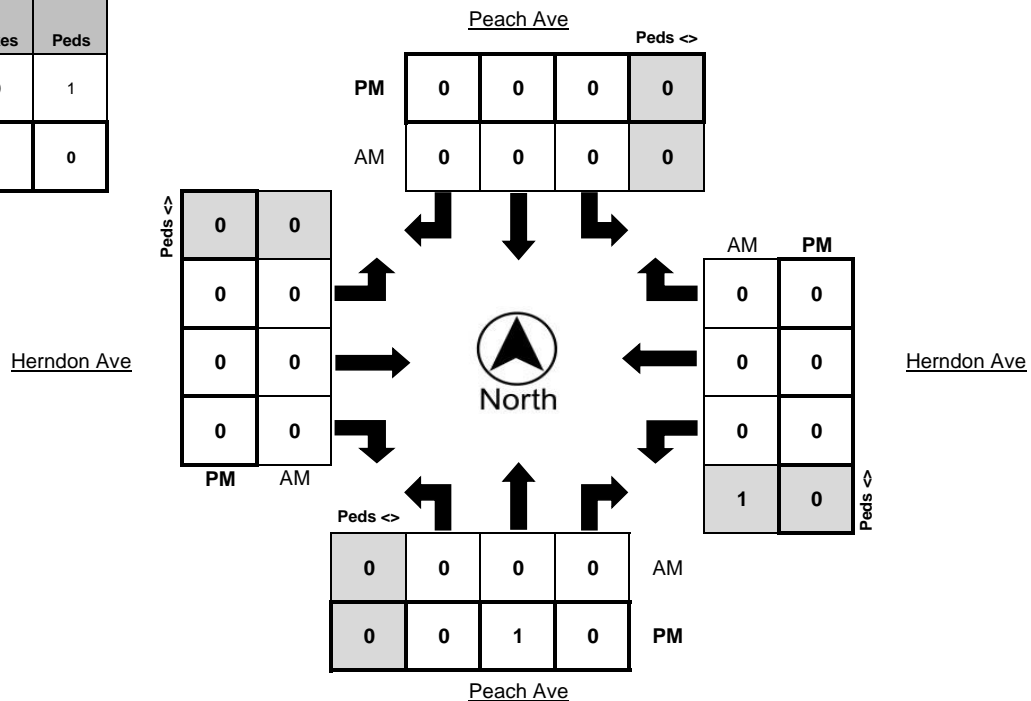
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	2	0	2	0	1	0	0	0	0	0	0	0	0	0	3
4:45 PM - 5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	4	0	3	0	1	0	0	0	0	0	0	0	0	0	4

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM - 5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	1	0





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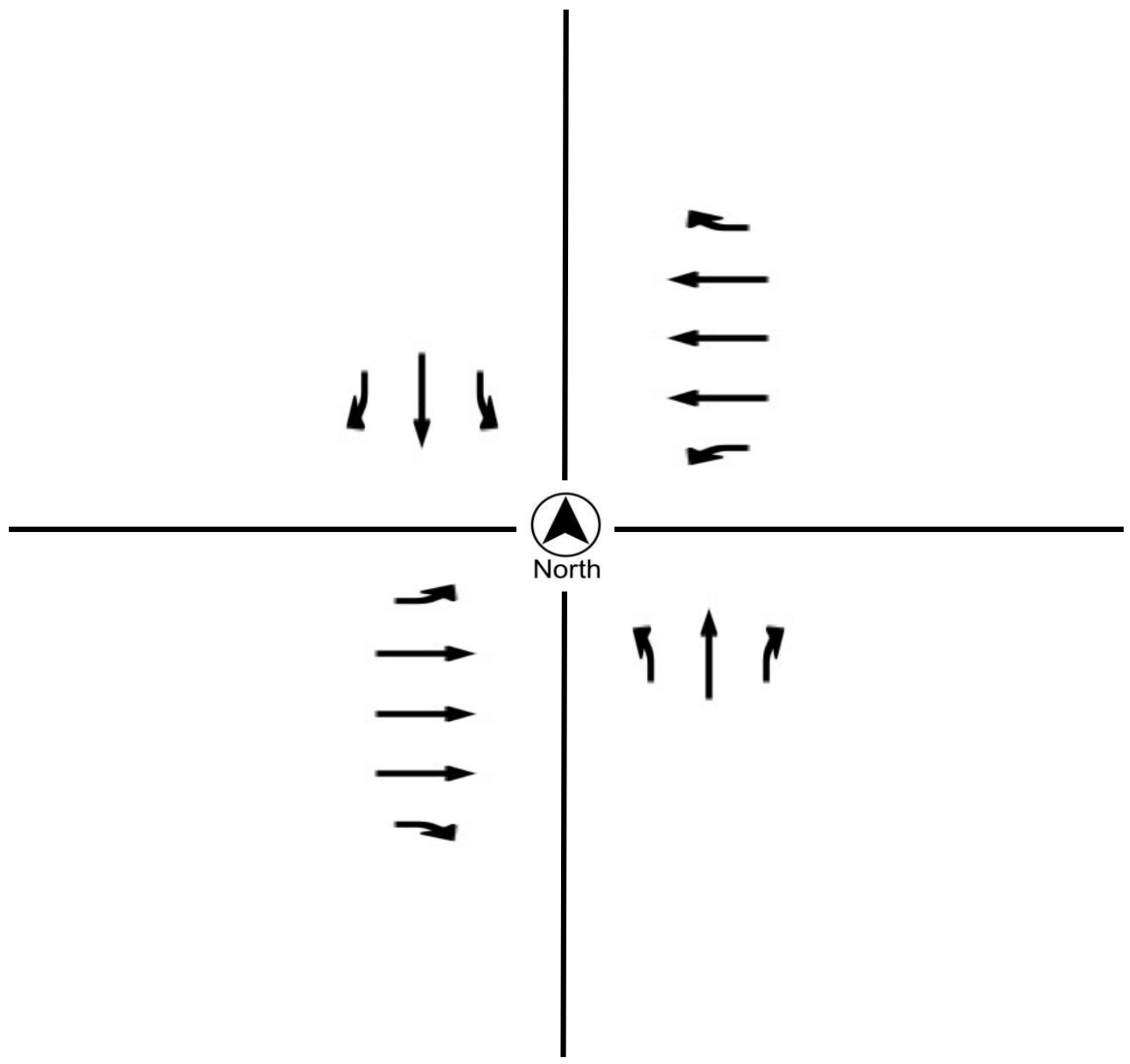
Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Peach Ave @ Herndon Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 123 Seconds

N/S STREET Peach Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS All approaches have protected left turns.





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 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Avenue
 Clovis, CA 93612

LOCATION Peach Ave @ Herndon Ave (Eastern)

LATITUDE 36.8375

COUNTY Fresno

LONGITUDE -119.7181

COLLECTION DATE Tuesday, March 9, 2021

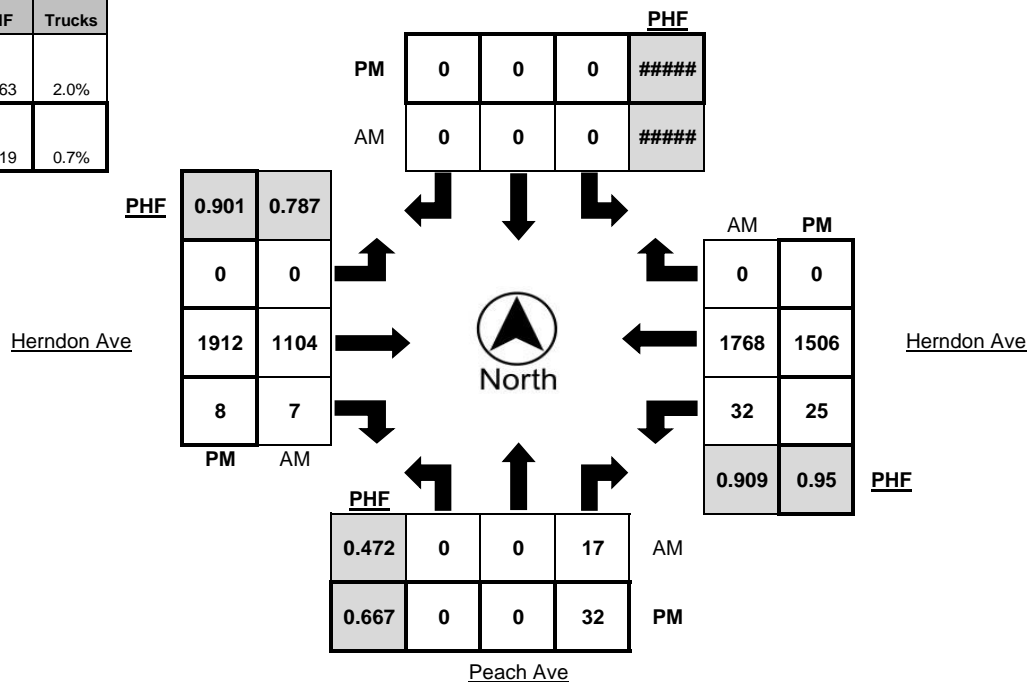
WEATHER Clear

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	2	0	0	0	0	0	0	182	2	3	1	286	0	7
7:15 AM - 7:30 AM	0	0	3	0	0	0	0	0	0	203	1	2	5	352	0	10
7:30 AM - 7:45 AM	0	0	5	0	0	0	0	0	0	233	1	3	10	453	0	3
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	348	5	6	12	483	0	8
8:00 AM - 8:15 AM	0	0	9	0	0	0	0	0	0	279	1	6	7	416	0	14
8:15 AM - 8:30 AM	0	0	3	0	0	0	0	0	0	244	0	8	3	416	0	11
8:30 AM - 8:45 AM	0	0	1	0	0	0	0	0	0	228	0	7	6	357	0	10
8:45 AM - 9:00 AM	0	0	7	0	0	0	0	0	0	214	7	5	3	409	0	10
TOTAL	0	0	30	0	0	0	0	0	0	1931	17	40	47	3172	0	73

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	15	0	0	0	0	0	0	426	6	4	9	342	0	4
4:15 PM - 4:30 PM	0	0	7	1	0	0	0	0	0	454	1	6	3	376	0	3
4:30 PM - 4:45 PM	0	0	11	2	0	0	0	0	0	398	3	3	10	350	0	2
4:45 PM - 5:00 PM	0	0	10	0	0	0	0	0	0	471	0	2	6	366	0	5
5:00 PM - 5:15 PM	0	0	5	0	0	0	0	0	0	455	2	6	8	387	0	1
5:15 PM - 5:30 PM	0	0	12	0	0	0	0	0	0	528	5	1	9	394	0	3
5:30 PM - 5:45 PM	0	0	5	0	0	0	0	0	0	458	1	2	2	359	0	3
5:45 PM - 6:00 PM	0	0	13	0	0	0	0	0	0	405	3	3	7	331	0	2
TOTAL	0	0	78	3	0	0	0	0	0	3595	21	27	54	2905	0	23

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	17	0	0	0	0	0	0	1104	7	23	32	1768	0	36
4:45 PM - 5:45 PM	0	0	32	0	0	0	0	0	0	1912	8	11	25	1506	0	12

	PHF	Trucks
AM	0.863	2.0%
PM	0.919	0.7%





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Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Avenue
 Clovis, CA 93612

LOCATION Peach Ave @ Herndon Ave (Eastern)

LATITUDE 36.8375

COUNTY Fresno

LONGITUDE -119.7181

COLLECTION DATE Tuesday, March 9, 2021

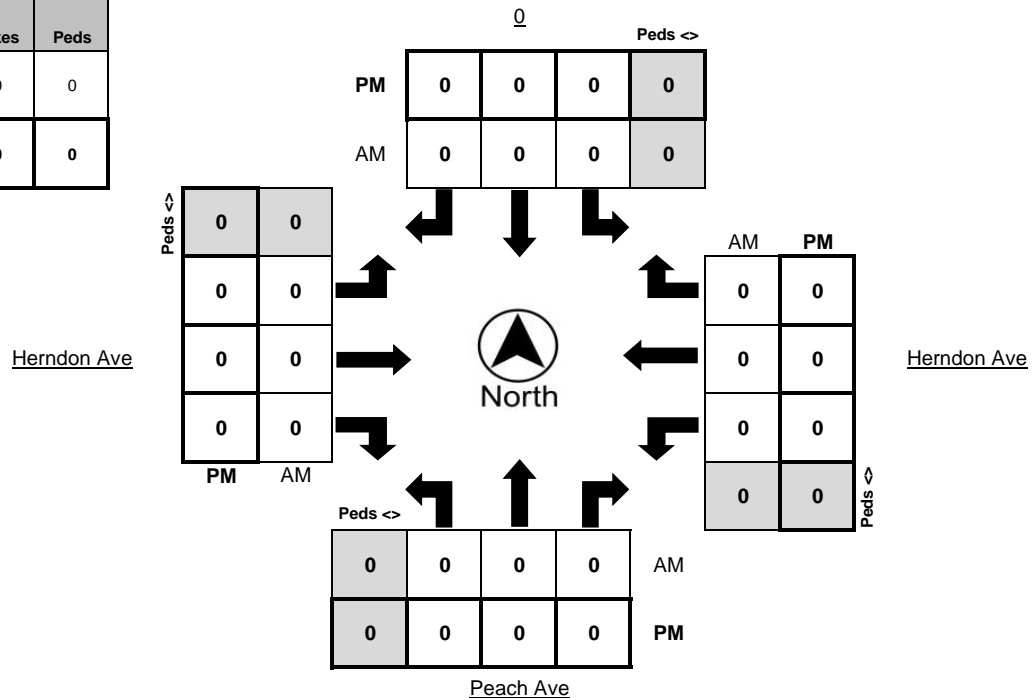
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0





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Turning Movement Report

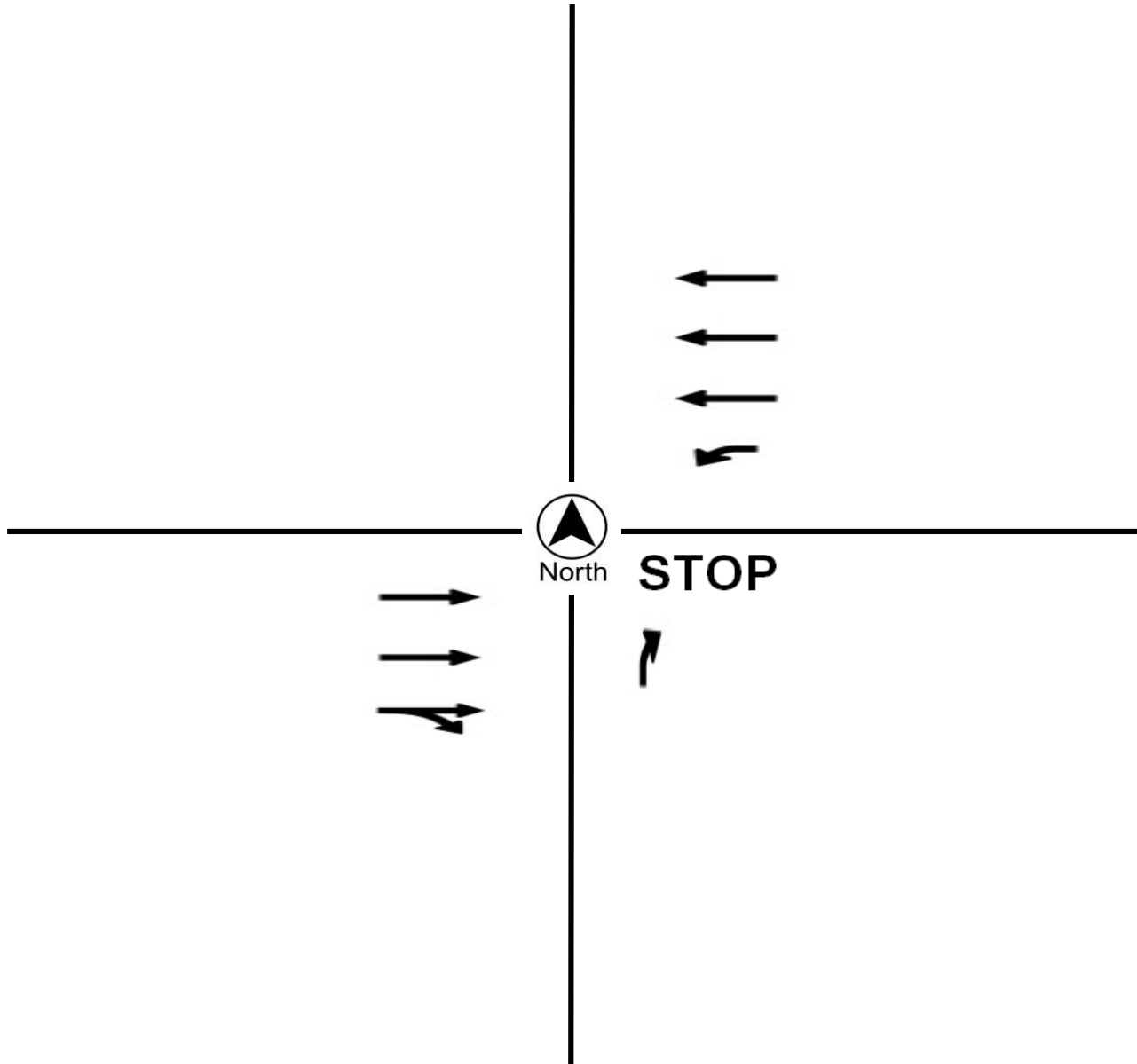
Prepared For:

Peters Engineering Group
862 Pollasky Avenue
Clovis, CA 93612

LOCATION Peach Ave @ Herndon Ave (Eastern)
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME N/A

N/S STREET Peach Ave (Eastern)
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE One-Way Stop

COMMENTS





Metro Traffic Data Inc.
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Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Villa Ave @ Herndon Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

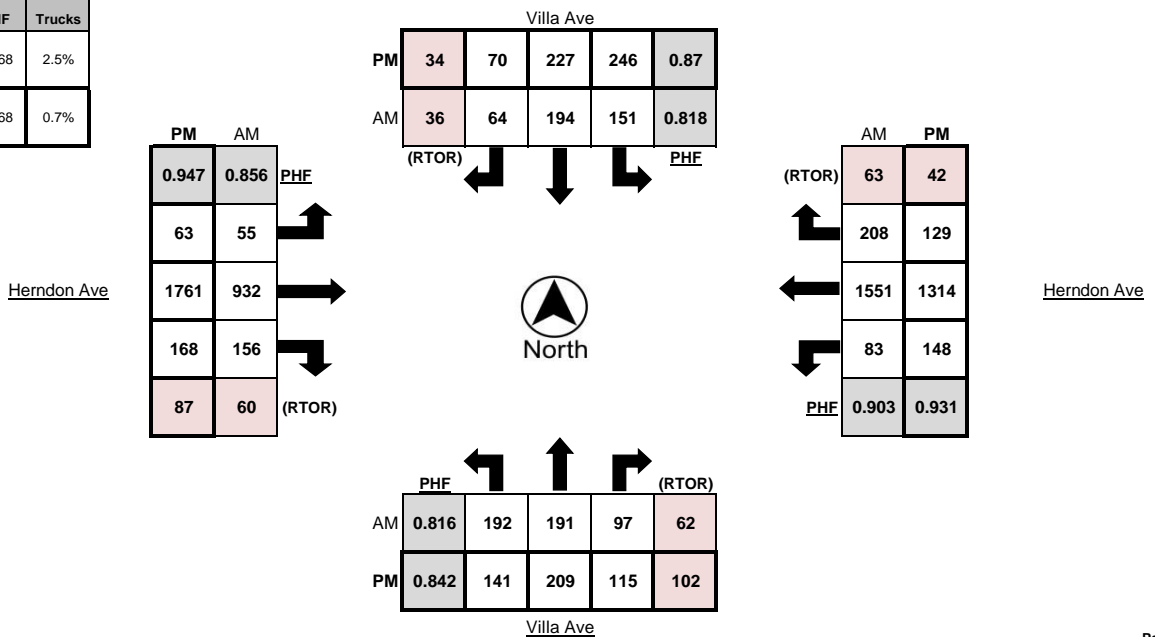
LATITUDE 36.8376
 LONGITUDE -119.7137
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	14	30	9	7	2	35	24	5	4	4	13	157	16	3	3	8	260	27	7	10
7:15 AM - 7:30 AM	27	56	21	14	12	36	22	10	8	4	11	177	10	6	3	16	328	31	17	10
7:30 AM - 7:45 AM	43	55	19	11	8	43	46	18	9	3	13	210	30	14	3	25	418	46	6	1
7:45 AM - 8:00 AM	41	67	39	30	3	41	68	16	11	7	17	275	42	18	5	17	426	67	27	9
8:00 AM - 8:15 AM	51	27	21	13	4	33	38	17	8	4	14	236	56	19	7	26	350	57	21	13
8:15 AM - 8:30 AM	57	42	18	8	2	34	42	13	8	6	11	211	28	9	9	15	357	38	9	11
8:30 AM - 8:45 AM	39	34	21	12	5	29	31	15	9	2	10	188	27	9	7	14	301	35	8	13
8:45 AM - 9:00 AM	36	43	17	11	4	31	32	19	9	3	9	176	26	14	3	16	360	39	9	10
TOTAL	308	354	165	106	40	282	303	113	66	33	98	1630	235	92	40	137	2800	340	104	77

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	31	37	26	22	0	50	45	30	21	3	17	376	42	22	2	25	263	28	7	6
4:15 PM - 4:30 PM	39	57	25	23	3	60	45	22	15	3	11	387	55	25	6	47	331	30	10	2
4:30 PM - 4:45 PM	55	46	28	27	1	74	64	21	10	3	17	329	35	19	6	41	286	31	10	4
4:45 PM - 5:00 PM	45	57	36	31	0	72	56	15	6	4	12	447	41	28	3	30	302	32	11	1
5:00 PM - 5:15 PM	38	54	25	21	1	71	63	22	9	2	17	436	39	18	4	46	340	35	16	0
5:15 PM - 5:30 PM	32	47	29	26	0	52	38	19	12	2	18	466	42	23	3	43	349	35	10	3
5:30 PM - 5:45 PM	26	51	25	24	1	51	70	14	7	5	16	412	46	18	2	29	323	27	5	2
5:45 PM - 6:00 PM	39	54	23	17	1	28	36	12	10	0	20	362	29	15	3	34	292	25	7	1
TOTAL	305	403	217	191	7	458	417	155	90	22	128	3215	329	168	29	295	2486	243	76	19

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	192	191	97	62	17	151	194	64	36	20	55	932	156	60	24	83	1551	208	63	34
4:45 PM - 5:45 PM	141	209	115	102	2	246	227	70	34	13	63	1761	168	87	12	148	1314	129	42	6

	PHF	Trucks
AM	0.868	2.5%
PM	0.968	0.7%





Metro Traffic Data Inc.
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 Hanford, CA 93230
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 www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Villa Ave @ Herndon Ave

LATITUDE 36.8376

COUNTY Fresno

LONGITUDE -119.7137

COLLECTION DATE Tuesday, March 9, 2021

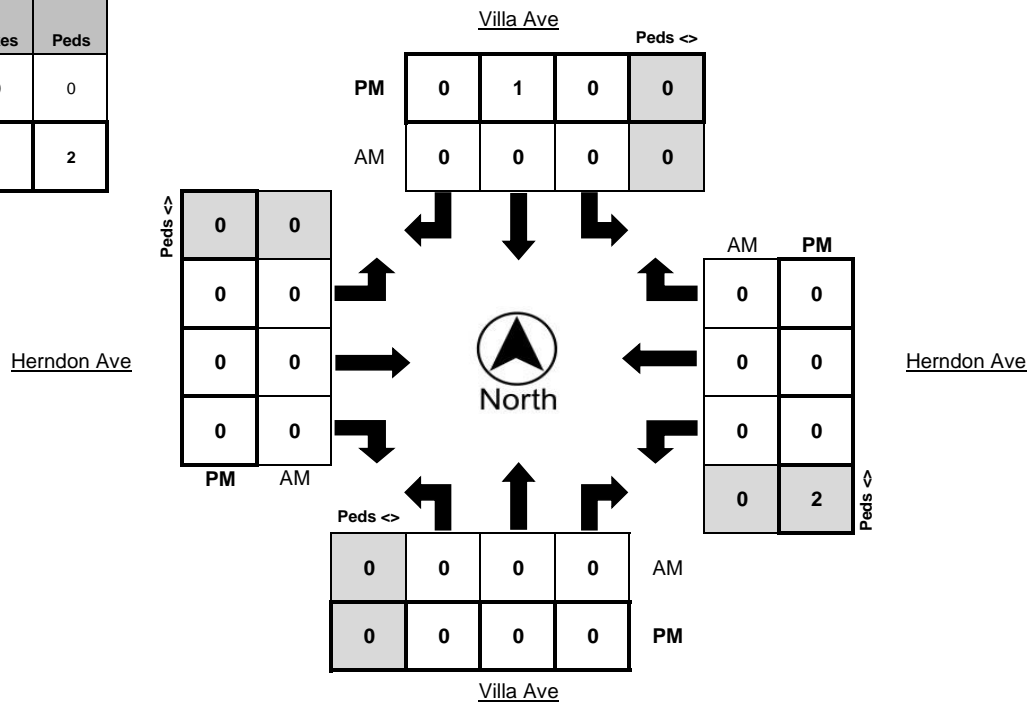
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	1	2





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Turning Movement Report

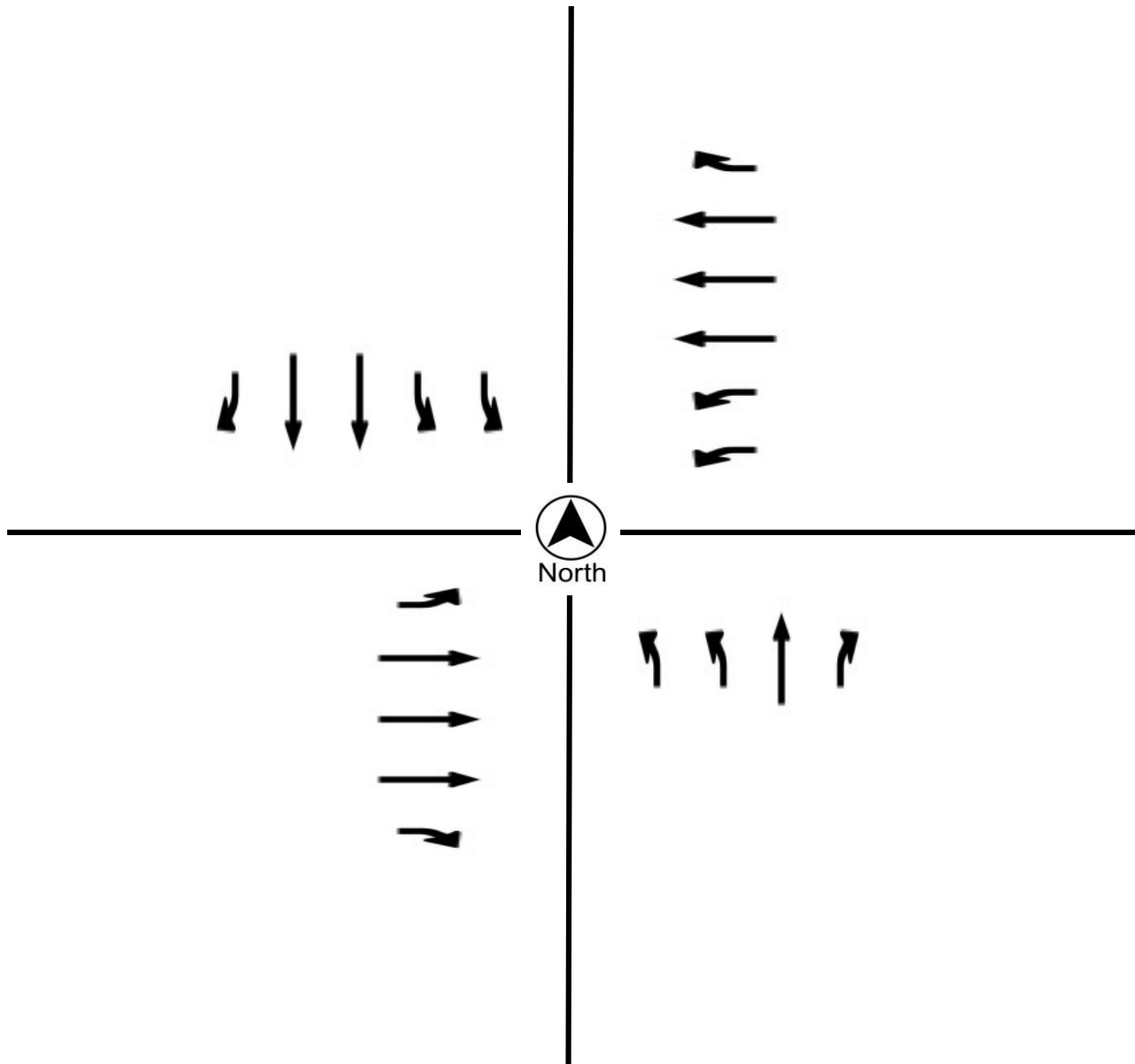
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Villa Ave @ Herndon Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 160 Seconds

N/S STREET Villa Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS All approaches have protected left turns.





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Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Avenue
 Clovis, CA 93612

LOCATION Minnewawa Ave @ Herndon Ave

LATITUDE 36.8375

COUNTY Fresno

LONGITUDE -119.7094

COLLECTION DATE Tuesday, March 9, 2021

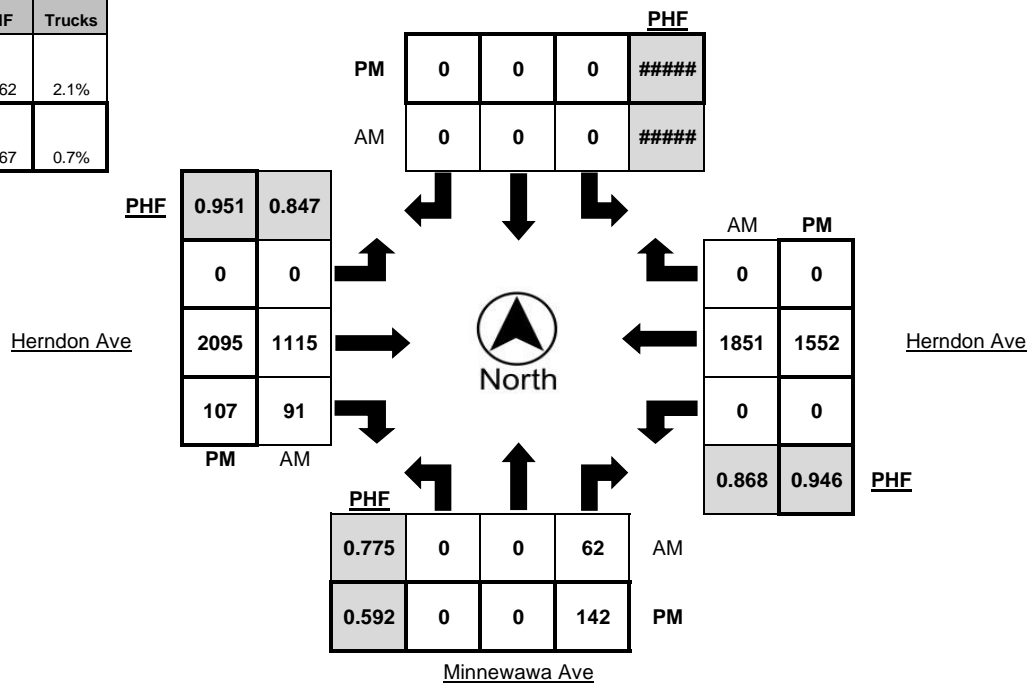
WEATHER Clear

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	18	2	0	0	0	0	0	195	6	6	0	310	0	10
7:15 AM - 7:30 AM	0	0	12	1	0	0	0	0	0	218	23	7	0	388	0	8
7:30 AM - 7:45 AM	0	0	15	2	0	0	0	0	0	255	27	3	0	508	0	3
7:45 AM - 8:00 AM	0	0	16	4	0	0	0	0	0	322	34	7	0	533	0	10
8:00 AM - 8:15 AM	0	0	11	0	0	0	0	0	0	269	20	9	0	400	0	10
8:15 AM - 8:30 AM	0	0	20	0	0	0	0	0	0	269	10	9	0	410	0	10
8:30 AM - 8:45 AM	0	0	10	0	0	0	0	0	0	227	15	8	0	350	0	15
8:45 AM - 9:00 AM	0	0	14	4	0	0	0	0	0	209	20	7	0	421	0	11
TOTAL	0	0	116	13	0	0	0	0	0	1964	155	56	0	3320	0	77

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	33	2	0	0	0	0	0	440	15	7	0	313	0	6
4:15 PM - 4:30 PM	0	0	27	0	0	0	0	0	0	431	17	5	0	404	0	2
4:30 PM - 4:45 PM	0	0	21	1	0	0	0	0	0	450	27	10	0	353	0	3
4:45 PM - 5:00 PM	0	0	36	0	0	0	0	0	0	536	43	6	0	388	0	2
5:00 PM - 5:15 PM	0	0	60	0	0	0	0	0	0	526	27	7	0	394	0	0
5:15 PM - 5:30 PM	0	0	16	0	0	0	0	0	0	538	31	4	0	410	0	3
5:30 PM - 5:45 PM	0	0	30	1	0	0	0	0	0	495	6	3	0	360	0	1
5:45 PM - 6:00 PM	0	0	19	0	0	0	0	0	0	407	19	3	0	351	0	1
TOTAL	0	0	242	4	0	0	0	0	0	3823	185	45	0	2973	0	18

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	62	6	0	0	0	0	0	1115	91	28	0	1851	0	33
4:45 PM - 5:45 PM	0	0	142	1	0	0	0	0	0	2095	107	20	0	1552	0	6

	PHF	Trucks
AM	0.862	2.1%
PM	0.967	0.7%





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Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Avenue
 Clovis, CA 93612

LOCATION Minnewawa Ave @ Herndon Ave

LATITUDE 36.8375

COUNTY Fresno

LONGITUDE -119.7094

COLLECTION DATE Tuesday, March 9, 2021

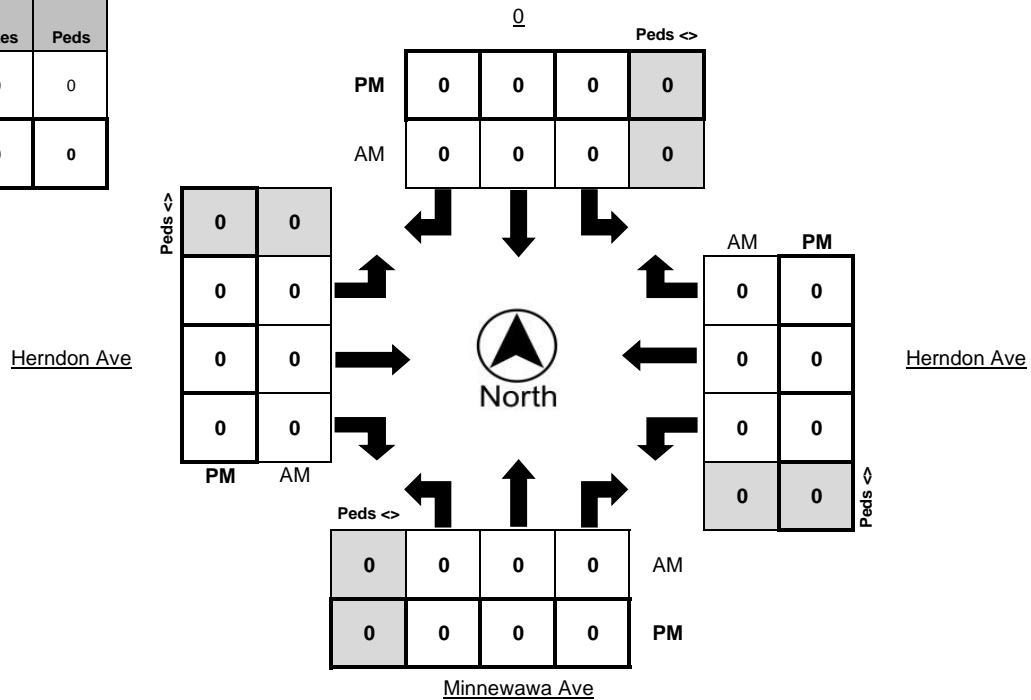
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0





Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

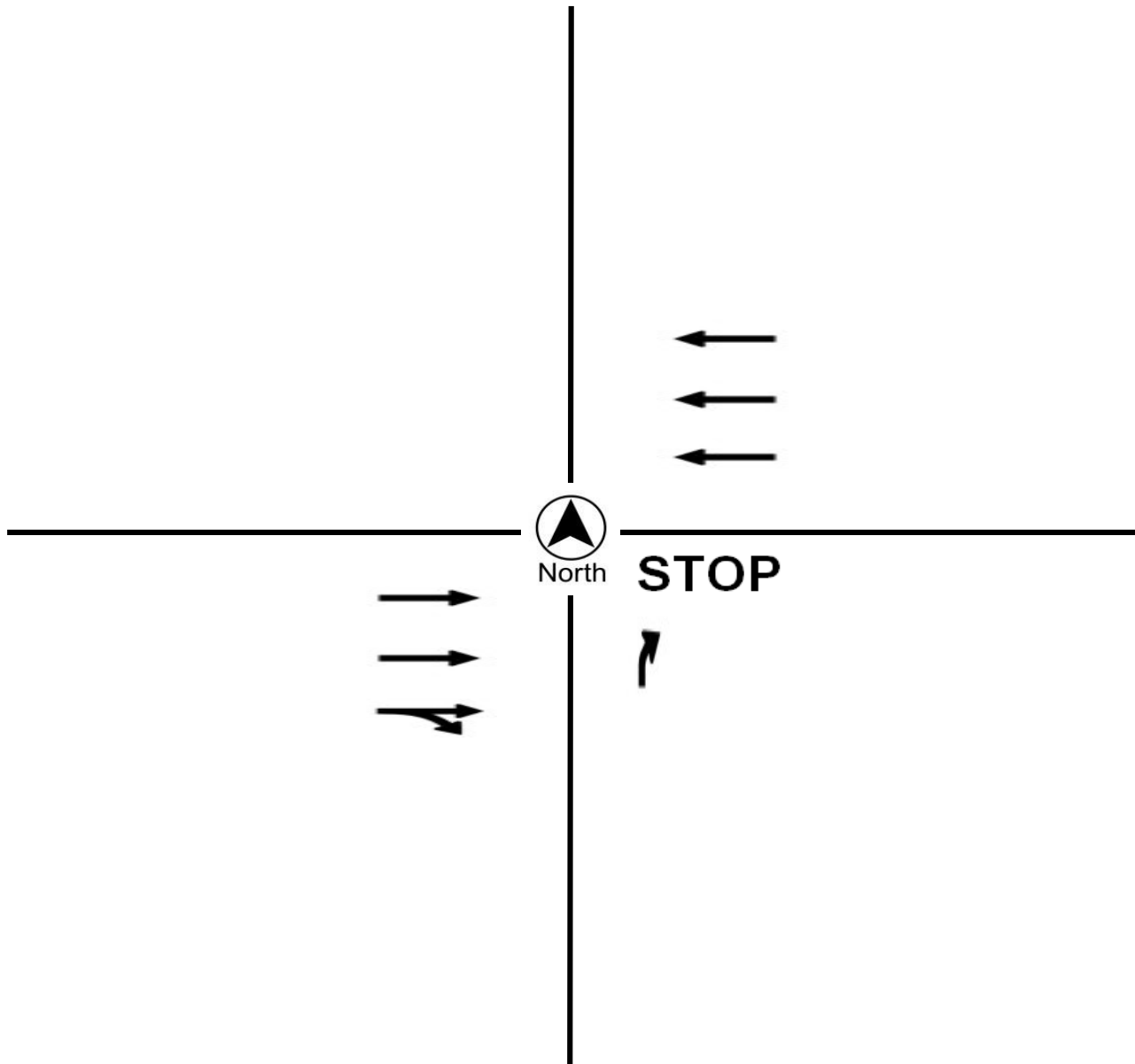
Prepared For:

Peters Engineering Group
862 Pollasky Avenue
Clovis, CA 93612

LOCATION Minnewawa Ave @ Herndon Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME N/A

N/S STREET Minnewawa Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE One-Way Stop

COMMENTS





Metro Traffic Data Inc.
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 www.metrotrafficdata.com

Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Dewitt Ave @ Herndon Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

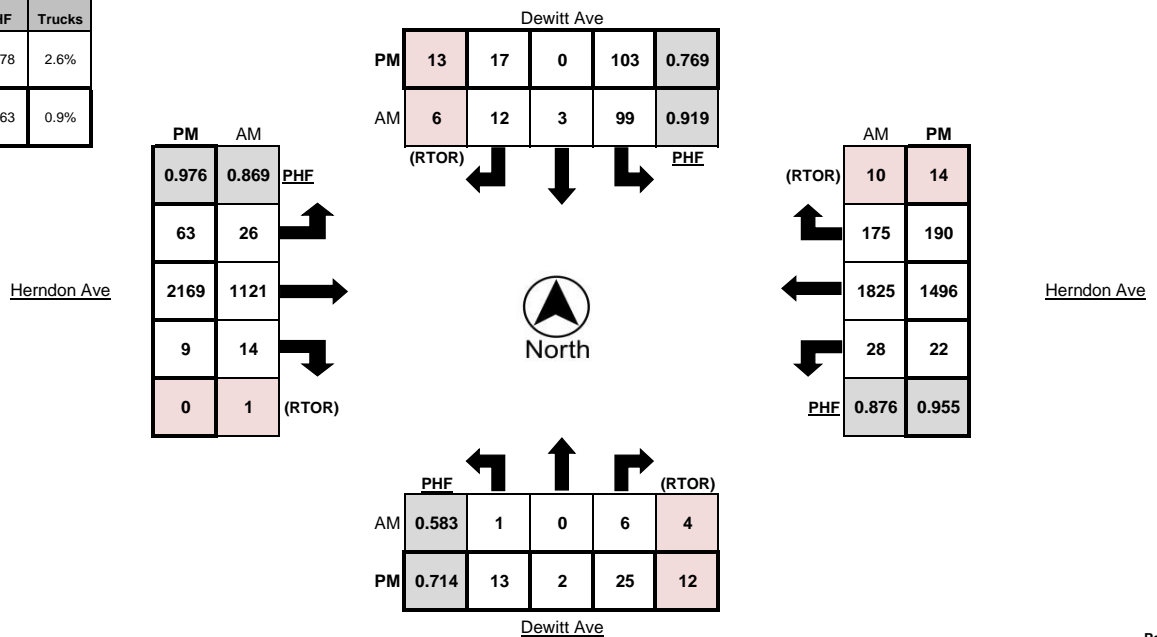
LATITUDE 36.8373
 LONGITUDE -119.7068
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	0	0	1	1	0	22	0	0	0	3	9	202	0	0	8	1	303	25	6	11
7:15 AM - 7:30 AM	0	0	2	1	0	17	1	2	2	2	6	225	1	0	5	9	377	44	4	11
7:30 AM - 7:45 AM	0	0	1	0	0	28	0	3	1	2	6	252	1	0	5	0	516	54	3	7
7:45 AM - 8:00 AM	1	0	0	0	0	26	0	3	0	3	4	328	2	0	10	3	513	63	6	10
8:00 AM - 8:15 AM	0	0	3	2	1	21	1	1	1	1	7	275	1	0	9	10	397	37	0	14
8:15 AM - 8:30 AM	0	0	2	2	0	24	2	5	4	4	9	266	10	1	9	15	399	21	1	12
8:30 AM - 8:45 AM	1	0	3	2	0	18	0	3	2	3	4	231	0	0	7	1	345	32	2	14
8:45 AM - 9:00 AM	0	0	2	2	0	12	0	2	2	2	8	234	1	0	8	4	414	28	4	11
TOTAL	2	0	14	10	1	168	4	19	12	20	53	2013	16	1	61	43	3264	304	26	90

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	5	0	8	6	0	28	1	2	0	3	21	447	1	0	5	5	313	45	10	8
4:15 PM - 4:30 PM	1	0	5	4	0	35	1	3	3	1	8	445	2	0	5	5	378	48	4	4
4:30 PM - 4:45 PM	4	0	2	2	0	41	1	6	1	1	12	467	1	0	10	6	337	40	11	3
4:45 PM - 5:00 PM	6	0	8	3	0	32	0	2	2	1	12	554	3	0	9	7	384	47	6	2
5:00 PM - 5:15 PM	4	2	4	2	2	30	0	9	7	0	17	557	0	0	5	5	380	59	4	2
5:15 PM - 5:30 PM	1	0	2	1	0	21	0	2	2	0	13	524	1	0	4	4	401	42	0	3
5:30 PM - 5:45 PM	2	0	11	6	0	20	0	4	2	0	21	534	5	0	5	6	331	42	4	2
5:45 PM - 6:00 PM	1	0	0	0	0	13	0	8	7	0	11	414	3	0	3	7	327	34	3	2
TOTAL	24	2	40	24	2	220	3	36	24	6	115	3942	16	0	46	45	2851	357	42	26

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	1	0	6	4	1	99	3	12	6	10	26	1121	14	1	33	28	1825	175	10	43
4:45 PM - 5:45 PM	13	2	25	12	2	103	0	17	13	1	63	2169	9	0	23	22	1496	190	14	9

	PHF	Trucks
AM	0.878	2.6%
PM	0.963	0.9%





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Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

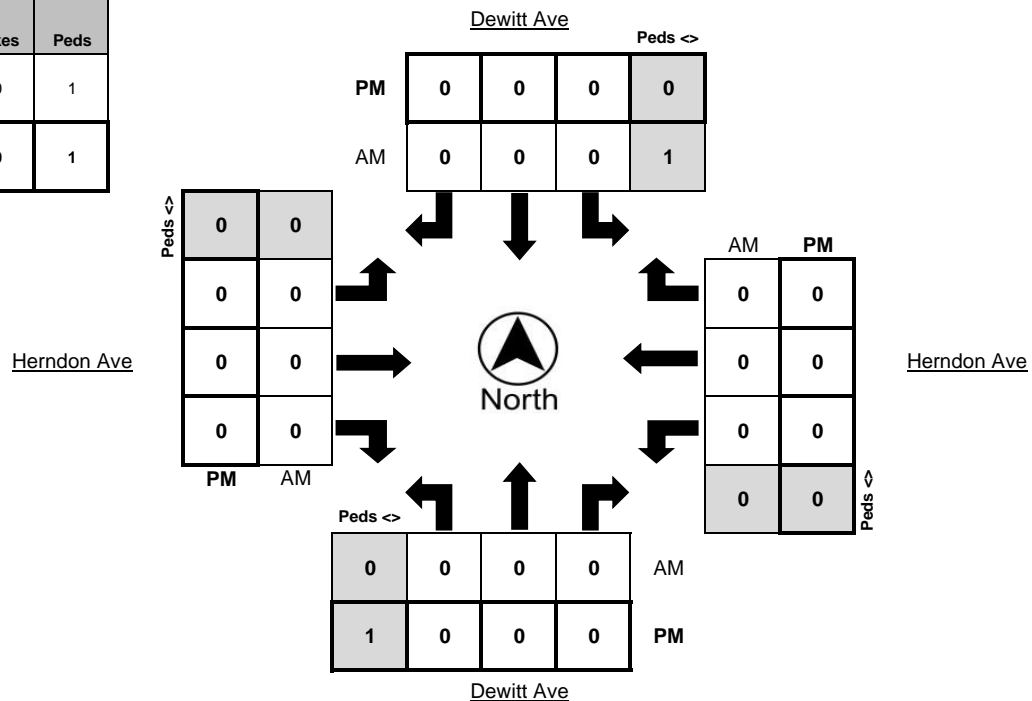
LOCATION Dewitt Ave @ Herndon Ave **LATITUDE** 36.8373
COUNTY Fresno **LONGITUDE** -119.7068
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	0	1





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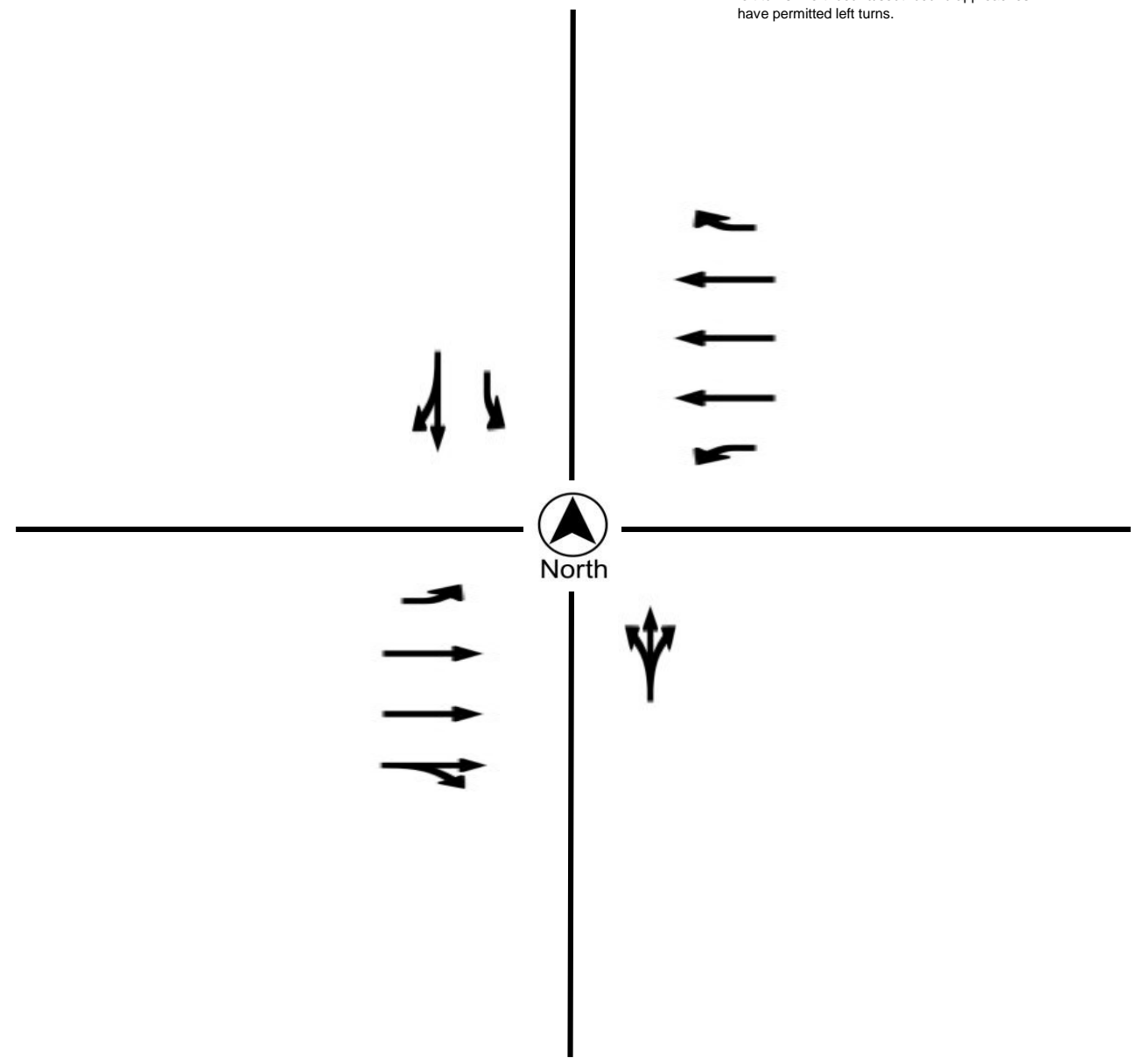
Turning Movement Report

Prepared For: **Peters Engineering Group**
862 Pollasky Ave
Clovis, CA 93612

LOCATION Dewitt Ave @ Herndon Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 131 Seconds

N/S STREET Dewitt Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS Eastbound/westbound approaches have protected left turns. Northbound/southbound approaches have permitted left turns.





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Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Spruce Ave @ Willow Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

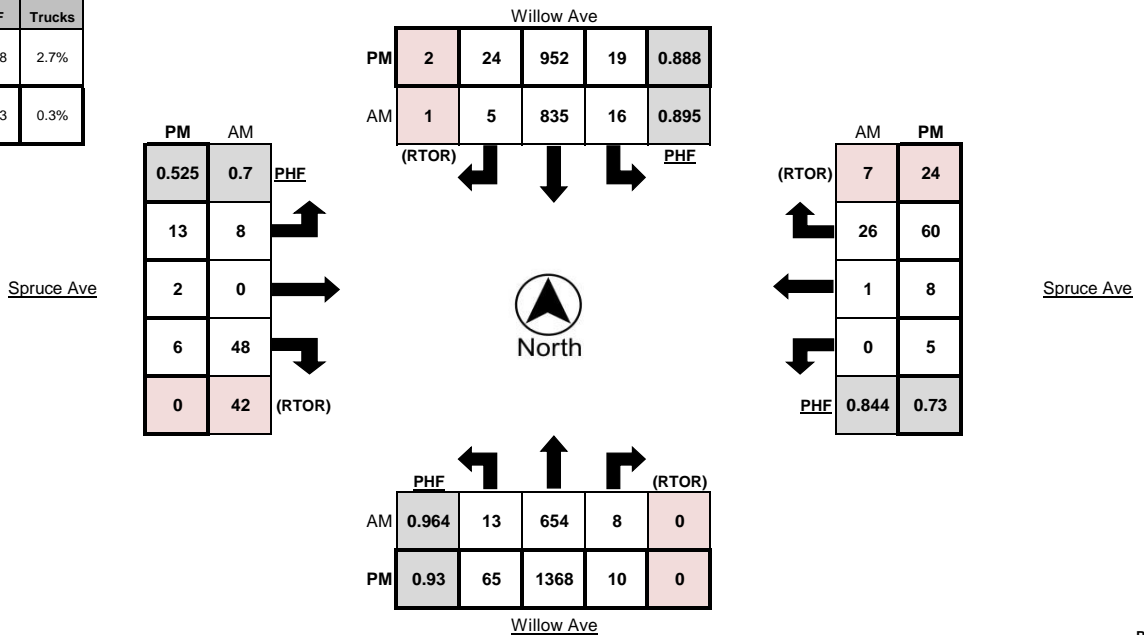
LATITUDE 36.8410
 LONGITUDE -119.7296
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound					
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	
7:00 AM - 7:15 AM	1	105	2	0	6	1	177	0	0	3	2	0	11	8	0	1	0	0	0	0	0
7:15 AM - 7:30 AM	4	149	3	0	5	6	181	0	0	4	0	0	13	13	0	0	0	6	1	0	0
7:30 AM - 7:45 AM	1	168	1	0	6	7	232	0	0	2	2	0	18	18	0	0	0	6	0	0	0
7:45 AM - 8:00 AM	3	169	3	0	5	3	234	2	0	7	2	0	11	10	0	0	0	7	2	0	0
8:00 AM - 8:15 AM	4	161	4	0	7	1	184	1	0	4	3	0	10	8	0	0	1	7	3	0	0
8:15 AM - 8:30 AM	5	156	0	0	6	5	185	2	1	5	1	0	9	6	1	0	0	6	2	1	0
8:30 AM - 8:45 AM	3	168	1	0	5	5	161	3	0	3	3	3	8	8	0	0	0	3	2	0	0
8:45 AM - 9:00 AM	6	168	3	0	9	3	148	2	1	4	1	0	7	7	0	2	0	9	1	0	0
TOTAL	27	1244	17	0	49	31	1502	10	2	32	14	3	87	78	1	3	1	44	11	1	1

Time	Northbound					Southbound					Eastbound					Westbound					
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	
4:00 PM - 4:15 PM	19	275	7	3	3	8	174	3	1	5	2	1	0	0	1	3	0	29	5	1	0
4:15 PM - 4:30 PM	20	325	2	0	1	8	243	8	1	5	2	0	2	0	0	3	0	17	3	0	0
4:30 PM - 4:45 PM	15	299	3	0	1	4	240	5	1	3	3	0	0	0	0	0	0	17	4	0	0
4:45 PM - 5:00 PM	16	324	2	0	1	4	218	7	1	1	2	0	1	0	1	1	1	13	6	1	0
5:00 PM - 5:15 PM	19	331	1	0	1	7	241	4	1	1	1	1	0	0	0	1	3	18	10	0	0
5:15 PM - 5:30 PM	16	366	6	0	2	7	226	5	0	0	4	0	2	0	0	1	2	22	7	0	0
5:30 PM - 5:45 PM	20	337	1	0	1	4	265	11	1	0	3	0	0	0	0	3	2	10	3	0	0
5:45 PM - 6:00 PM	10	334	2	0	1	1	220	4	0	1	5	1	4	0	0	0	1	10	4	0	0
TOTAL	135	2591	24	3	11	43	1827	47	6	16	22	3	9	0	2	12	9	136	42	2	0

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound					
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	
7:30 AM - 8:30 AM	13	654	8	0	24	16	835	5	1	18	8	0	48	42	1	0	1	26	7	1	0
5:00 PM - 6:00 PM	65	1368	10	0	5	19	952	24	2	2	13	2	6	0	0	5	8	60	24	0	0

	PHF	Trucks
AM	0.928	2.7%
PM	0.963	0.3%





Metro Traffic Data Inc.
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 Hanford, CA 93230
 800-975-6938 Phone/Fax
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Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Spruce Ave @ Willow Ave

LATITUDE 36.8410

COUNTY Fresno

LONGITUDE -119.7296

COLLECTION DATE Tuesday, March 9, 2021

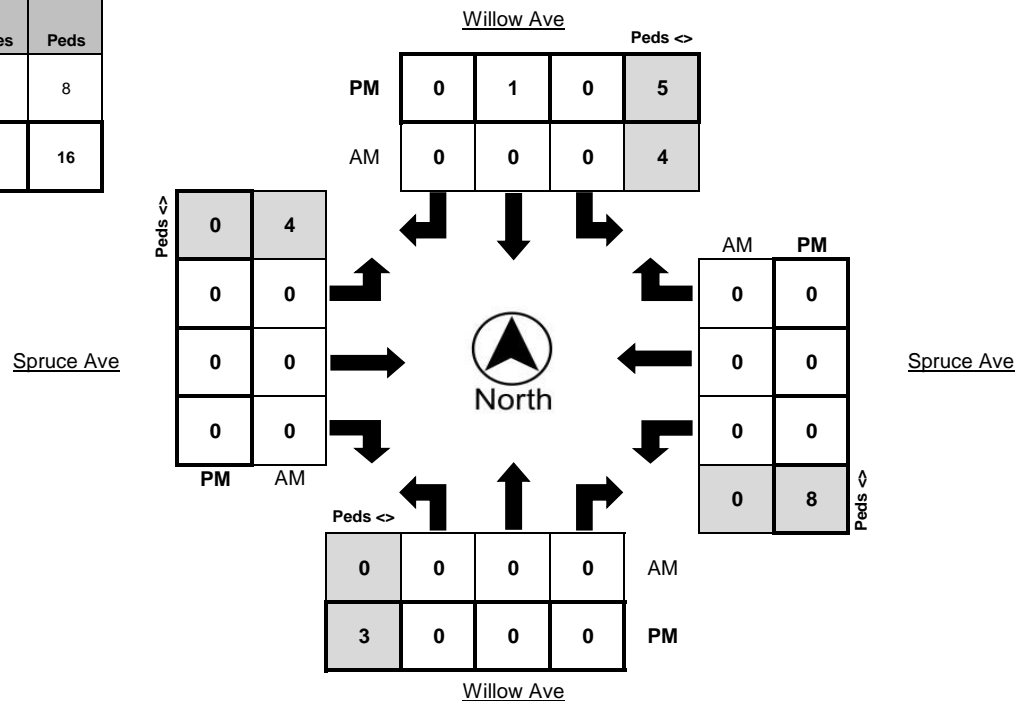
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	7

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	3	0	1	0	0	0	0	0	5	0	0	0	0
TOTAL	0	0	0	5	0	1	1	7	0	0	0	14	0	0	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM - 6:00 PM	0	0	0	5	0	1	0	3	0	0	0	8	0	0	0	0

	Bikes	Peds
AM Peak Total	0	8
PM Peak Total	1	16





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Turning Movement Report

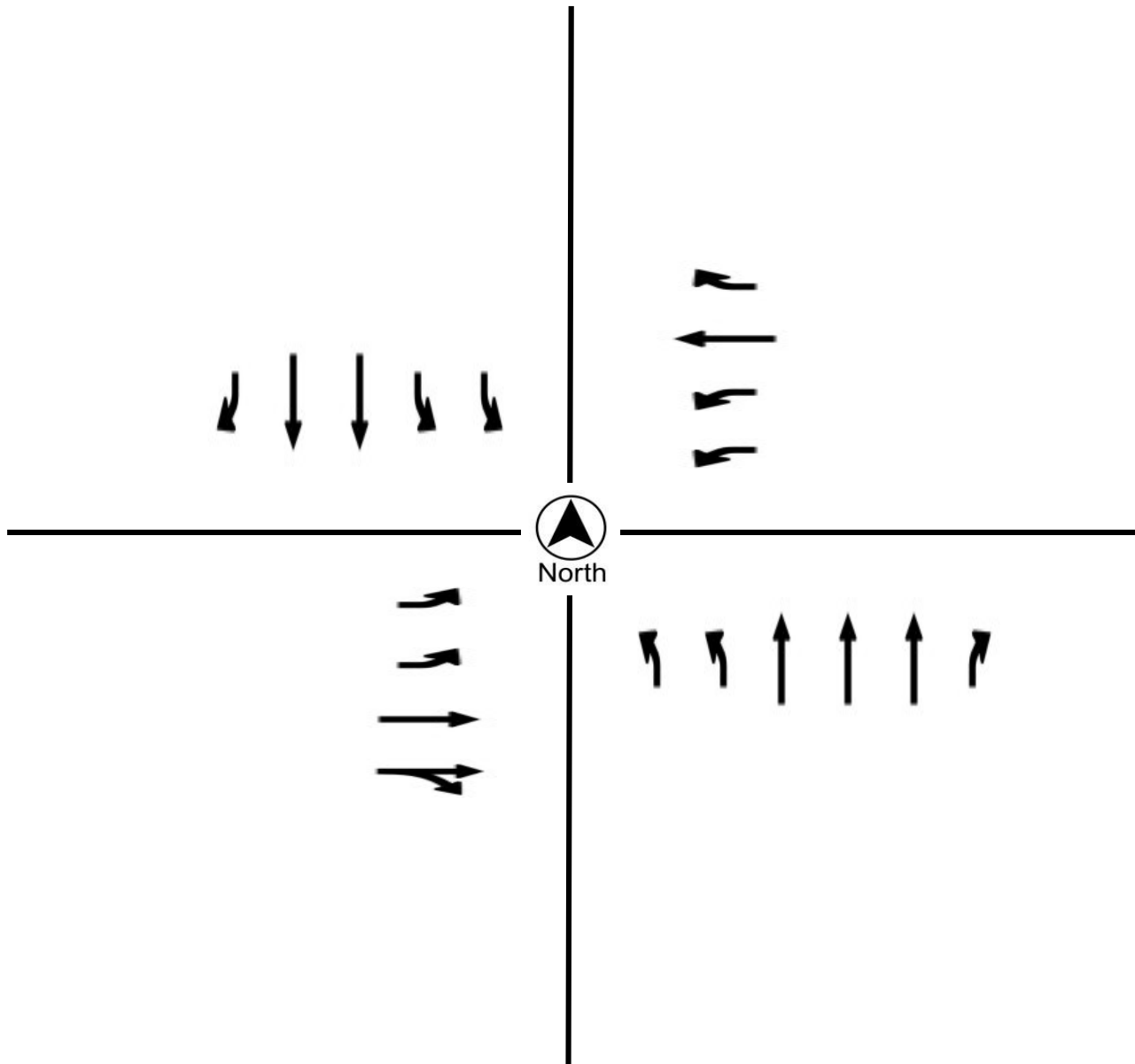
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Spruce Ave @ Willow Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 130 Seconds

N/S STREET Willow Ave
E/W STREET Spruce Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS All approaches have protected left turns.





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Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Willow Ave @ Magill Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, March 9, 2021

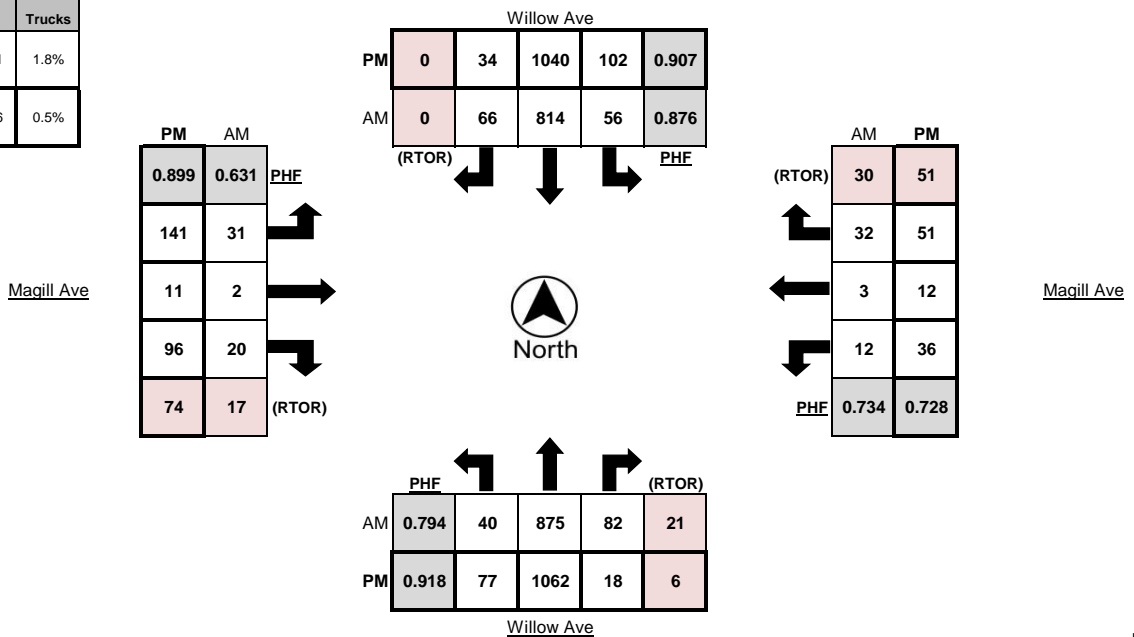
LATITUDE 36.8357
 LONGITUDE -119.7296
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	4	140	9	0	9	5	174	1	0	3	1	1	3	3	0	2	3	3	2	0
7:15 AM - 7:30 AM	5	187	12	1	6	12	146	5	0	4	7	1	0	0	0	1	0	7	7	1
7:30 AM - 7:45 AM	6	243	21	8	3	15	228	16	0	4	3	1	6	5	0	3	1	6	6	0
7:45 AM - 8:00 AM	11	263	40	9	6	14	232	21	0	4	4	0	3	2	0	3	0	13	11	1
8:00 AM - 8:15 AM	9	212	16	4	6	20	183	13	0	3	10	0	5	4	0	5	1	4	4	0
8:15 AM - 8:30 AM	14	157	5	0	6	7	171	16	0	2	14	1	6	6	1	1	1	9	9	1
8:30 AM - 8:45 AM	4	187	4	0	10	8	150	12	0	2	7	0	11	8	0	1	0	3	3	0
8:45 AM - 9:00 AM	12	180	4	1	4	7	125	13	0	4	17	0	7	6	1	2	0	3	3	1
TOTAL	65	1569	111	23	50	88	1409	97	0	26	63	4	41	34	2	18	6	48	45	4

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	12	235	9	2	2	22	206	10	0	6	21	3	18	12	0	6	2	6	6	0
4:15 PM - 4:30 PM	16	269	4	1	1	25	223	14	0	6	34	2	14	8	2	9	0	5	5	1
4:30 PM - 4:45 PM	20	247	4	4	1	18	265	10	0	3	30	3	24	20	0	17	1	16	16	0
4:45 PM - 5:00 PM	17	244	9	0	0	26	227	11	0	4	32	3	19	15	0	7	4	12	12	1
5:00 PM - 5:15 PM	18	293	4	1	2	20	270	5	0	0	37	1	30	22	0	3	5	12	12	0
5:15 PM - 5:30 PM	22	278	1	1	1	38	278	8	0	1	42	4	23	17	0	9	2	11	11	0
5:30 PM - 5:45 PM	16	272	8	5	1	23	222	6	0	0	35	6	20	13	0	11	2	8	8	0
5:45 PM - 6:00 PM	6	247	5	0	1	18	235	7	0	1	35	4	23	18	0	4	1	7	7	0
TOTAL	127	2085	44	14	9	190	1926	71	0	21	266	26	171	125	2	66	17	77	77	2

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	40	875	82	21	21	56	814	66	0	13	31	2	20	17	1	12	3	32	30	2
4:30 PM - 5:30 PM	77	1062	18	6	4	102	1040	34	0	8	141	11	96	74	0	36	12	51	51	1

	PHF	Trucks
AM	0.841	1.8%
PM	0.936	0.5%





Metro Traffic Data Inc.
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 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotraffictdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

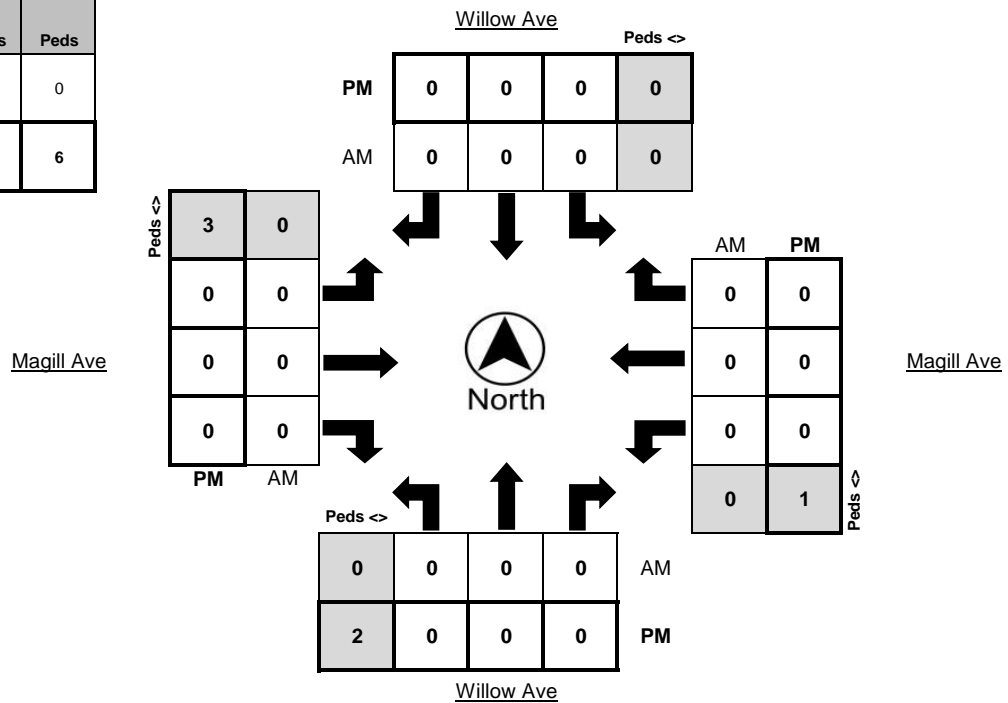
LOCATION Willow Ave @ Magill Ave **LATITUDE** 36.8357
COUNTY Fresno **LONGITUDE** -119.7296
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	7

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	6





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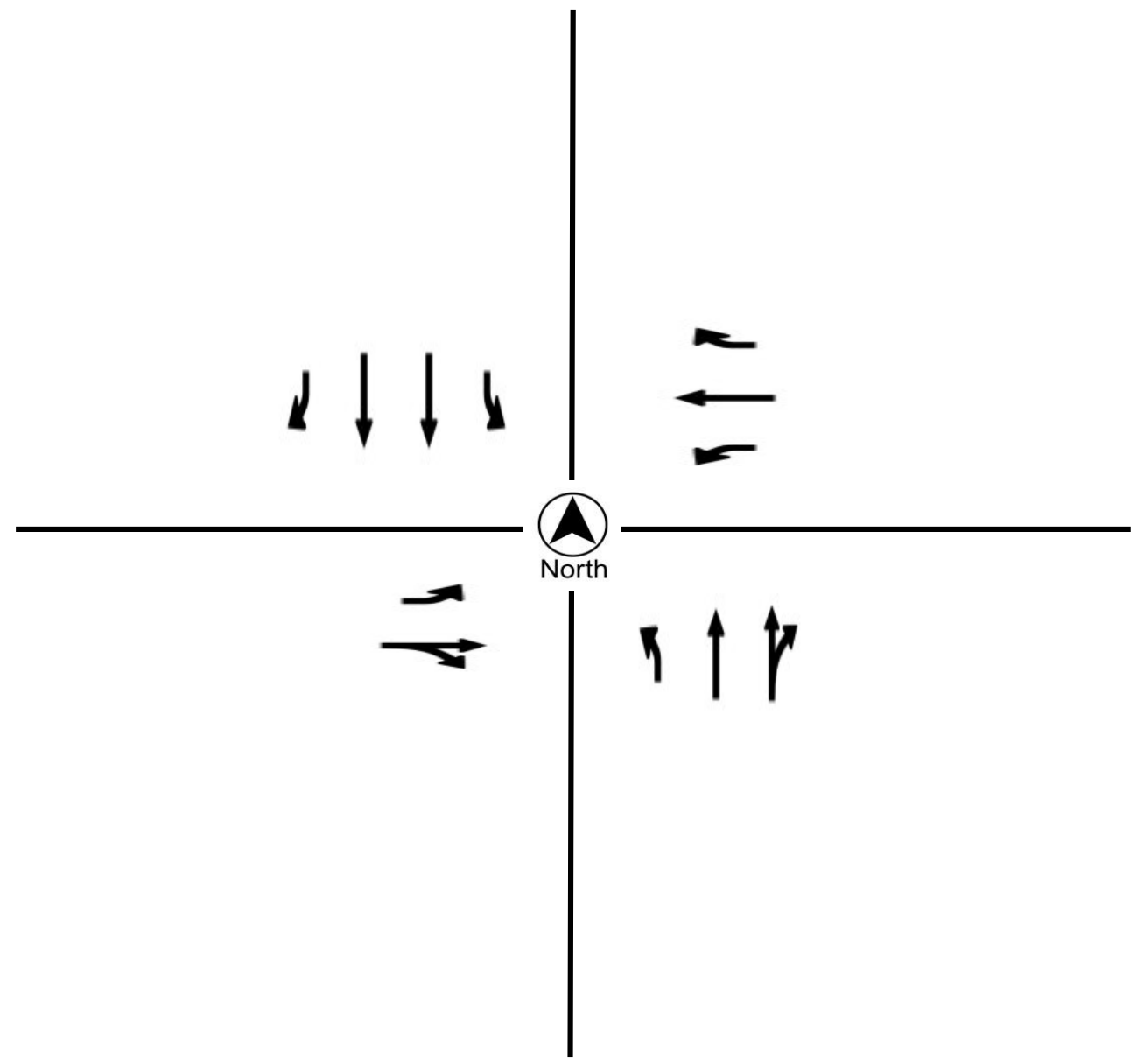
Turning Movement Report

Prepared For: **Peters Engineering Group**
862 Pollasky Ave
Clovis, CA 93612

LOCATION Willow Ave @ Magill Ave
COUNTY Fresno
COLLECTION DATE Tuesday, March 9, 2021
CYCLE TIME 134 Seconds

N/S STREET Willow Ave
E/W STREET Magill Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS All approaches have protected left turns.





Metro Traffic Data Inc.
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 Hanford, CA 93230
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Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Herndon Ave @ Cedar Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, July 27, 2021

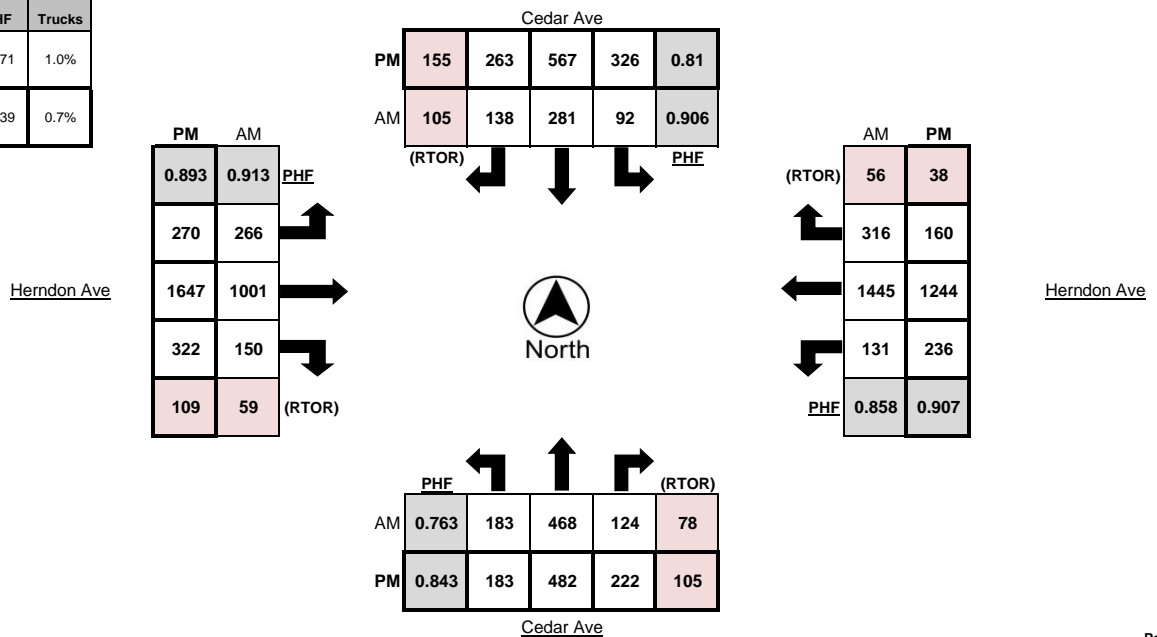
LATITUDE 36.8373
 LONGITUDE -119.7542
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	30	50	16	11	2	15	32	15	15	2	31	128	24	9	2	16	225	28	7	7
7:15 AM - 7:30 AM	31	83	24	13	1	16	38	24	22	1	56	204	26	19	6	26	307	51	4	4
7:30 AM - 7:45 AM	43	110	30	18	1	18	61	37	26	1	55	275	29	15	5	25	391	67	7	2
7:45 AM - 8:00 AM	60	157	37	27	1	27	71	28	19	1	78	272	38	11	4	30	418	103	21	3
8:00 AM - 8:15 AM	35	104	33	20	1	27	64	37	31	1	67	227	39	13	2	32	301	78	9	4
8:15 AM - 8:30 AM	45	97	24	13	3	20	85	36	29	3	66	227	44	20	8	44	335	68	19	4
8:30 AM - 8:45 AM	45	80	27	10	0	38	86	45	33	0	70	229	38	19	7	30	320	63	17	6
8:45 AM - 9:00 AM	35	123	46	27	6	29	68	47	32	3	97	254	43	17	6	32	338	81	13	3
TOTAL	324	804	237	139	15	190	505	269	207	12	520	1816	281	123	40	235	2635	539	97	33

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	47	125	53	30	2	78	133	55	24	2	61	335	75	27	6	69	282	31	9	3
4:15 PM - 4:30 PM	52	94	57	28	1	67	137	49	28	2	57	298	72	26	5	61	299	43	8	3
4:30 PM - 4:45 PM	39	126	50	22	1	83	138	74	46	1	64	357	78	21	2	65	306	38	11	4
4:45 PM - 5:00 PM	40	104	53	28	1	71	116	56	31	6	80	457	90	27	5	49	273	43	10	3
5:00 PM - 5:15 PM	45	112	55	22	1	97	173	87	52	1	58	430	68	27	3	55	361	36	12	3
5:15 PM - 5:30 PM	59	140	64	33	5	75	140	46	26	2	68	403	86	34	3	67	304	43	5	3
5:30 PM - 5:45 PM	48	125	55	35	0	69	119	64	41	2	60	376	65	20	3	44	250	31	8	2
5:45 PM - 6:00 PM	41	101	62	41	5	51	107	33	22	3	82	315	68	24	2	57	248	48	8	1
TOTAL	371	927	449	239	16	591	1063	464	270	19	530	2971	602	206	29	467	2323	313	71	22

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	183	468	124	78	6	92	281	138	105	6	266	1001	150	59	19	131	1445	316	56	13
4:30 PM - 5:30 PM	183	482	222	105	8	326	567	263	155	10	270	1647	322	109	13	236	1244	160	38	13

	PHF	Trucks
AM	0.871	1.0%
PM	0.939	0.7%





Metro Traffic Data Inc.
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 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Herndon Ave @ Cedar Ave

LATITUDE 36.8373

COUNTY Fresno

LONGITUDE -119.7542

COLLECTION DATE Tuesday, July 27, 2021

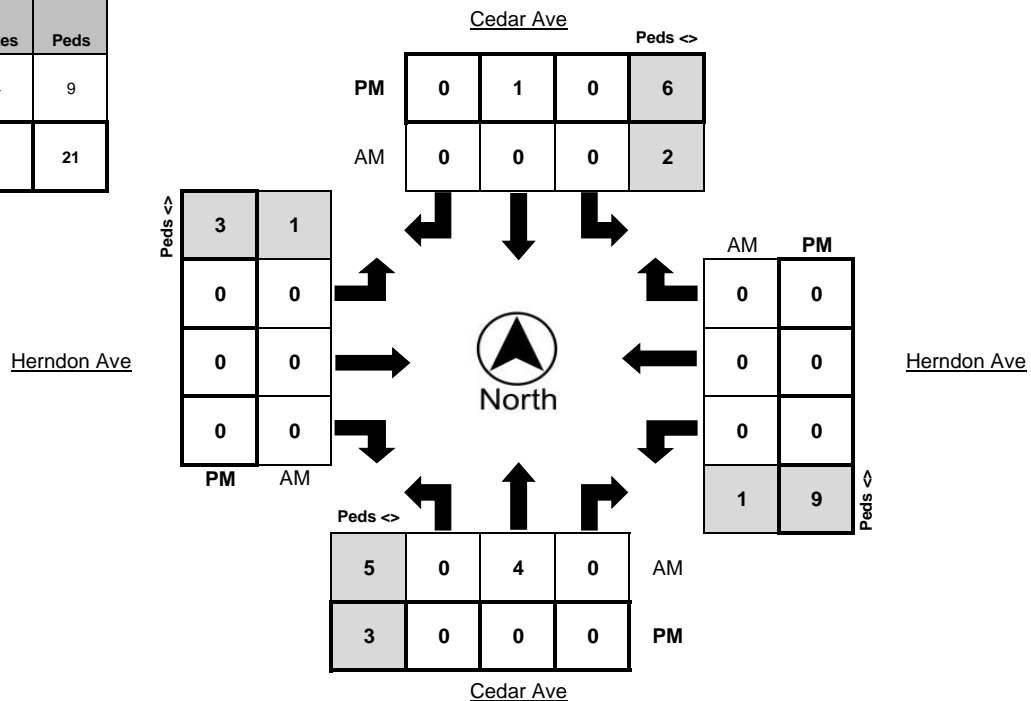
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	1
7:45 AM - 8:00 AM	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	1
TOTAL	0	4	0	3	0	0	0	8	0	0	0	4	0	0	0	6

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	1	0	1	0	1	0	0	0	4	0	0	0	2
4:45 PM - 5:00 PM	0	0	0	2	0	0	0	0	0	0	0	4	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5
5:45 PM - 6:00 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	0	0	0	8	0	1	0	4	0	0	0	13	0	0	0	11

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	4	0	2	0	0	0	5	0	0	0	1	0	0	0	1
4:30 PM - 5:30 PM	0	0	0	6	0	1	0	3	0	0	0	9	0	0	0	3

	Bikes	Peds
AM Peak Total	4	9
PM Peak Total	1	21





Metro Traffic Data Inc.
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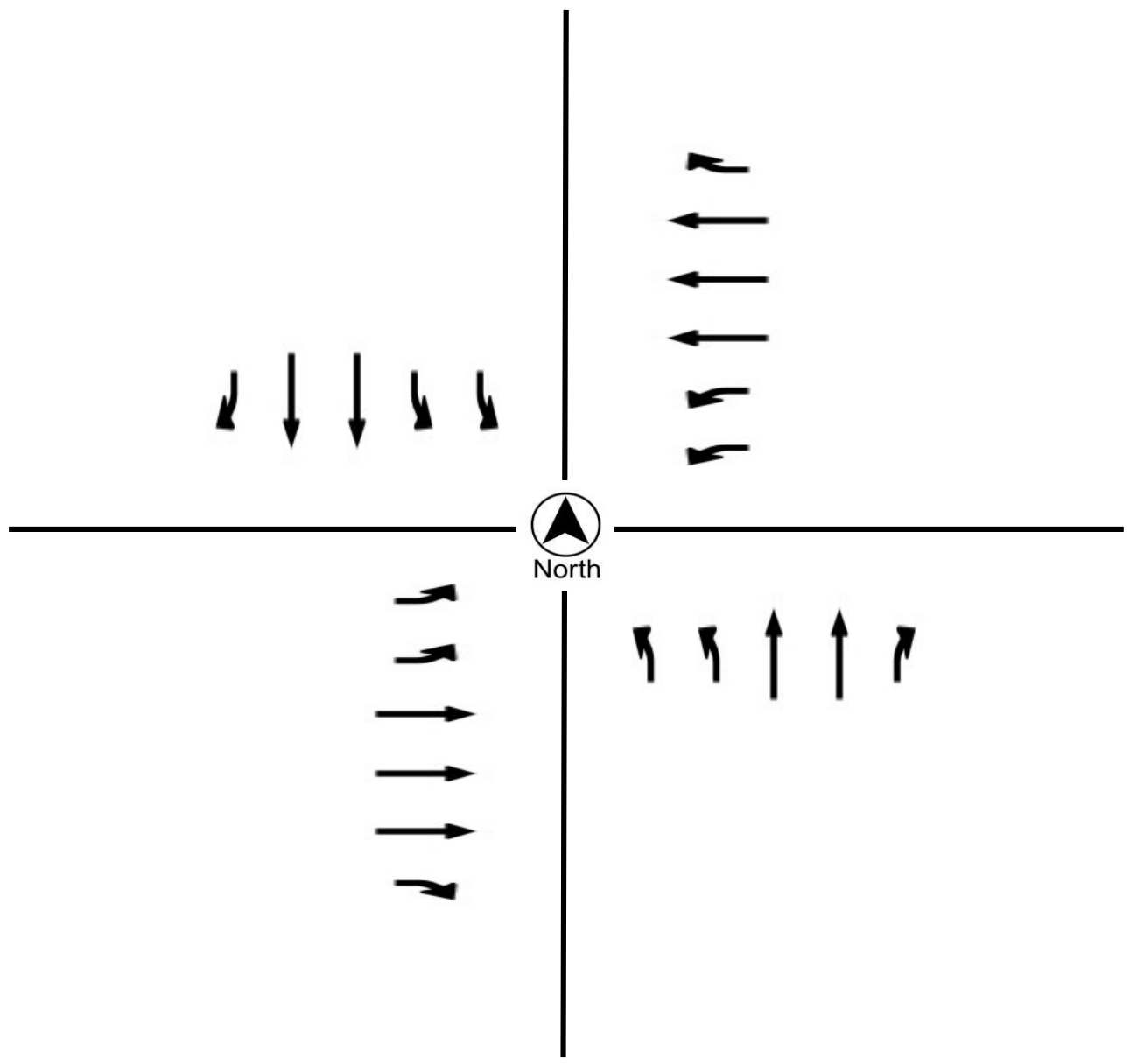
Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION _____ Herndon Ave @ Cedar Ave _____
COUNTY _____ Fresno _____
COLLECTION DATE _____ Tuesday, July 27, 2021 _____
CYCLE TIME _____ 149 Seconds _____

N/S STREET _____ Cedar Ave _____
E/W STREET _____ Herndon Ave _____
WEATHER _____ Clear _____
CONTROL TYPE _____ Signal _____

COMMENTS All approaches have protected left turns.





Metro Traffic Data Inc.
 310 N. Irwin Street - Suite 20
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Turning Movement Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

LOCATION Herndon Ave @ Maple Ave
 COUNTY Fresno
 COLLECTION DATE Tuesday, July 27, 2021

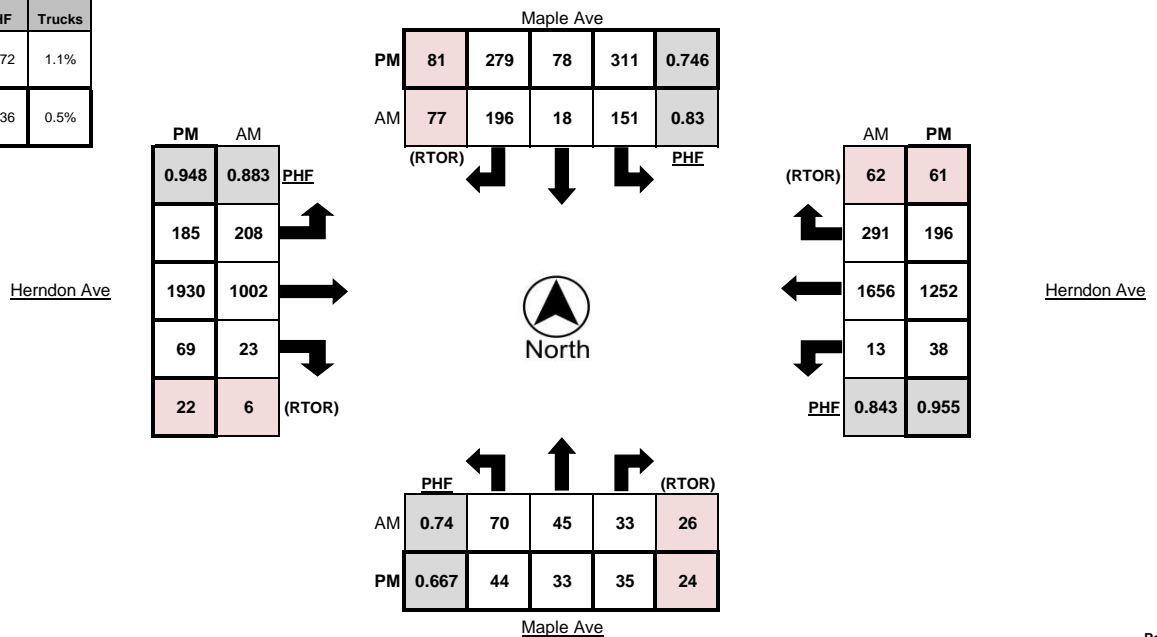
LATITUDE 36.8376
 LONGITUDE -119.7452
 WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:00 AM - 7:15 AM	6	2	7	7	0	26	3	29	6	1	26	141	5	2	3	2	243	32	8	7
7:15 AM - 7:30 AM	15	8	9	7	0	27	4	50	32	1	37	186	4	1	3	3	307	51	19	4
7:30 AM - 7:45 AM	22	18	10	9	1	51	5	54	23	1	51	257	3	2	6	3	408	46	21	5
7:45 AM - 8:00 AM	17	10	9	8	0	43	6	47	26	0	65	274	10	0	4	3	487	91	17	4
8:00 AM - 8:15 AM	16	12	10	7	1	21	3	50	9	0	43	245	4	3	4	5	353	88	14	4
8:15 AM - 8:30 AM	15	5	4	2	0	36	4	45	19	1	49	226	6	1	4	2	408	66	10	5
8:30 AM - 8:45 AM	11	6	5	3	0	31	7	61	24	1	51	218	7	0	5	1	320	56	17	5
8:45 AM - 9:00 AM	16	12	13	11	3	41	8	59	27	0	34	274	9	1	8	3	355	57	17	3
TOTAL	118	73	67	54	5	276	40	395	166	5	356	1821	48	10	37	22	2881	487	123	37

Time	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
4:00 PM - 4:15 PM	10	5	6	2	0	49	11	73	29	0	52	397	11	3	3	5	332	41	17	5
4:15 PM - 4:30 PM	10	5	10	8	0	63	17	58	20	0	41	364	14	3	4	9	313	44	17	2
4:30 PM - 4:45 PM	6	7	7	4	0	78	10	62	31	0	48	426	13	2	4	4	303	43	16	2
4:45 PM - 5:00 PM	10	6	9	7	0	55	14	70	17	0	50	504	22	5	2	7	316	52	18	4
5:00 PM - 5:15 PM	7	6	5	4	0	113	24	87	35	0	41	503	14	5	2	8	345	36	11	1
5:15 PM - 5:30 PM	10	12	5	5	0	73	20	76	19	0	51	495	19	8	3	14	304	48	16	4
5:30 PM - 5:45 PM	17	9	16	8	0	70	20	46	10	1	43	428	14	4	3	9	287	60	16	2
5:45 PM - 6:00 PM	12	13	5	5	0	51	11	50	13	0	42	370	16	2	1	11	285	40	13	1
TOTAL	82	63	63	43	0	552	127	522	174	1	368	3487	123	32	22	67	2485	364	124	21

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks	Left	Thru	Right	(RTOR)	Trucks
7:30 AM - 8:30 AM	70	45	33	26	2	151	18	196	77	2	208	1002	23	6	18	13	1656	291	62	18
4:45 PM - 5:45 PM	44	33	35	24	0	311	78	279	81	1	185	1930	69	22	10	38	1252	196	61	11

	PHF	Trucks
AM	0.872	1.1%
PM	0.936	0.5%





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 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotraffdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
 862 Pollasky Ave
 Clovis, CA 93612

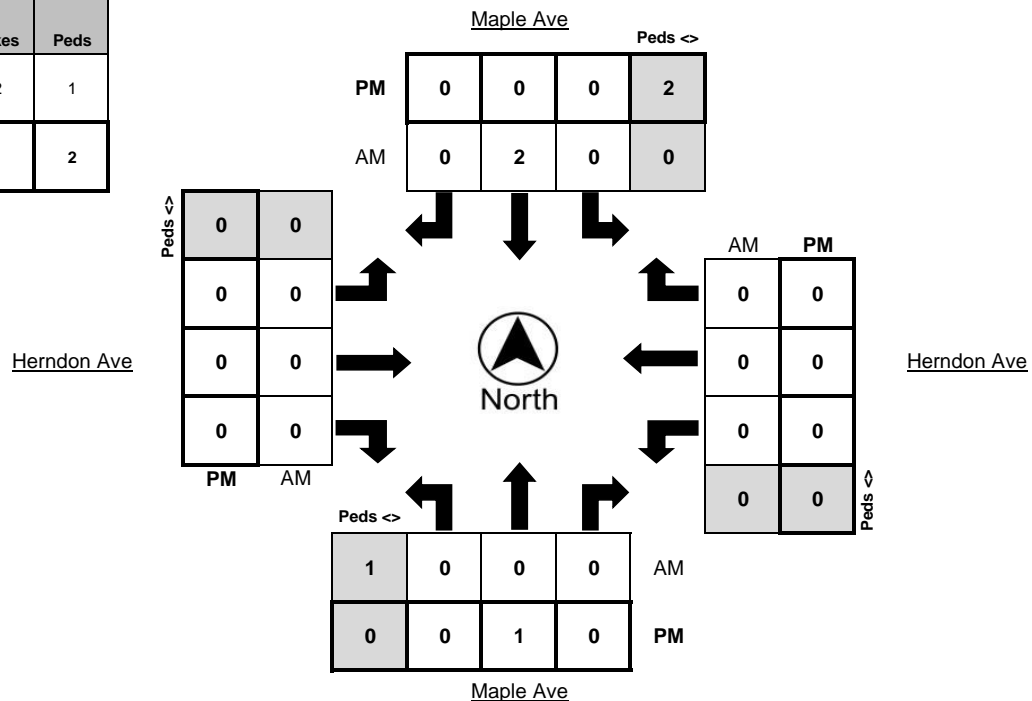
LOCATION Herndon Ave @ Maple Ave **LATITUDE** 36.8376
COUNTY Fresno **LONGITUDE** -119.7452
COLLECTION DATE Tuesday, July 27, 2021 **WEATHER** Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	2	0	4	0	0	0	0	0	0	0	1

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	2	1
PM Peak Total	1	2





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Turning Movement Report

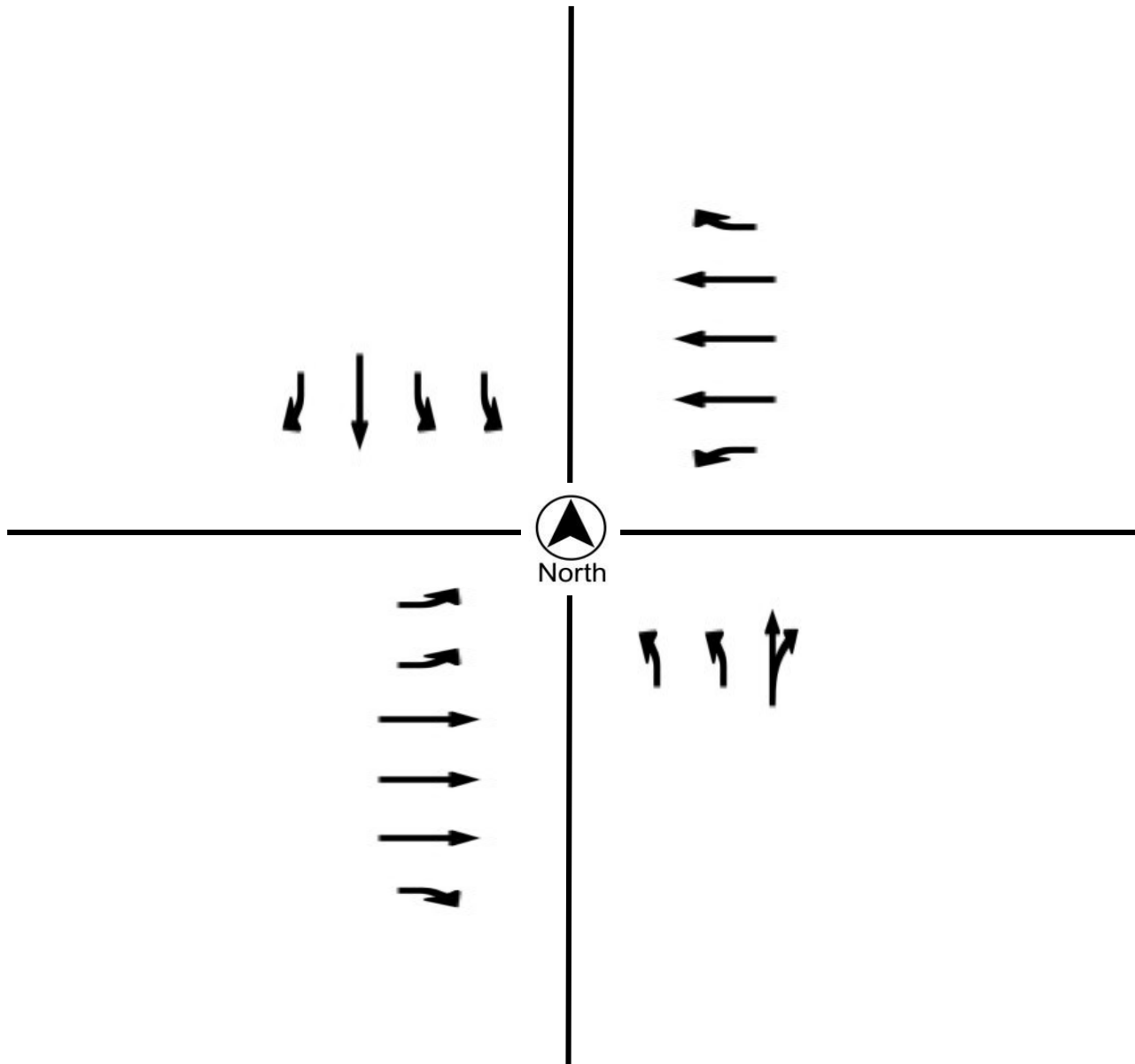
Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION Herndon Ave @ Maple Ave
COUNTY Fresno
COLLECTION DATE Tuesday, July 27, 2021
CYCLE TIME 158 Seconds

N/S STREET Maple Ave
E/W STREET Herndon Ave
WEATHER Clear
CONTROL TYPE Signal

COMMENTS All approaches have protected left turns.



24-Hour Counts



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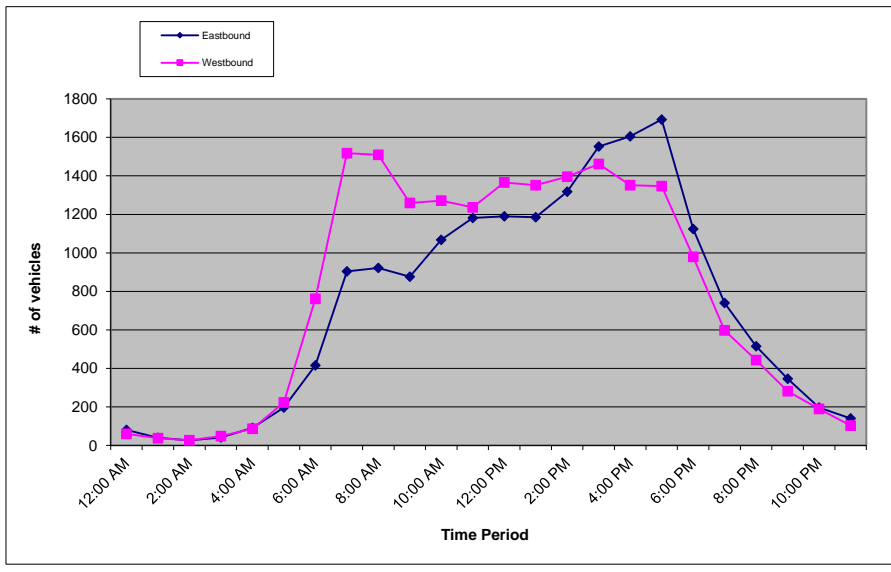
24 Hour Count Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

STREET Herndon Ave **LATITUDE** 36.83751524
SEGMENT Between Helm / Peach **LONGITUDE** -119.7230562
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear
NUMBER OF LANES 6

Hour	Eastbound					Westbound					Hourly Totals
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	
12:00 AM	21	26	21	12	80	18	13	16	13	60	140
1:00 AM	14	6	11	9	40	11	8	12	7	38	78
2:00 AM	7	5	8	6	26	6	10	6	5	27	53
3:00 AM	9	7	9	16	41	8	7	16	17	48	89
4:00 AM	8	18	27	38	91	21	14	28	24	87	178
5:00 AM	35	47	53	62	197	31	32	69	91	223	420
6:00 AM	69	68	122	157	416	116	131	220	294	761	1177
7:00 AM	162	189	220	333	904	273	345	437	463	1518	2422
8:00 AM	277	224	201	220	922	384	393	347	385	1509	2431
9:00 AM	229	195	239	213	876	293	297	327	342	1259	2135
10:00 AM	281	259	258	270	1068	273	311	361	326	1271	2339
11:00 AM	305	284	308	285	1182	258	307	366	306	1237	2419
12:00 PM	296	295	312	287	1190	346	332	315	373	1366	2556
1:00 PM	313	312	260	300	1185	332	362	322	336	1352	2537
2:00 PM	265	331	349	373	1318	328	340	362	366	1396	2714
3:00 PM	380	376	399	398	1553	338	366	386	371	1461	3014
4:00 PM	384	423	374	424	1605	324	348	339	341	1352	2957
5:00 PM	425	507	399	362	1693	356	356	339	296	1347	3040
6:00 PM	275	337	276	236	1124	274	244	257	204	979	2103
7:00 PM	186	184	193	177	740	171	144	144	139	598	1338
8:00 PM	128	145	127	115	515	127	132	101	83	443	958
9:00 PM	94	102	74	76	346	82	70	65	64	281	627
10:00 PM	55	56	48	38	197	56	47	50	37	190	387
11:00 PM	39	27	43	31	140	30	18	32	23	103	243
Total	48.0%				17449	52.0%				18906	36355

AM% 38.2% **AM Peak** 2731 **7:30 am to 8:30 am** **AM P.H.F.** 0.86
PM% 61.8% **PM Peak** 3147 **4:45 pm to 5:45 pm** **PM P.H.F.** 0.91





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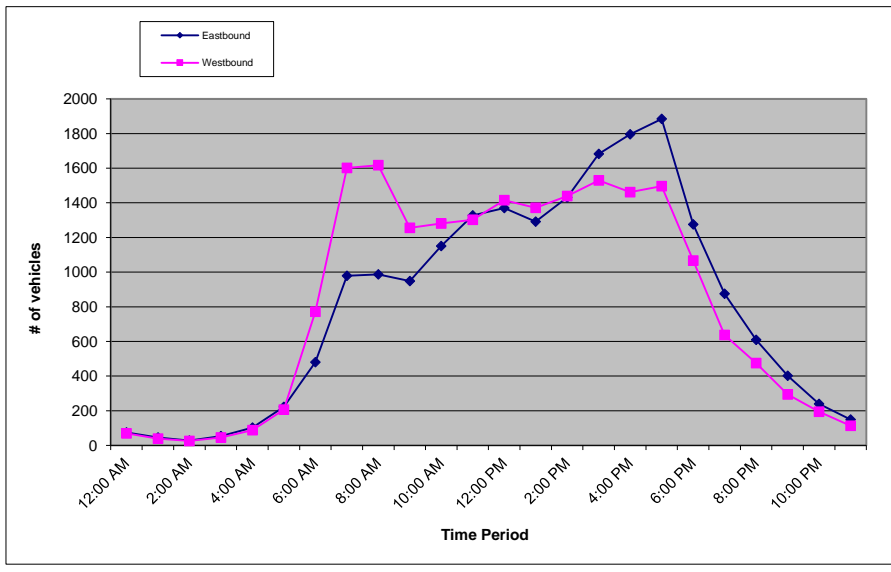
24 Hour Count Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

STREET Herndon Ave **LATITUDE** 36.83754545
SEGMENT Between Peach / Villa **LONGITUDE** -119.7167082
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear
NUMBER OF LANES 6

Hour	Eastbound					Westbound					Hourly Totals	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total		
12:00 AM	21	20	22	12	75	18	16	18	18	70	145	
1:00 AM	14	11	12	9	46	11	9	11	8	39	85	
2:00 AM	8	4	9	7	28	5	9	6	6	26	54	
3:00 AM	9	17	9	18	53	9	8	12	17	46	99	
4:00 AM	8	22	29	44	103	19	15	26	28	88	191	
5:00 AM	38	57	66	62	223	32	32	61	82	207	430	
6:00 AM	71	81	148	181	481	122	135	216	299	772	1253	
7:00 AM	184	206	238	351	979	287	357	463	495	1602	2581	
8:00 AM	288	247	231	221	987	423	419	363	412	1617	2604	
9:00 AM	243	216	250	240	949	287	295	332	341	1255	2204	
10:00 AM	303	282	283	282	1150	284	305	356	336	1281	2431	
11:00 AM	319	341	354	313	1327	265	314	392	331	1302	2629	
12:00 PM	340	332	348	350	1370	347	362	319	387	1415	2785	
1:00 PM	336	328	310	318	1292	332	367	333	340	1372	2664	
2:00 PM	299	356	361	415	1431	332	345	368	394	1439	2870	
3:00 PM	395	406	430	452	1683	362	373	396	398	1529	3212	
4:00 PM	441	462	410	482	1795	351	379	360	372	1462	3257	
5:00 PM	460	540	463	421	1884	395	403	361	338	1497	3381	
6:00 PM	330	367	316	263	1276	277	269	280	241	1067	2343	
7:00 PM	233	222	226	194	875	180	153	156	148	637	1512	
8:00 PM	154	169	151	136	610	132	143	103	97	475	1085	
9:00 PM	110	115	89	88	402	86	75	67	66	294	696	
10:00 PM	67	76	56	41	240	57	47	52	39	195	435	
11:00 PM	46	29	41	33	149	37	20	35	21	113	262	
Total	49.5%				19408	50.5%				19800	39208	

AM% **37.5%** AM Peak **2629** 11:00 am to 12:00 pm AM P.H.F. **0.88**
 PM% **62.5%** PM Peak **3476** 4:45 pm to 5:45 pm PM P.H.F. **0.92**





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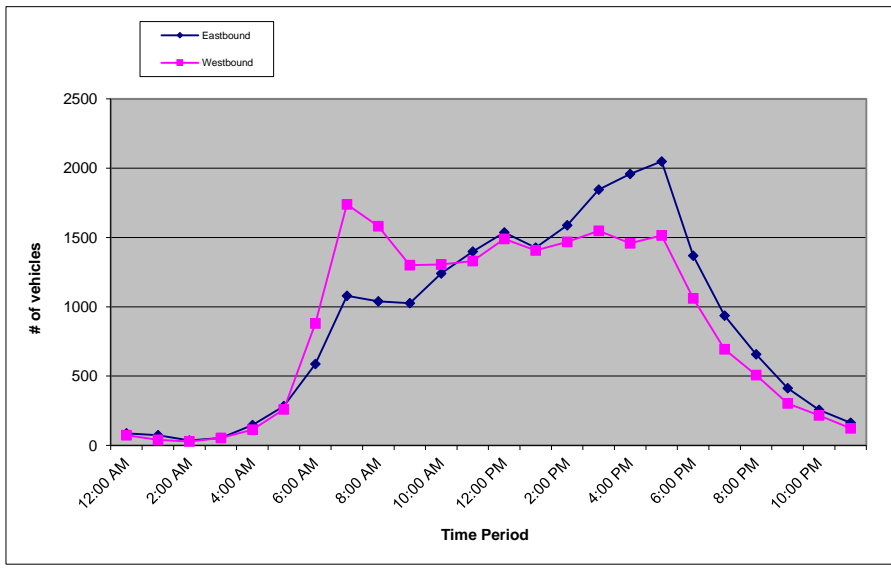
24 Hour Count Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

STREET Herndon Ave **LATITUDE** 36.83748495
SEGMENT Between Villa / Dewitt **LONGITUDE** -119.7101701
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear
NUMBER OF LANES 6

Hour	Eastbound					Westbound					Hourly Totals
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	
12:00 AM	24	21	27	15	87	21	17	18	18	74	161
1:00 AM	22	15	19	17	73	10	10	11	9	40	113
2:00 AM	10	5	13	8	36	4	11	5	8	28	64
3:00 AM	10	9	11	24	54	12	8	12	21	53	107
4:00 AM	10	25	37	75	147	18	16	26	54	114	261
5:00 AM	52	65	70	96	283	38	39	70	112	259	542
6:00 AM	81	99	192	216	588	135	153	282	309	879	1467
7:00 AM	201	241	282	356	1080	310	388	508	533	1739	2819
8:00 AM	289	279	242	229	1039	400	410	350	421	1581	2620
9:00 AM	244	237	254	291	1026	281	325	313	381	1300	2326
10:00 AM	318	304	278	341	1241	290	299	372	345	1306	2547
11:00 AM	303	363	387	346	1399	322	317	371	321	1331	2730
12:00 PM	378	362	405	391	1536	312	422	367	388	1489	3025
1:00 PM	372	360	351	344	1427	337	371	345	354	1407	2834
2:00 PM	356	386	414	432	1588	352	359	389	368	1468	3056
3:00 PM	411	446	489	499	1845	386	375	385	402	1548	3393
4:00 PM	455	448	477	579	1959	313	404	353	388	1458	3417
5:00 PM	553	569	501	426	2049	394	410	360	351	1515	3564
6:00 PM	367	374	347	280	1368	297	283	260	221	1061	2429
7:00 PM	248	252	238	198	936	193	196	159	145	693	1629
8:00 PM	167	177	178	135	657	154	146	106	102	508	1165
9:00 PM	102	133	90	88	413	88	85	61	69	303	716
10:00 PM	79	81	58	38	256	62	45	58	51	216	472
11:00 PM	52	33	41	38	164	37	27	38	22	124	288
Total	50.9%				21251	49.1%				20494	41745

AM% **37.7%** AM Peak **3057** 7:30 am to 8:30 am AM P.H.F. **0.86**
 PM% **62.3%** PM Peak **3754** 4:45 pm to 5:45 pm PM P.H.F. **0.96**





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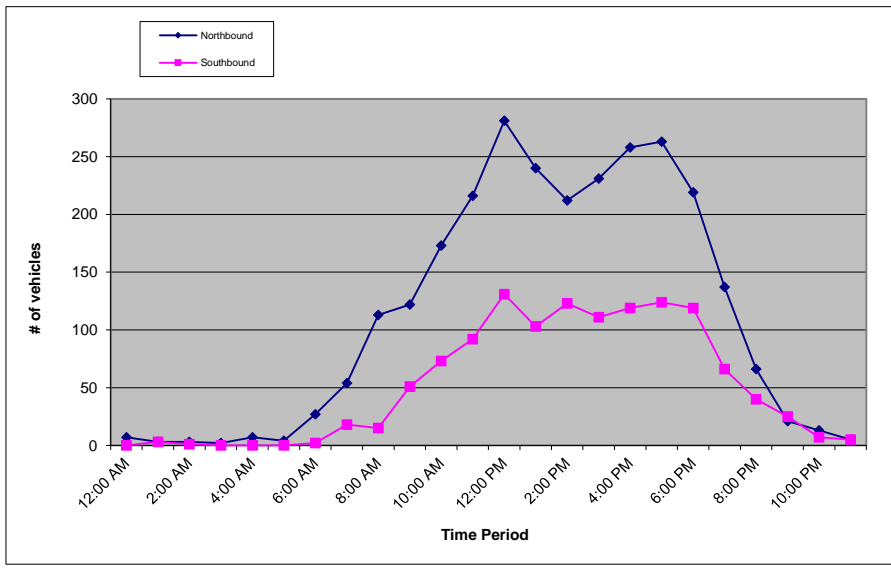
24 Hour Count Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

STREET Helm Ave **LATITUDE** 36.83817516
SEGMENT North of Herndon Ave **LONGITUDE** -119.7248328
COLLECTION DATE Tuesday, March 23, 2021 **WEATHER** Clear
NUMBER OF LANES 4

Hour	Northbound					Southbound					Hourly Totals
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	
12:00 AM	3	3	0	1	7	0	0	0	0	0	7
1:00 AM	0	0	3	0	3	1	0	1	1	3	6
2:00 AM	1	2	0	0	3	0	1	0	0	1	4
3:00 AM	2	0	0	0	2	0	0	0	0	0	2
4:00 AM	0	1	0	6	7	0	0	0	0	0	7
5:00 AM	1	1	1	1	4	0	0	0	0	0	4
6:00 AM	3	7	7	10	27	1	0	0	1	2	29
7:00 AM	12	19	13	10	54	6	3	5	4	18	72
8:00 AM	27	21	30	35	113	3	3	5	4	15	128
9:00 AM	30	29	28	35	122	7	11	22	11	51	173
10:00 AM	39	46	41	47	173	10	20	20	23	73	246
11:00 AM	41	63	57	55	216	26	19	26	21	92	308
12:00 PM	69	70	79	63	281	24	35	29	43	131	412
1:00 PM	56	64	60	60	240	24	18	25	36	103	343
2:00 PM	54	57	51	50	212	32	31	28	32	123	335
3:00 PM	53	51	55	72	231	27	23	31	30	111	342
4:00 PM	56	74	60	68	258	40	26	25	28	119	377
5:00 PM	66	73	62	62	263	31	29	30	34	124	387
6:00 PM	59	60	55	45	219	37	19	35	28	119	338
7:00 PM	43	33	33	28	137	27	20	7	12	66	203
8:00 PM	11	20	17	18	66	11	13	14	2	40	106
9:00 PM	9	7	5	0	21	8	8	7	2	25	46
10:00 PM	3	7	2	1	13	2	3	0	2	7	20
11:00 PM	0	0	3	2	5	0	4	1	0	5	10
Total	68.6%				2677	31.4%				1228	3905

AM% **25.2%** AM Peak **308** 11:00 am to 12:00 pm AM P.H.F. **0.93**
 PM% **74.8%** PM Peak **412** 12:00 pm to 1:00 pm PM P.H.F. **0.95**





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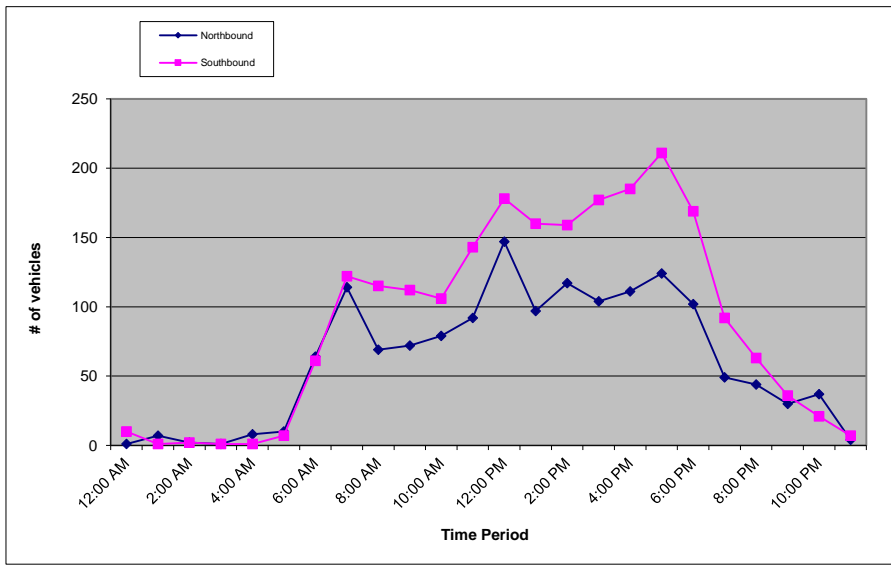
24 Hour Count Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

STREET Peach Ave **LATITUDE** 36.83715079
SEGMENT South of Herndon Ave **LONGITUDE** -119.7201906
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear
NUMBER OF LANES 2

Hour	Northbound					Southbound					Hourly Totals
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	
12:00 AM	0	0	1	0	1	2	6	1	1	10	11
1:00 AM	3	3	0	1	7	1	0	0	0	1	8
2:00 AM	0	1	1	0	2	0	1	1	0	2	4
3:00 AM	0	0	1	0	1	1	0	0	0	1	2
4:00 AM	1	2	2	3	8	0	0	0	1	1	9
5:00 AM	0	2	3	5	10	1	2	0	4	7	17
6:00 AM	5	15	18	26	64	7	19	17	18	61	125
7:00 AM	7	37	37	33	114	6	25	42	49	122	236
8:00 AM	16	19	18	16	69	40	30	18	27	115	184
9:00 AM	16	28	11	17	72	24	26	30	32	112	184
10:00 AM	13	22	25	19	79	26	33	24	23	106	185
11:00 AM	27	18	26	21	92	46	34	26	37	143	235
12:00 PM	31	40	41	35	147	44	43	39	52	178	325
1:00 PM	19	36	23	19	97	56	38	32	34	160	257
2:00 PM	27	15	30	45	117	38	43	39	39	159	276
3:00 PM	23	33	30	18	104	56	45	30	46	177	281
4:00 PM	27	16	40	28	111	42	51	45	47	185	296
5:00 PM	37	27	29	31	124	60	61	39	51	211	335
6:00 PM	28	27	28	19	102	42	45	41	41	169	271
7:00 PM	16	13	11	9	49	28	22	24	18	92	141
8:00 PM	14	11	7	12	44	15	20	19	9	63	107
9:00 PM	7	14	3	6	30	10	9	10	7	36	66
10:00 PM	8	22	4	3	37	7	9	4	1	21	58
11:00 PM	2	0	0	2	4	0	1	3	3	7	11
Total	41.0%				1485	59.0%				2139	
	3624										

AM% 33.1% **AM Peak** 279 **7:15 am to 8:15 am** **AM P.H.F.** 0.85
PM% 66.9% **PM Peak** 345 **4:30 pm to 5:30 pm** **PM P.H.F.** 0.89





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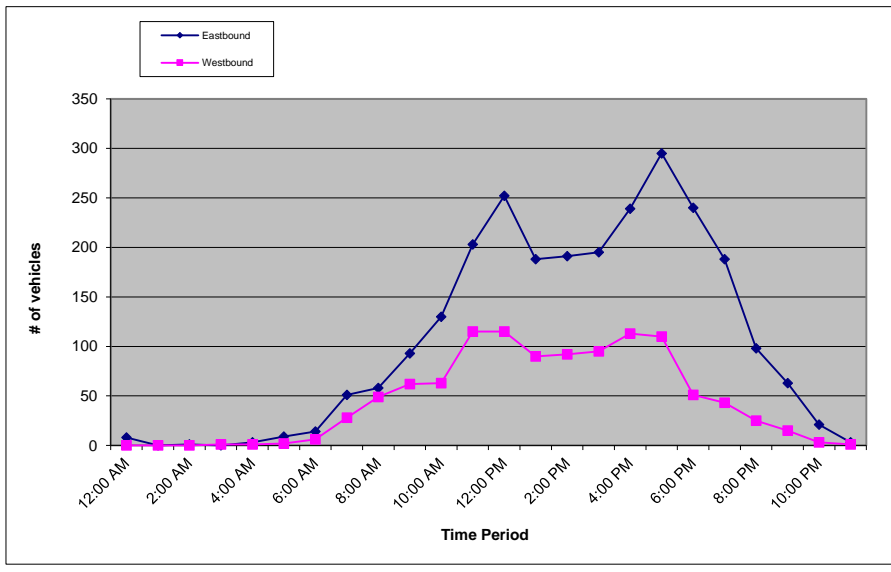
24 Hour Count Report

Prepared For: **Peters Engineering Group**
 862 Pollasky Ave
 Clovis, CA 93612

STREET Spruce Ave **LATITUDE** 36.84010358
SEGMENT Between Helm Ave / Peach Ave **LONGITUDE** -119.7224009
COLLECTION DATE Tuesday, March 9, 2021 **WEATHER** Clear
NUMBER OF LANES 2

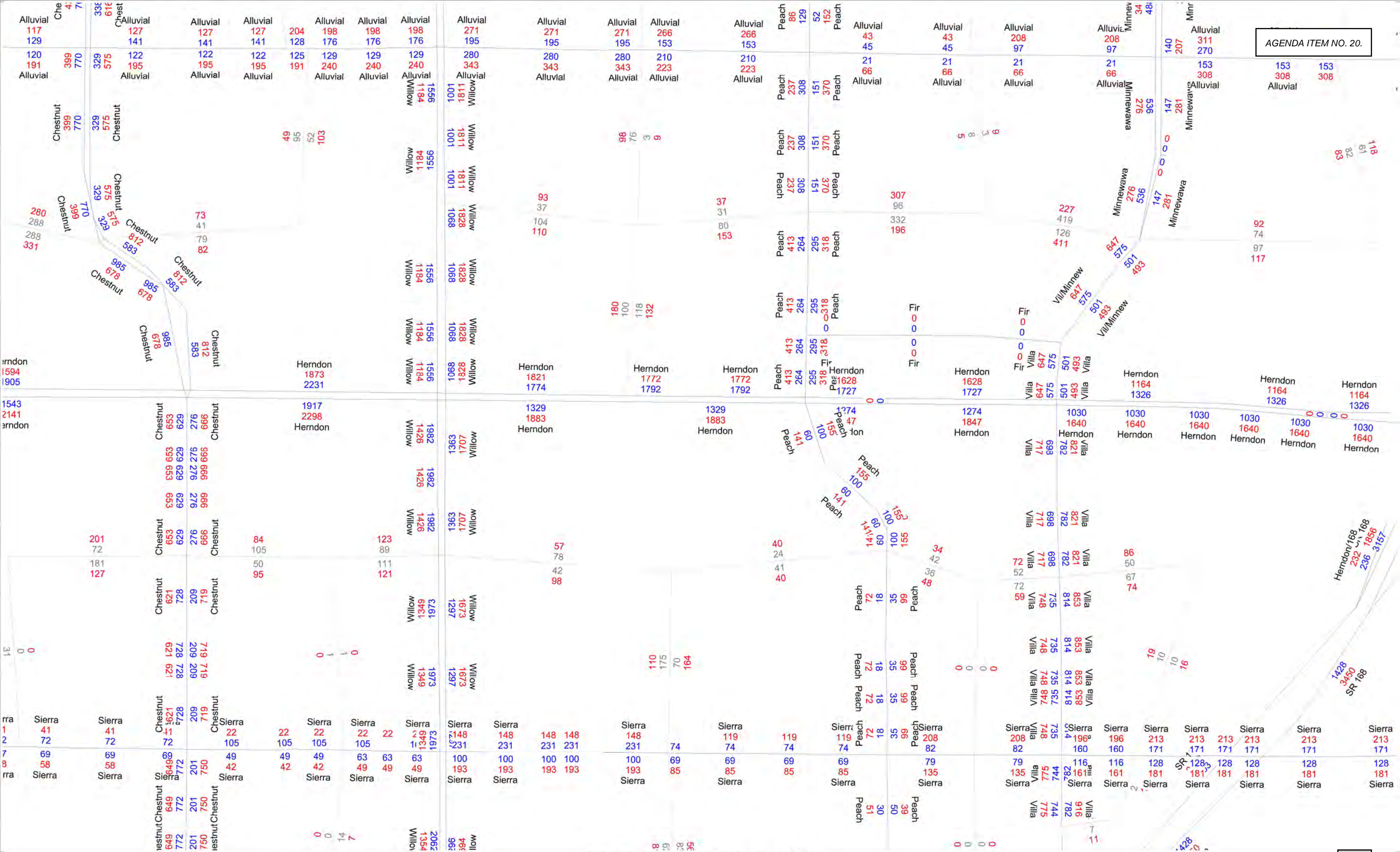
Hour	Eastbound					Westbound					Hourly Totals
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	
12:00 AM	1	5	1	1	8	0	0	0	0	0	8
1:00 AM	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	1	0	0	1	0	0	0	0	0	1
3:00 AM	0	0	0	0	0	0	0	0	1	1	1
4:00 AM	0	0	1	2	3	0	1	0	0	1	4
5:00 AM	0	3	2	4	9	0	0	1	1	2	11
6:00 AM	2	3	6	3	14	0	1	2	3	6	20
7:00 AM	7	11	15	18	51	5	3	6	14	28	79
8:00 AM	14	13	16	15	58	10	12	8	19	49	107
9:00 AM	11	29	27	26	93	10	14	17	21	62	155
10:00 AM	31	35	36	28	130	20	15	16	12	63	193
11:00 AM	38	58	52	55	203	29	27	29	30	115	318
12:00 PM	65	60	63	64	252	29	30	30	26	115	367
1:00 PM	55	51	46	36	188	27	26	17	20	90	278
2:00 PM	56	36	51	48	191	16	24	22	30	92	283
3:00 PM	43	36	63	53	195	32	22	17	24	95	290
4:00 PM	66	45	60	68	239	20	33	27	33	113	352
5:00 PM	63	83	85	64	295	31	31	26	22	110	405
6:00 PM	66	64	57	53	240	22	10	11	8	51	291
7:00 PM	61	42	44	41	188	15	9	15	4	43	231
8:00 PM	25	26	26	21	98	7	10	6	2	25	123
9:00 PM	16	13	18	16	63	5	4	3	3	15	78
10:00 PM	6	8	3	4	21	1	0	1	1	3	24
11:00 PM	2	1	0	0	3	0	1	0	0	1	4
Total	70.2%				2543	29.8%				1080	3623

AM% 24.8% **AM Peak** 318 **11:00 am to 12:00 pm** **AM P.H.F.** 0.94
PM% 75.2% **PM Peak** 420 **4:45 pm to 5:45 pm** **PM P.H.F.** 0.92

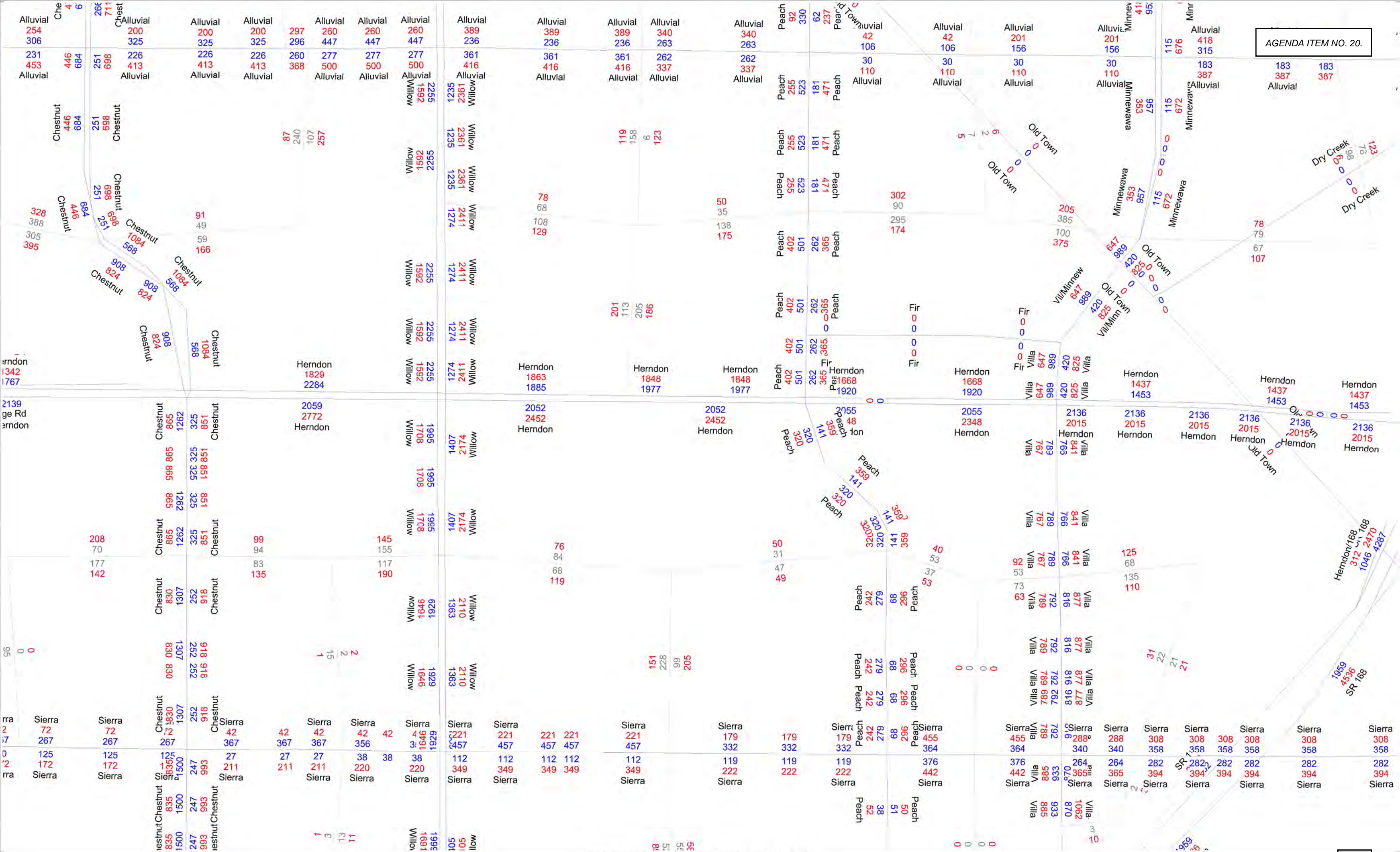


APPENDIX B

FRESNO COUNTY TRAVEL MODEL OUTPUT



2019 Fresno County Travel Demand Model
AM and PM Peak-Hour Traffic Volumes



2035 Fresno County Travel Demand Model
AM and PM Peak-Hour Traffic Volumes

APPENDIX C

INTERSECTION ANALYSES

Year 2042 With Quad Intersections

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖	↑	↗	↖↖	↑	↗
Traffic Volume (vph)	171	1687	170	117	2415	216	179	286	75	144	305	199
Future Volume (vph)	171	1687	170	117	2415	216	179	286	75	144	305	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	315		220	280		200	225		0	250		250
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			125			124			165
Link Speed (mph)		50			50			30				30
Link Distance (ft)		2634			1941			956				651
Travel Time (s)		35.9			26.5			21.7				14.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	1834	185	127	2625	235	195	311	82	157	332	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	1834	185	127	2625	235	195	311	82	157	332	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	11.7	69.9	69.9	13.5	71.7	71.7	18.6	34.1	34.1	12.5	28.0	28.0
Total Split (%)	9.0%	53.8%	53.8%	10.4%	55.2%	55.2%	14.3%	26.2%	26.2%	9.6%	21.5%	21.5%
Maximum Green (s)	7.7	65.0	65.0	9.5	66.8	66.8	14.6	29.2	29.2	8.5	23.1	23.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

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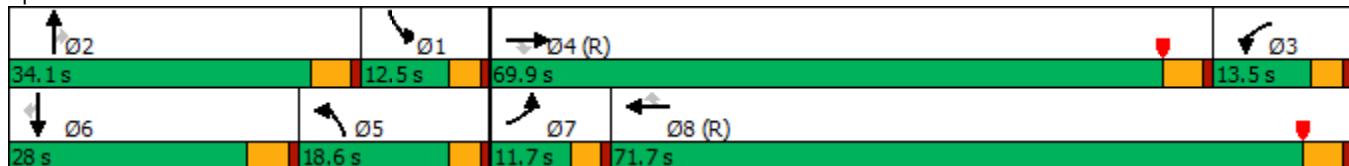


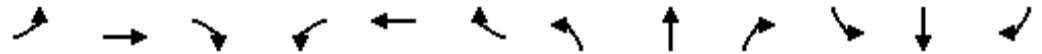
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	7.7	65.0	65.0	9.5	66.8	66.8	14.6	29.2	29.2	8.5	23.1	23.1
Actuated g/C Ratio	0.06	0.50	0.50	0.07	0.51	0.51	0.11	0.22	0.22	0.07	0.18	0.18
v/c Ratio	0.92	0.72	0.21	0.51	1.00	0.27	0.98	0.74	0.18	0.70	1.00	0.52
Control Delay	117.0	12.4	2.8	45.5	28.5	4.1	117.5	59.0	2.7	76.5	103.4	18.0
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	117.0	12.4	2.8	45.5	28.5	4.1	117.5	59.0	2.7	76.5	103.4	18.0
LOS	F	B	A	D	C	A	F	E	A	E	F	B
Approach Delay		20.4			27.3			70.6			71.2	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	84	176	9	50	~400	16	167	246	0	68	~284	37
Queue Length 95th (ft)	m#155	301	m32	m56	m#911	m19	#323	355	13	#114	#482	117
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	203	2542	866	250	2612	874	198	418	451	224	331	416
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	0.92	0.72	0.21	0.51	1.00	0.27	0.98	0.74	0.18	0.70	1.00	0.52

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 129 (99%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 33.7 Intersection LOS: C
 Intersection Capacity Utilization 92.3% ICU Level of Service F
 Analysis Period (min) 15
 ~ 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Chestnut Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	186	1834	185	127	2625	235	195	311	82	157	332	216
v/c Ratio	0.92	0.72	0.21	0.51	1.00	0.27	0.98	0.74	0.18	0.70	1.00	0.52
Control Delay	117.0	12.4	2.8	45.5	28.5	4.1	117.5	59.0	2.7	76.5	103.4	18.0
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	117.0	12.4	2.8	45.5	28.5	4.1	117.5	59.0	2.7	76.5	103.4	18.0
Queue Length 50th (ft)	84	176	9	50	~400	16	167	246	0	68	~284	37
Queue Length 95th (ft)	m#155	301	m32	m56	m#911	m19	#323	355	13	#114	#482	117
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	203	2542	866	250	2612	874	198	418	451	224	331	416
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	0.92	0.72	0.21	0.51	1.00	0.27	0.98	0.74	0.18	0.70	1.00	0.52

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.
- m Volume for 95th percentile queue is metered by upstream signal.

2: Willow Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↑↑↑	↗		↑↑↑	↗
Traffic Volume (vph)	0	1475	430	0	2510	163	0	1601	115	0	1515	263
Future Volume (vph)	0	1475	430	0	2510	163	0	1601	115	0	1515	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		225	275		150	325		215	265		265
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected												
Satd. Flow (prot)	0	5085	1583	0	5085	1583	0	5085	1583	0	5085	1583
Flt Permitted												
Satd. Flow (perm)	0	5085	1583	0	5085	1583	0	5085	1583	0	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			16			23			16
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1941			1380			695			1246	
Travel Time (s)		26.5			18.8			9.5			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1603	467	0	2728	177	0	1740	125	0	1647	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1603	467	0	2728	177	0	1740	125	0	1647	286
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA	Perm		NA	Perm		NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases			4			8			2			6
Detector Phase		4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Minimum Split (s)		22.9	22.9		22.9	22.9		22.9	22.9		22.9	22.9
Total Split (s)		78.0	78.0		78.0	78.0		52.0	52.0		52.0	52.0
Total Split (%)		60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%
Maximum Green (s)		73.1	73.1		73.1	73.1		47.1	47.1		47.1	47.1
Yellow Time (s)		3.9	3.9		3.9	3.9		3.9	3.9		3.9	3.9
All-Red Time (s)		1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)		4.9	4.9		4.9	4.9		4.9	4.9		4.9	4.9
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		C-Max	C-Max		Min	Min		Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

2: Willow Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inter

10/15/2021

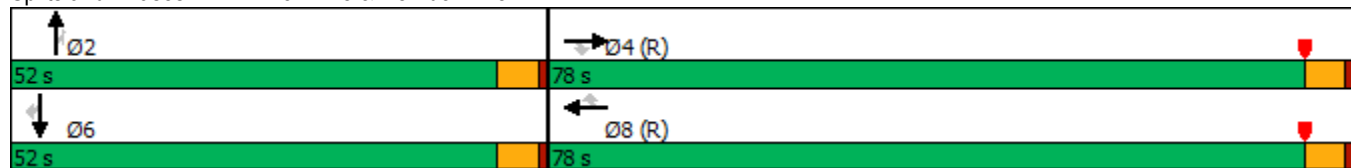


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)		73.1	73.1		73.1	73.1		47.1	47.1		47.1	47.1
Actuated g/C Ratio		0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36
v/c Ratio		0.56	0.52		0.95	0.20		0.94	0.21		0.89	0.49
Control Delay		10.5	11.1		18.4	5.8		51.8	24.3		46.5	33.7
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		10.5	11.1		18.4	5.8		51.8	24.3		46.5	33.7
LOS		B	B		B	A		D	C		D	C
Approach Delay		10.7			17.7			50.0			44.6	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)		103	76		219	25		517	58		476	175
Queue Length 95th (ft)		152	133		#295	m41		#621	107		543	263
Internal Link Dist (ft)		1861			1300			615			1166	
Turn Bay Length (ft)			225			150			215			265
Base Capacity (vph)		2859	897		2859	897		1842	588		1842	583
Starvation Cap Reductn		0	0		0	0		0	0		0	0
Spillback Cap Reductn		0	0		0	0		0	0		0	0
Storage Cap Reductn		0	0		0	0		0	0		0	0
Reduced v/c Ratio		0.56	0.52		0.95	0.20		0.94	0.21		0.89	0.49

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 28.8 Intersection LOS: C
 Intersection Capacity Utilization 87.6% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Willow Ave & Herndon Ave





Lane Group	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	1603	467	2728	177	1740	125	1647	286
v/c Ratio	0.56	0.52	0.95	0.20	0.94	0.21	0.89	0.49
Control Delay	10.5	11.1	18.4	5.8	51.8	24.3	46.5	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	11.1	18.4	5.8	51.8	24.3	46.5	33.7
Queue Length 50th (ft)	103	76	219	25	517	58	476	175
Queue Length 95th (ft)	152	133	#295	m41	#621	107	543	263
Internal Link Dist (ft)	1861		1300		615		1166	
Turn Bay Length (ft)		225		150		215		265
Base Capacity (vph)	2859	897	2859	897	1842	588	1842	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.52	0.95	0.20	0.94	0.21	0.89	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

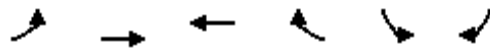
m Volume for 95th percentile queue is metered by upstream signal.

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021



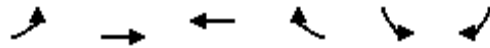
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑↑	↑↑↑	↑↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	322	1273	1998	307	300	663
Future Volume (vph)	322	1273	1998	307	300	663
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			215	0	0
Storage Lanes	2			2	2	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	0.88	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	5085	5085	2787	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	5085	5085	2787	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				234		408
Link Speed (mph)		50	50		30	
Link Distance (ft)		1380	1361		790	
Travel Time (s)		18.8	18.6		18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	1384	2172	334	326	721
Shared Lane Traffic (%)						
Lane Group Flow (vph)	350	1384	2172	334	326	721
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	22.9	22.9	22.9
Total Split (s)	23.0	96.0	73.0	73.0	34.0	34.0
Total Split (%)	17.7%	73.8%	56.2%	56.2%	26.2%	26.2%
Maximum Green (s)	19.0	91.1	68.1	68.1	29.1	29.1
Yellow Time (s)	3.0	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

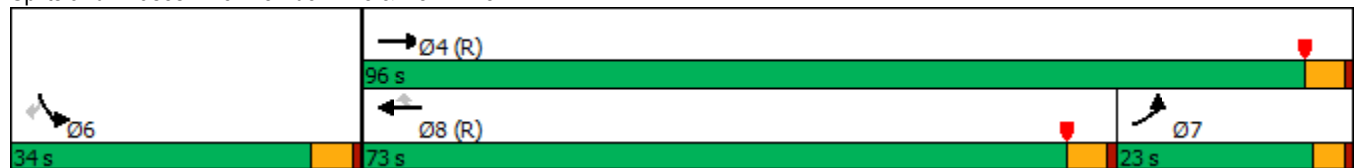


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	19.0	97.4	74.4	74.4	22.8	22.8
Actuated g/C Ratio	0.15	0.75	0.57	0.57	0.18	0.18
v/c Ratio	0.70	0.36	0.75	0.20	0.54	0.87
Control Delay	33.5	1.8	12.0	1.8	51.4	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	1.8	12.0	1.8	51.4	34.1
LOS	C	A	B	A	D	C
Approach Delay		8.2	10.6		39.5	
Approach LOS		A	B		D	
Queue Length 50th (ft)	126	28	278	5	128	153
Queue Length 95th (ft)	181	36	428	17	168	229
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	501	3809	2909	1694	768	940
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	0.70	0.36	0.75	0.20	0.42	0.77

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 125 (96%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 15.6
 Intersection Capacity Utilization 70.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

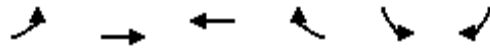
Splits and Phases: 3: Herndon Ave & Helm Ave



3: Herndon Ave & Helm Ave
Queues

Year 2042 With Quad Inte

10/15/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	350	1384	2172	334	326	721
v/c Ratio	0.70	0.36	0.75	0.20	0.54	0.87
Control Delay	33.5	1.8	12.0	1.8	51.4	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	1.8	12.0	1.8	51.4	34.1
Queue Length 50th (ft)	126	28	278	5	128	153
Queue Length 95th (ft)	181	36	428	17	168	229
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	501	3809	2909	1694	768	940
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	0.70	0.36	0.75	0.20	0.42	0.77

Intersection Summary

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↑↑			↑↑	↗
Traffic Volume (vph)	0	1407	166	0	2181	266	0	94	0	0	307	136
Future Volume (vph)	0	1407	166	0	2181	266	0	94	0	0	307	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		130	160		115	240		50	90		220
Storage Lanes	0		1	0		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected												
Satd. Flow (prot)	0	5085	1583	0	5085	1583	0	3539	0	0	3539	1583
Flt Permitted												
Satd. Flow (perm)	0	5085	1583	0	5085	1583	0	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			187						16
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1361			619			1143			926	
Travel Time (s)		18.6			8.4			19.5			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1529	180	0	2371	289	0	102	0	0	334	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1529	180	0	2371	289	0	102	0	0	334	148
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA	Perm		NA			NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases			4			8						6
Detector Phase		4	4		8	8		2			6	6
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0		5.0			5.0	5.0
Minimum Split (s)		22.9	22.9		22.9	22.9		22.9			22.9	22.9
Total Split (s)		99.0	99.0		99.0	99.0		31.0			31.0	31.0
Total Split (%)		76.2%	76.2%		76.2%	76.2%		23.8%			23.8%	23.8%
Maximum Green (s)		94.1	94.1		94.1	94.1		26.1			26.1	26.1
Yellow Time (s)		3.9	3.9		3.9	3.9		3.9			3.9	3.9
All-Red Time (s)		1.0	1.0		1.0	1.0		1.0			1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)		4.9	4.9		4.9	4.9		4.9			4.9	4.9
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	3.0
Recall Mode		C-Max	C-Max		C-Max	C-Max		Min			Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

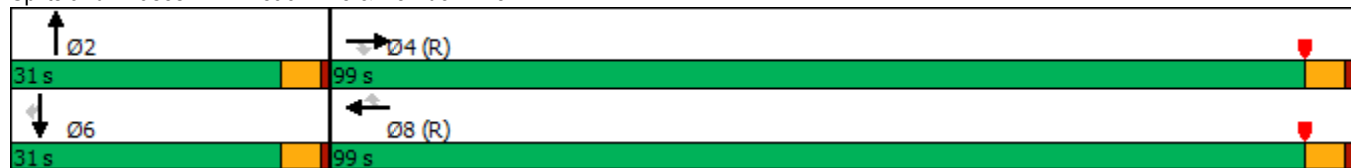


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effect Green (s)		102.2	102.2		102.2	102.2		18.0			18.0	18.0
Actuated g/C Ratio		0.79	0.79		0.79	0.79		0.14			0.14	0.14
v/c Ratio		0.38	0.14		0.59	0.23		0.21			0.68	0.64
Control Delay		3.0	0.9		2.1	0.3		49.4			60.1	59.0
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	0.0
Total Delay		3.0	0.9		2.2	0.3		49.4			60.1	59.0
LOS		A	A		A	A		D			E	E
Approach Delay		2.8			2.0			49.4			59.8	
Approach LOS		A			A			D			E	
Queue Length 50th (ft)		65	0		65	1		41			143	107
Queue Length 95th (ft)		176	18		69	0		65			185	172
Internal Link Dist (ft)		1281			539			1063			846	
Turn Bay Length (ft)			130			115						220
Base Capacity (vph)		3996	1269		3996	1284		710			710	330
Starvation Cap Reductn		0	0		237	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		0.38	0.14		0.63	0.23		0.14			0.47	0.45

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 106 (82%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 8.9
 Intersection Capacity Utilization 58.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 4: Peach Ave & Herndon Ave



4: Peach Ave & Herndon Ave
Queues

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021



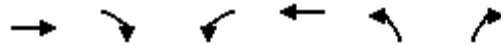
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	1529	180	2371	289	102	334	148
v/c Ratio	0.38	0.14	0.59	0.23	0.21	0.68	0.64
Control Delay	3.0	0.9	2.1	0.3	49.4	60.1	59.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	0.9	2.2	0.3	49.4	60.1	59.0
Queue Length 50th (ft)	65	0	65	1	41	143	107
Queue Length 95th (ft)	176	18	69	0	65	185	172
Internal Link Dist (ft)	1281		539		1063	846	
Turn Bay Length (ft)		130		115			220
Base Capacity (vph)	3996	1269	3996	1284	710	710	330
Starvation Cap Reductn	0	0	237	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	0.38	0.14	0.63	0.23	0.14	0.47	0.45
Intersection Summary							

5: Peach Ave (East) & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

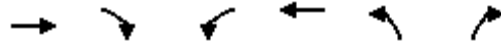


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑	↖	↗
Traffic Volume (vph)	1361	46	142	2266	181	249
Future Volume (vph)	1361	46	142	2266	181	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	350		0	0
Storage Lanes		1	1		1	2
Taper Length (ft)			90		90	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	0.88
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	5085	1583	1770	5085	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	5085	1583	1770	5085	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		50				271
Link Speed (mph)	50			50	30	
Link Distance (ft)	619			1280	909	
Travel Time (s)	8.4			17.5	20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1479	50	154	2463	197	271
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1479	50	154	2463	197	271
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.9	22.9	9.9	22.9	22.9	22.9
Total Split (s)	67.0	67.0	30.0	97.0	33.0	33.0
Total Split (%)	51.5%	51.5%	23.1%	74.6%	25.4%	25.4%
Maximum Green (s)	62.1	62.1	25.1	92.1	29.0	29.0
Yellow Time (s)	3.9	3.9	3.9	3.9	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.9	4.9	4.0	4.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0	7.0

5: Peach Ave (East) & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inter

10/15/2021



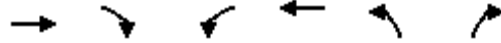
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	71.4	71.4	25.1	101.4	19.7	19.7
Actuated g/C Ratio	0.55	0.55	0.19	0.78	0.15	0.15
v/c Ratio	0.53	0.06	0.45	0.62	0.74	0.42
Control Delay	8.2	2.1	31.2	1.1	68.4	7.0
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	2.1	31.2	1.1	68.4	7.0
LOS	A	A	C	A	E	A
Approach Delay	8.0			2.8	32.8	
Approach LOS	A			A	C	
Queue Length 50th (ft)	102	1	119	24	161	0
Queue Length 95th (ft)	142	7	m144	37	232	40
Internal Link Dist (ft)	539			1200	829	
Turn Bay Length (ft)			350			
Base Capacity (vph)	2793	891	341	3967	394	832
Starvation Cap Reductn	240	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	0.58	0.06	0.45	0.62	0.50	0.33

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 69 (53%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 7.6
 Intersection LOS: A
 Intersection Capacity Utilization 61.2%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Peach Ave (East) & Herndon Ave





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1479	50	154	2463	197	271
v/c Ratio	0.53	0.06	0.45	0.62	0.74	0.42
Control Delay	8.2	2.1	31.2	1.1	68.4	7.0
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	2.1	31.2	1.1	68.4	7.0
Queue Length 50th (ft)	102	1	119	24	161	0
Queue Length 95th (ft)	142	7	m144	37	232	40
Internal Link Dist (ft)	539			1200	829	
Turn Bay Length (ft)			350			
Base Capacity (vph)	2793	891	341	3967	394	832
Starvation Cap Reductn	240	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	0.58	0.06	0.45	0.62	0.50	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗	↘	↖↖	↗↗↗	↘	↖↖	↗↗	↘↘	↖↖	↗↗	↘
Traffic Volume (vph)	108	1240	262	113	2018	256	257	235	157	281	316	133
Future Volume (vph)	108	1240	262	113	2018	256	257	235	157	281	316	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		115	270		165	225		0	160		160
Storage Lanes	2		1	2		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.940				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3327	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3327	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			185			153		105				107
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1280			1261			1032			465	
Travel Time (s)		17.5			17.2			15.6			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	1348	285	123	2193	278	279	255	171	305	343	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	1348	285	123	2193	278	279	426	0	305	343	145
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	12.0	72.0	72.0	13.0	73.0	73.0	20.0	24.0		21.0	25.0	25.0
Total Split (%)	9.2%	55.4%	55.4%	10.0%	56.2%	56.2%	15.4%	18.5%		16.2%	19.2%	19.2%
Maximum Green (s)	8.0	67.1	67.1	9.0	68.1	68.1	16.0	19.1		17.0	20.1	20.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

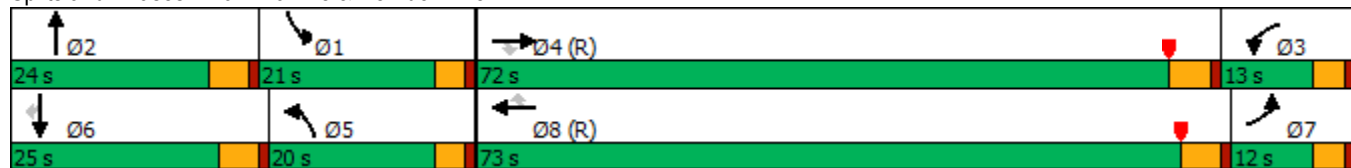


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	7.8	70.8	70.8	8.8	71.8	71.8	15.1	17.0		15.6	17.5	17.5
Actuated g/C Ratio	0.06	0.54	0.54	0.07	0.55	0.55	0.12	0.13		0.12	0.13	0.13
v/c Ratio	0.57	0.49	0.30	0.53	0.78	0.30	0.70	0.81		0.74	0.72	0.48
Control Delay	59.6	3.3	0.8	51.5	13.6	2.5	65.0	53.8		66.5	62.9	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	59.6	3.3	0.8	51.5	13.6	2.5	65.0	53.8		66.5	62.9	21.2
LOS	E	A	A	D	B	A	E	D		E	E	C
Approach Delay		6.6			14.2			58.2			56.7	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	54	33	0	52	289	16	116	140		128	147	29
Queue Length 95th (ft)	88	51	0	m75	142	30	165	198		178	197	93
Internal Link Dist (ft)		1200			1181			952			385	
Turn Bay Length (ft)	250		115	270		165	225			160		160
Base Capacity (vph)	211	2768	946	237	2807	942	427	578		448	547	335
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.55	0.49	0.30	0.52	0.78	0.30	0.65	0.74		0.68	0.63	0.43

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 82 (63%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 23.0 Intersection LOS: C
 Intersection Capacity Utilization 77.5% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	117	1348	285	123	2193	278	279	426	305	343	145
v/c Ratio	0.57	0.49	0.30	0.53	0.78	0.30	0.70	0.81	0.74	0.72	0.48
Control Delay	59.6	3.3	0.8	51.5	13.6	2.5	65.0	53.8	66.5	62.9	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	3.3	0.8	51.5	13.6	2.5	65.0	53.8	66.5	62.9	21.2
Queue Length 50th (ft)	54	33	0	52	289	16	116	140	128	147	29
Queue Length 95th (ft)	88	51	0	m75	142	30	165	198	178	197	93
Internal Link Dist (ft)		1200			1181			952		385	
Turn Bay Length (ft)	250		115	270		165	225		160		160
Base Capacity (vph)	211	2768	946	237	2807	942	427	578	448	547	335
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.49	0.30	0.52	0.78	0.30	0.65	0.74	0.68	0.63	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	1584	123	0	2382	0	84
Future Vol, veh/h	1584	123	0	2382	0	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1722	134	0	2589	0	91

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	-	-	928
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	232
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	232
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	30.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	232	-	-	-
HCM Lane V/C Ratio	0.394	-	-	-
HCM Control Delay (s)	30.2	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	1.8	-	-	-

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	1615	17	35	2349	238	1	1	7	135	4	32
Future Volume (vph)	36	1615	17	35	2349	238	1	1	7	135	4	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	275		275	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.892			0.865	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1770	5075	0	1770	5085	1583	0	1653	0	1770	1611	0
Flt Permitted	0.950			0.950				0.985		0.751		
Satd. Flow (perm)	1770	5075	0	1770	5085	1583	0	1637	0	1399	1611	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				259		8			35	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		769			499			196			160	
Travel Time (s)		10.5			6.8			4.5			3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	1755	18	38	2553	259	1	1	8	147	4	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	1773	0	38	2553	259	0	10	0	147	39	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	22.9	22.9		22.9	22.9	
Total Split (s)	11.2	90.0		11.0	89.8	89.8	29.0	29.0		29.0	29.0	
Total Split (%)	8.6%	69.2%		8.5%	69.1%	69.1%	22.3%	22.3%		22.3%	22.3%	
Maximum Green (s)	7.2	85.1		7.0	84.9	84.9	24.1	24.1		24.1	24.1	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9		4.9		4.9	4.9	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	Min	Min		Min	Min	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

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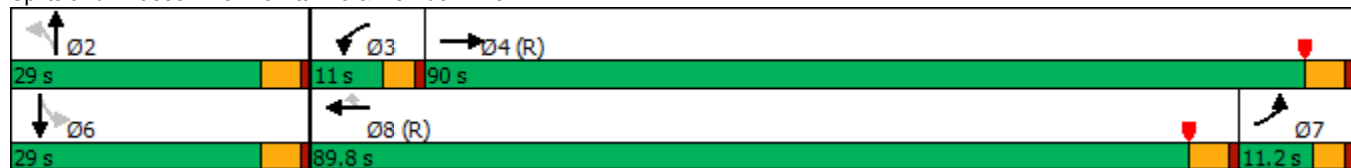


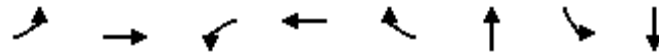
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	6.9	92.3		7.4	92.8	92.8		18.4		18.4	18.4	
Actuated g/C Ratio	0.05	0.71		0.06	0.71	0.71		0.14		0.14	0.14	
v/c Ratio	0.42	0.49		0.38	0.70	0.22		0.04		0.74	0.15	
Control Delay	58.1	5.1		69.9	13.3	1.4		26.6		74.9	17.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	58.1	5.1		69.9	13.3	1.4		26.6		74.9	17.4	
LOS	E	A		E	B	A		C		E	B	
Approach Delay		6.2			13.0			26.6			62.8	
Approach LOS		A			B			C			E	
Queue Length 50th (ft)	34	102		31	442	0		1		120	3	
Queue Length 95th (ft)	m63	112		70	569	29		18		188	35	
Internal Link Dist (ft)		689			419			116			80	
Turn Bay Length (ft)	275			275		275						
Base Capacity (vph)	98	3602		104	3630	1204		309		259	327	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.40	0.49		0.37	0.70	0.22		0.03		0.57	0.12	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 78 (60%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 12.4 Intersection LOS: B
 Intersection Capacity Utilization 67.7% ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Dewitt Ave & Herndon Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	39	1773	38	2553	259	10	147	39
v/c Ratio	0.42	0.49	0.38	0.70	0.22	0.04	0.74	0.15
Control Delay	58.1	5.1	69.9	13.3	1.4	26.6	74.9	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	5.1	69.9	13.3	1.4	26.6	74.9	17.4
Queue Length 50th (ft)	34	102	31	442	0	1	120	3
Queue Length 95th (ft)	m63	112	70	569	29	18	188	35
Internal Link Dist (ft)		689		419		116		80
Turn Bay Length (ft)	275		275		275			
Base Capacity (vph)	98	3602	104	3630	1204	309	259	327
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.49	0.37	0.70	0.22	0.03	0.57	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	8	106	246	8	285	63	909	581	251	1357	52
Future Volume (vph)	53	8	106	246	8	285	63	909	581	251	1357	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	220		0	160		120	220		150
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt		0.861				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3047	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3047	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				254			514			117
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		664			821			1246			864	
Travel Time (s)		15.1			18.7			17.0			11.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	9	115	267	9	310	68	988	632	273	1475	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	124	0	267	9	310	68	988	632	273	1475	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	10.0	23.0		21.0	34.0	34.0	10.0	64.0	64.0	22.0	76.0	76.0
Total Split (%)	7.7%	17.7%		16.2%	26.2%	26.2%	7.7%	49.2%	49.2%	16.9%	58.5%	58.5%
Maximum Green (s)	6.0	18.1		17.0	29.1	29.1	6.0	59.1	59.1	18.0	71.1	71.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

10/15/2021

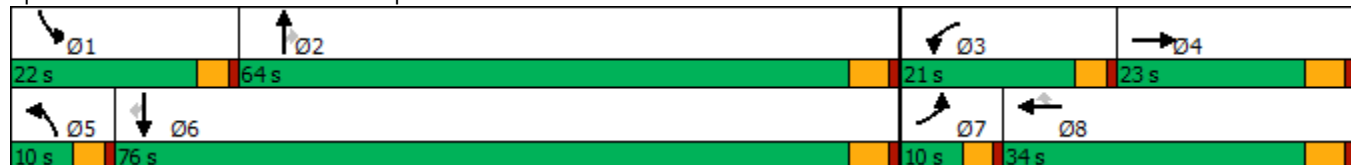


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	6.1	6.5		12.0	15.0	15.0	6.2	29.2	29.2	12.2	37.8	37.8
Actuated g/C Ratio	0.08	0.08		0.15	0.19	0.19	0.08	0.37	0.37	0.16	0.48	0.48
v/c Ratio	0.22	0.35		0.51	0.03	0.61	0.25	0.52	0.69	0.51	0.60	0.07
Control Delay	41.8	14.5		36.4	32.4	14.0	42.2	20.4	8.8	36.3	16.5	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	14.5		36.4	32.4	14.0	42.2	20.4	8.8	36.3	16.5	0.2
LOS	D	B		D	C	B	D	C	A	D	B	A
Approach Delay		23.2			24.5			16.9			19.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	13	3		59	4	23	15	128	37	60	187	0
Queue Length 95th (ft)	40	34		126	19	120	45	210	165	128	272	0
Internal Link Dist (ft)		584			741			1166			784	
Turn Bay Length (ft)	125			220			160		120	220		150
Base Capacity (vph)	272	813		773	718	766	272	3981	1351	818	4531	1423
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.15		0.35	0.01	0.40	0.25	0.25	0.47	0.33	0.33	0.04

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 78.5
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 19.1
 Intersection Capacity Utilization 58.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 9: Willow Ave & Spruce Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	58	124	267	9	310	68	988	632	273	1475	57
v/c Ratio	0.22	0.35	0.51	0.03	0.61	0.25	0.52	0.69	0.51	0.60	0.07
Control Delay	41.8	14.5	36.4	32.4	14.0	42.2	20.4	8.8	36.3	16.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	14.5	36.4	32.4	14.0	42.2	20.4	8.8	36.3	16.5	0.2
Queue Length 50th (ft)	13	3	59	4	23	15	128	37	60	187	0
Queue Length 95th (ft)	40	34	126	19	120	45	210	165	128	272	0
Internal Link Dist (ft)		584		741			1166			784	
Turn Bay Length (ft)	125		220			160		120	220		150
Base Capacity (vph)	272	813	773	718	766	272	3981	1351	818	4531	1423
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.15	0.35	0.01	0.40	0.25	0.25	0.47	0.33	0.33	0.04

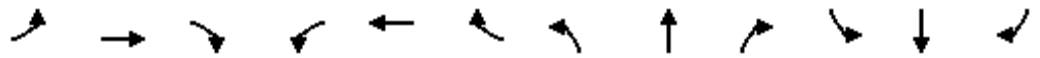
Intersection Summary

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	2	25	15	4	39	49	1638	96	104	1750	81
Future Volume (vph)	38	2	25	15	4	39	49	1638	96	104	1750	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	100		80	150		0	160		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.860				0.850		0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1602	0	1770	1863	1583	1770	3511	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1602	0	1770	1863	1583	1770	3511	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				117		8				83
Link Speed (mph)		30			30			50				50
Link Distance (ft)		192			345			539				695
Travel Time (s)		4.4			7.8			7.4				9.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	2	27	16	4	42	53	1780	104	113	1902	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	29	0	16	4	42	53	1884	0	113	1902	88
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	10.0	23.0		9.9	22.9	22.9	10.6	81.1		16.0	86.5	86.5
Total Split (%)	7.7%	17.7%		7.6%	17.6%	17.6%	8.2%	62.4%		12.3%	66.5%	66.5%
Maximum Green (s)	6.0	18.1		5.9	18.0	18.0	6.6	76.2		12.0	81.6	81.6
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	6.2	10.4		6.1	6.5	6.5	6.7	67.4		11.2	76.7	76.7
Actuated g/C Ratio	0.06	0.10		0.06	0.06	0.06	0.06	0.65		0.11	0.74	0.74
v/c Ratio	0.39	0.16		0.16	0.03	0.20	0.46	0.82		0.59	0.73	0.07
Control Delay	65.0	22.6		57.3	53.2	2.2	66.9	19.2		62.9	13.5	1.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.5	0.0
Total Delay	65.0	22.6		57.3	53.2	2.2	66.9	19.2		62.9	14.0	1.8
LOS	E	C		E	D	A	E	B		E	B	A
Approach Delay		47.4			19.7			20.5			16.1	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)	30	1		11	3	0	38	525		80	453	1
Queue Length 95th (ft)	#71	32		36	15	0	#94	680		#161	591	17
Internal Link Dist (ft)		112			265			459			615	
Turn Bay Length (ft)	95			100		80	150			160		
Base Capacity (vph)	108	317		106	341	385	119	2593		216	2747	1247
Starvation Cap Reductn	0	0		0	0	0	0	0		0	393	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.38	0.09		0.15	0.01	0.11	0.45	0.73		0.52	0.81	0.07

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 103.7
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 18.7
 Intersection LOS: B
 Intersection Capacity Utilization 74.4%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: Willow Ave & Magill Ave

Ø1	Ø2	Ø3	Ø4
16 s	81.1 s	9.9 s	23 s
Ø5	Ø6	Ø7	Ø8
10.6 s	86.5 s	10 s	22.9 s



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	41	29	16	4	42	53	1884	113	1902	88
v/c Ratio	0.39	0.16	0.16	0.03	0.20	0.46	0.82	0.59	0.73	0.07
Control Delay	65.0	22.6	57.3	53.2	2.2	66.9	19.2	62.9	13.5	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	65.0	22.6	57.3	53.2	2.2	66.9	19.2	62.9	14.0	1.8
Queue Length 50th (ft)	30	1	11	3	0	38	525	80	453	1
Queue Length 95th (ft)	#71	32	36	15	0	#94	680	#161	591	17
Internal Link Dist (ft)		112		265			459		615	
Turn Bay Length (ft)	95		100		80	150		160		
Base Capacity (vph)	108	317	106	341	385	119	2593	216	2747	1247
Starvation Cap Reductn	0	0	0	0	0	0	0	0	393	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.09	0.15	0.01	0.11	0.45	0.73	0.52	0.81	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	328	1817	185	161	2190	389	226	577	145	113	346	170
Future Volume (vph)	328	1817	185	161	2190	389	226	577	145	113	346	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		180	1000		155	250		220	215		140
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	1.00		0.97	0.99		0.96	0.99		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	3467	5136	1599	3467	3574	1599	3467	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3463	5136	1547	3460	5136	1547	3427	3574	1542	3439	3574	1540
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			170			148			185
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2628			2617			1029			627	
Travel Time (s)		35.8			35.7			15.6			9.5	
Confl. Peds. (#/hr)	9		9	9		9	9		9	9		9
Confl. Bikes (#/hr)			4			4			4			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	357	1975	201	175	2380	423	246	627	158	123	376	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	1975	201	175	2380	423	246	627	158	123	376	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	19.0	74.5	74.5	15.5	71.0	71.0	16.1	30.0	30.0	10.0	23.9	23.9
Total Split (%)	14.6%	57.3%	57.3%	11.9%	54.6%	54.6%	12.4%	23.1%	23.1%	7.7%	18.4%	18.4%
Maximum Green (s)	15.0	69.6	69.6	11.5	66.1	66.1	12.1	25.1	25.1	6.0	19.0	19.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

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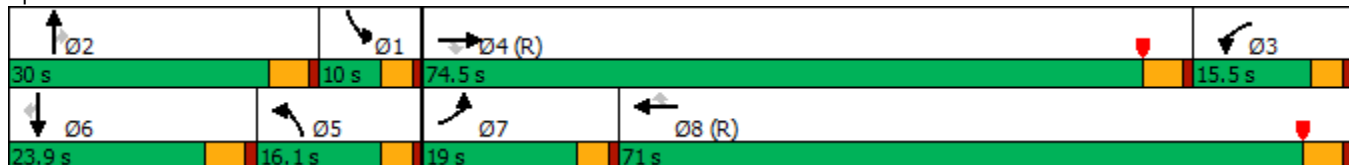


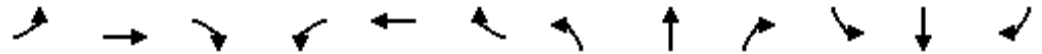
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	15.0	69.7	69.7	11.5	66.2	66.2	13.4	24.7	24.7	6.3	17.6	17.6
Actuated g/C Ratio	0.12	0.54	0.54	0.09	0.51	0.51	0.10	0.19	0.19	0.05	0.14	0.14
v/c Ratio	0.89	0.72	0.23	0.57	0.91	0.49	0.69	0.92	0.38	0.73	0.78	0.50
Control Delay	81.5	24.6	6.0	41.3	13.2	3.6	67.4	71.9	11.2	85.4	65.9	11.9
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	81.5	24.6	6.0	41.3	13.2	3.6	67.4	71.9	11.2	85.4	65.9	11.9
LOS	F	C	A	D	B	A	E	E	B	F	E	B
Approach Delay		31.2			13.5			61.5			54.8	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	155	444	26	68	92	2	106	274	7	54	161	0
Queue Length 95th (ft)	#242	501	66	m85	385	m56	#164	#382	68	#105	217	69
Internal Link Dist (ft)		2548			2537			949			547	
Turn Bay Length (ft)	250		180	1000		155	250		220	215		140
Base Capacity (vph)	400	2752	892	306	2614	871	357	690	417	168	522	383
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	0.89	0.72	0.23	0.57	0.91	0.49	0.69	0.91	0.38	0.73	0.72	0.48

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 68 (52%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 30.5
 Intersection LOS: C
 Intersection Capacity Utilization 86.6%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Cedar Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	357	1975	201	175	2380	423	246	627	158	123	376	185
v/c Ratio	0.89	0.72	0.23	0.57	0.91	0.49	0.69	0.92	0.38	0.73	0.78	0.50
Control Delay	81.5	24.6	6.0	41.3	13.2	3.6	67.4	71.9	11.2	85.4	65.9	11.9
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	81.5	24.6	6.0	41.3	13.2	3.6	67.4	71.9	11.2	85.4	65.9	11.9
Queue Length 50th (ft)	155	444	26	68	92	2	106	274	7	54	161	0
Queue Length 95th (ft)	#242	501	66	m85	385	m56	#164	#382	68	#105	217	69
Internal Link Dist (ft)		2548			2537			949			547	
Turn Bay Length (ft)	250		180	1000		155	250		220	215		140
Base Capacity (vph)	400	2752	892	306	2614	871	357	690	417	168	522	383
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	0.89	0.72	0.23	0.57	0.91	0.49	0.69	0.91	0.38	0.73	0.72	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	1804	28	16	2410	359	86	55	39	186	22	242
Future Volume (vph)	256	1804	28	16	2410	359	86	55	39	186	22	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		165	275		170	115		0	140		140
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.99	1.00	0.99		1.00		0.98
Frt			0.850			0.850		0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	1787	5136	1599	3467	1752	0	3467	1881	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5136	1559	1787	5136	1575	3460	1752	0	3461	1881	1572
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83			194			22			161
Link Speed (mph)		50			50			40				40
Link Distance (ft)		2617			2634			984				1312
Travel Time (s)		35.7			35.9			16.8				22.4
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	278	1961	30	17	2620	390	93	60	42	202	24	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	278	1961	30	17	2620	390	93	102	0	202	24	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	17.0	83.2	83.2	9.9	76.1	76.1	10.0	22.9		14.0	26.9	26.9
Total Split (%)	13.1%	64.0%	64.0%	7.6%	58.5%	58.5%	7.7%	17.6%		10.8%	20.7%	20.7%
Maximum Green (s)	13.0	78.3	78.3	5.9	71.2	71.2	6.0	18.0		10.0	22.0	22.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	Lag

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

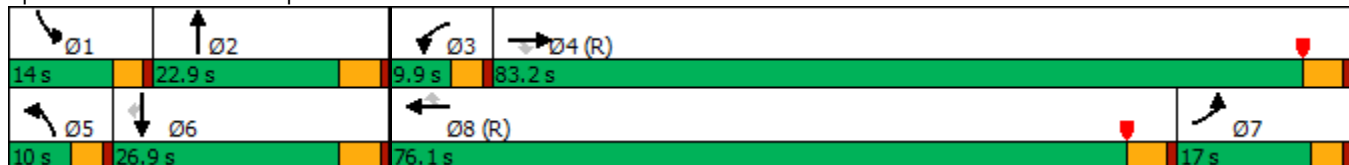


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effect Green (s)	13.0	90.1	90.1	6.3	77.4	77.4	6.0	11.9		9.9	15.8	15.8
Actuated g/C Ratio	0.10	0.69	0.69	0.05	0.60	0.60	0.05	0.09		0.08	0.12	0.12
v/c Ratio	0.80	0.55	0.03	0.20	0.86	0.38	0.58	0.57		0.77	0.10	0.79
Control Delay	51.5	7.2	0.1	78.6	9.5	0.8	75.7	55.3		77.9	49.3	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	51.5	7.2	0.1	78.6	9.5	0.8	75.7	55.3		77.9	49.3	38.3
LOS	D	A	A	E	A	A	E	E		E	D	D
Approach Delay		12.6			8.7			65.0			55.2	
Approach LOS		B			A			E			E	
Queue Length 50th (ft)	117	125	0	14	219	3	40	66		87	18	85
Queue Length 95th (ft)	#181	176	m0	m14	m848	m11	70	120		#144	43	177
Internal Link Dist (ft)		2537			2554			904			1232	
Turn Bay Length (ft)	260		165	275		170	115			140		140
Base Capacity (vph)	346	3559	1106	87	3056	1015	160	261		266	318	399
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.80	0.55	0.03	0.20	0.86	0.38	0.58	0.39		0.76	0.08	0.66

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 61 (47%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 15.8
 Intersection LOS: B
 Intersection Capacity Utilization 77.4%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Maple Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	278	1961	30	17	2620	390	93	102	202	24	263
v/c Ratio	0.80	0.55	0.03	0.20	0.86	0.38	0.58	0.57	0.77	0.10	0.79
Control Delay	51.5	7.2	0.1	78.6	9.5	0.8	75.7	55.3	77.9	49.3	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	7.2	0.1	78.6	9.5	0.8	75.7	55.3	77.9	49.3	38.3
Queue Length 50th (ft)	117	125	0	14	219	3	40	66	87	18	85
Queue Length 95th (ft)	#181	176	m0	m14	m848	m11	70	120	#144	43	177
Internal Link Dist (ft)		2537			2554			904		1232	
Turn Bay Length (ft)	260		165	275		170	115		140		140
Base Capacity (vph)	346	3559	1106	87	3056	1015	160	261	266	318	399
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.55	0.03	0.20	0.86	0.38	0.58	0.39	0.76	0.08	0.66

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖	↑	↗	↖↖	↑	↗
Traffic Volume (vph)	111	2621	218	100	1835	90	158	426	85	243	343	229
Future Volume (vph)	111	2621	218	100	1835	90	158	426	85	243	343	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	315		220	280		200	225		0	250		250
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134			90			135			135
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2634			1941			956			651	
Travel Time (s)		35.9			26.5			21.7			14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	2849	237	109	1995	98	172	463	92	264	373	249
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	2849	237	109	1995	98	172	463	92	264	373	249
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	10.5	65.1	65.1	9.9	64.5	64.5	16.1	32.0	32.0	13.0	28.9	28.9
Total Split (%)	8.8%	54.3%	54.3%	8.3%	53.8%	53.8%	13.4%	26.7%	26.7%	10.8%	24.1%	24.1%
Maximum Green (s)	6.5	60.2	60.2	5.9	59.6	59.6	12.1	27.1	27.1	9.0	24.0	24.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

10/15/2021

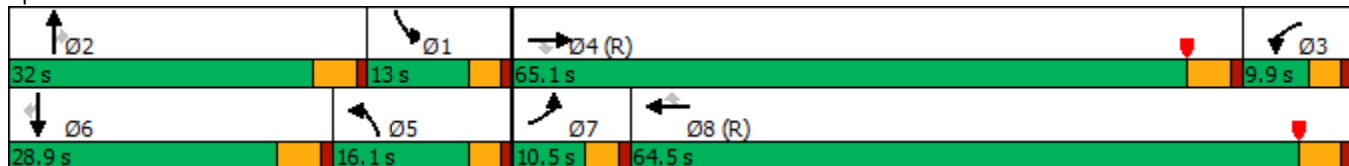


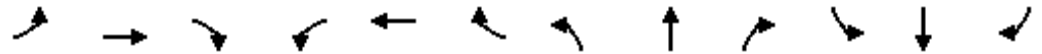
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	6.5	60.2	60.2	5.9	59.6	59.6	12.1	27.1	27.1	9.0	24.0	24.0
Actuated g/C Ratio	0.05	0.50	0.50	0.05	0.50	0.50	0.10	0.23	0.23	0.08	0.20	0.20
v/c Ratio	0.65	1.12	0.28	0.65	0.79	0.12	0.97	1.10	0.20	1.03	1.00	0.59
Control Delay	68.9	75.3	2.7	62.1	23.7	7.6	113.3	118.0	2.9	117.6	95.6	25.7
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	68.9	75.3	2.7	62.1	23.7	7.6	113.3	118.0	2.9	117.6	95.6	25.7
LOS	E	E	A	E	C	A	F	F	A	F	F	C
Approach Delay		69.7			24.9			102.3			82.5	
Approach LOS		E			C			F			F	
Queue Length 50th (ft)	46	~930	33	39	286	8	135	~407	0	~112	~292	78
Queue Length 95th (ft)	m52	m#1012	m34	m57	332	m25	#277	#614	15	#199	#493	167
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	185	2550	860	168	2525	831	178	420	462	257	372	424
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	0.65	1.12	0.28	0.65	0.79	0.12	0.97	1.10	0.20	1.03	1.00	0.59

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 106 (88%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay: 60.7
 Intersection LOS: E
 Intersection Capacity Utilization 91.5%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Chestnut Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	121	2849	237	109	1995	98	172	463	92	264	373	249
v/c Ratio	0.65	1.12	0.28	0.65	0.79	0.12	0.97	1.10	0.20	1.03	1.00	0.59
Control Delay	68.9	75.3	2.7	62.1	23.7	7.6	113.3	118.0	2.9	117.6	95.6	25.7
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	68.9	75.3	2.7	62.1	23.7	7.6	113.3	118.0	2.9	117.6	95.6	25.7
Queue Length 50th (ft)	46	~930	33	39	286	8	135	~407	0	~112	~292	78
Queue Length 95th (ft)	m52	m#1012	m34	m57	332	m25	#277	#614	15	#199	#493	167
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	185	2550	860	168	2525	831	178	420	462	257	372	424
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	0.65	1.12	0.28	0.65	0.79	0.12	0.97	1.10	0.20	1.03	1.00	0.59

Intersection Summary

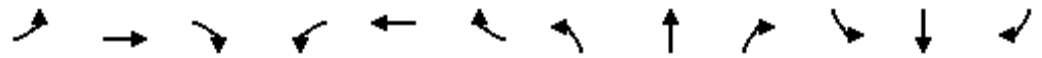
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

2: Willow Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↑↑↑	↗		↑↑↑	↗
Traffic Volume (vph)	0	2403	596	0	1750	284	0	2053	248	0	1514	280
Future Volume (vph)	0	2403	596	0	1750	284	0	2053	248	0	1514	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		225	275		150	325		215	265		265
Storage Lanes	0		1	0		1	0		1	0		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected												
Satd. Flow (prot)	0	5085	1583	0	5085	1583	0	5085	1583	0	5085	1583
Flt Permitted												
Satd. Flow (perm)	0	5085	1583	0	5085	1583	0	5085	1583	0	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			17			17			17			17
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1941			1380			695			1246	
Travel Time (s)		26.5			18.8			9.5			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2612	648	0	1902	309	0	2232	270	0	1646	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2612	648	0	1902	309	0	2232	270	0	1646	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA	Perm		NA	Perm		NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases			4			8			2			6
Detector Phase		4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Minimum Split (s)		22.9	22.9		22.9	22.9		22.9	22.9		22.9	22.9
Total Split (s)		65.0	65.0		65.0	65.0		55.0	55.0		55.0	55.0
Total Split (%)		54.2%	54.2%		54.2%	54.2%		45.8%	45.8%		45.8%	45.8%
Maximum Green (s)		60.1	60.1		60.1	60.1		50.1	50.1		50.1	50.1
Yellow Time (s)		3.9	3.9		3.9	3.9		3.9	3.9		3.9	3.9
All-Red Time (s)		1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)		4.9	4.9		4.9	4.9		4.9	4.9		4.9	4.9
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		C-Max	C-Max		Min	Min		Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

2: Willow Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inter

AGENDA ITEM NO. 20.

10/15/2021

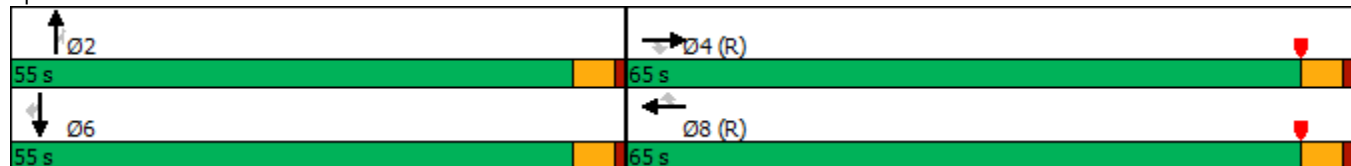


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)		60.1	60.1		60.1	60.1		50.1	50.1		50.1	50.1
Actuated g/C Ratio		0.50	0.50		0.50	0.50		0.42	0.42		0.42	0.42
v/c Ratio		1.03	0.81		0.75	0.39		1.05	0.40		0.78	0.45
Control Delay		29.6	13.2		7.8	5.7		51.3	14.5		33.2	26.3
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.1	0.0
Total Delay		29.6	13.2		7.8	5.7		51.3	14.5		33.4	26.3
LOS		C	B		A	A		D	B		C	C
Approach Delay		26.3			7.5			47.3			32.3	
Approach LOS		C			A			D			C	
Queue Length 50th (ft)		~418	142		105	37		~683	84		395	157
Queue Length 95th (ft)		m210	m121		138	m64		m#669	m71		457	239
Internal Link Dist (ft)		1861			1300			615			1166	
Turn Bay Length (ft)			225			150			215			265
Base Capacity (vph)		2546	801		2546	801		2122	670		2122	670
Starvation Cap Reductn		0	0		0	0		0	0		0	0
Spillback Cap Reductn		0	0		0	0		0	0		59	0
Storage Cap Reductn		0	0		0	0		0	0		0	0
Reduced v/c Ratio		1.03	0.81		0.75	0.39		1.05	0.40		0.80	0.45

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 28.6 Intersection LOS: C
 Intersection Capacity Utilization 94.3% ICU Level of Service F
 Analysis Period (min) 15
 ~ 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Willow Ave & Herndon Ave





Lane Group	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	2612	648	1902	309	2232	270	1646	304
v/c Ratio	1.03	0.81	0.75	0.39	1.05	0.40	0.78	0.45
Control Delay	29.6	13.2	7.8	5.7	51.3	14.5	33.2	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	29.6	13.2	7.8	5.7	51.3	14.5	33.4	26.3
Queue Length 50th (ft)	~418	142	105	37	~683	84	395	157
Queue Length 95th (ft)	m210	m121	138	m64	m#669	m71	457	239
Internal Link Dist (ft)	1861		1300		615		1166	
Turn Bay Length (ft)		225		150		215		265
Base Capacity (vph)	2546	801	2546	801	2122	670	2122	670
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	59	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.81	0.75	0.39	1.05	0.40	0.80	0.45

Intersection Summary

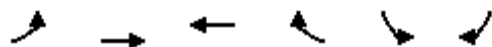
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

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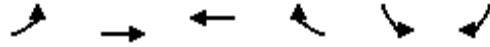


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑↑	↑↑↑	↑↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	742	1936	1321	597	493	708
Future Volume (vph)	742	1936	1321	597	493	708
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			215	0	0
Storage Lanes	2			2	2	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	0.88	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	5085	5085	2787	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	5085	5085	2787	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				555		770
Link Speed (mph)		50	50		30	
Link Distance (ft)		1380	1361		790	
Travel Time (s)		18.8	18.6		18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	807	2104	1436	649	536	770
Shared Lane Traffic (%)						
Lane Group Flow (vph)	807	2104	1436	649	536	770
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	22.9	22.9	22.9
Total Split (s)	41.0	89.0	48.0	48.0	31.0	31.0
Total Split (%)	34.2%	74.2%	40.0%	40.0%	25.8%	25.8%
Maximum Green (s)	37.0	84.1	43.1	43.1	26.1	26.1
Yellow Time (s)	3.0	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

10/15/2021

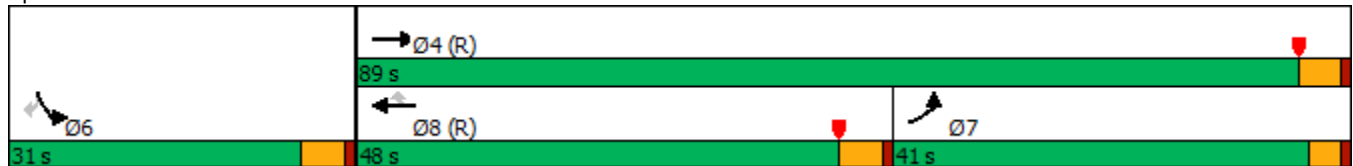


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	37.0	86.1	45.1	45.1	24.1	24.1
Actuated g/C Ratio	0.31	0.72	0.38	0.38	0.20	0.20
v/c Ratio	0.76	0.58	0.75	0.47	0.78	0.66
Control Delay	17.5	2.5	25.4	5.8	53.7	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	2.5	25.4	5.8	53.7	5.7
LOS	B	A	C	A	D	A
Approach Delay		6.7	19.3		25.4	
Approach LOS		A	B		C	
Queue Length 50th (ft)	212	60	303	26	200	0
Queue Length 95th (ft)	m211	m58	390	90	262	53
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	1058	3646	1909	1393	746	1208
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	0.76	0.58	0.75	0.47	0.72	0.64

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 96 (80%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 14.7
 Intersection LOS: B
 Intersection Capacity Utilization 72.3%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Herndon Ave & Helm Ave





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	807	2104	1436	649	536	770
v/c Ratio	0.76	0.58	0.75	0.47	0.78	0.66
Control Delay	17.5	2.5	25.4	5.8	53.7	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	2.5	25.4	5.8	53.7	5.7
Queue Length 50th (ft)	212	60	303	26	200	0
Queue Length 95th (ft)	m211	m58	390	90	262	53
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	1058	3646	1909	1393	746	1208
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	0.76	0.58	0.75	0.47	0.72	0.64

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↑↑			↑↑	↗
Traffic Volume (vph)	0	2117	305	0	1764	418	0	92	0	0	501	149
Future Volume (vph)	0	2117	305	0	1764	418	0	92	0	0	501	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		130	160		115	240		50	90		220
Storage Lanes	0		1	0		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected												
Satd. Flow (prot)	0	5085	1583	0	5085	1583	0	3539	0	0	3539	1583
Flt Permitted												
Satd. Flow (perm)	0	5085	1583	0	5085	1583	0	3539	0	0	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			66			319						21
Link Speed (mph)		50			50			40				40
Link Distance (ft)		1361			619			1143				926
Travel Time (s)		18.6			8.4			19.5				15.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2301	332	0	1917	454	0	100	0	0	545	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2301	332	0	1917	454	0	100	0	0	545	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA	Perm		NA			NA	Perm
Protected Phases		4			8			2				6
Permitted Phases			4			8						6
Detector Phase		4	4		8	8		2				6
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0		5.0				5.0
Minimum Split (s)		22.9	22.9		22.9	22.9		22.9				22.9
Total Split (s)		84.0	84.0		84.0	84.0		36.0				36.0
Total Split (%)		70.0%	70.0%		70.0%	70.0%		30.0%				30.0%
Maximum Green (s)		79.1	79.1		79.1	79.1		31.1				31.1
Yellow Time (s)		3.9	3.9		3.9	3.9		3.9				3.9
All-Red Time (s)		1.0	1.0		1.0	1.0		1.0				1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0				0.0
Total Lost Time (s)		4.9	4.9		4.9	4.9		4.9				4.9
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0				3.0
Recall Mode		C-Max	C-Max		C-Max	C-Max		Min				Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0				7.0

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

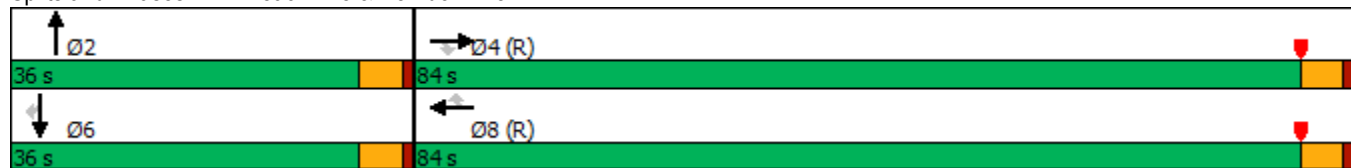


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)		85.5	85.5		85.5	85.5		24.7			24.7	24.7
Actuated g/C Ratio		0.71	0.71		0.71	0.71		0.21			0.21	0.21
v/c Ratio		0.64	0.29		0.53	0.37		0.14			0.75	0.47
Control Delay		8.9	4.0		5.6	1.6		37.9			51.1	40.0
Queue Delay		0.0	0.0		0.1	0.1		0.0			0.0	0.0
Total Delay		8.9	4.0		5.6	1.7		37.9			51.1	40.0
LOS		A	A		A	A		D			D	D
Approach Delay		8.3			4.9			37.9			48.6	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)		338	51		118	7		33			210	97
Queue Length 95th (ft)		534	128		149	15		54			255	155
Internal Link Dist (ft)		1281			539			1063			846	
Turn Bay Length (ft)			130			115						220
Base Capacity (vph)		3622	1146		3622	1219		917			917	425
Starvation Cap Reductn		0	0		313	181		0			0	0
Spillback Cap Reductn		35	0		0	0		0			0	0
Storage Cap Reductn		0	0		0	0		0			0	0
Reduced v/c Ratio		0.64	0.29		0.58	0.44		0.11			0.59	0.38

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 82 (68%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 12.3
 Intersection Capacity Utilization 62.9%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 4: Peach Ave & Herndon Ave



4: Peach Ave & Herndon Ave
Queues

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBT	EBR	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	2301	332	1917	454	100	545	162
v/c Ratio	0.64	0.29	0.53	0.37	0.14	0.75	0.47
Control Delay	8.9	4.0	5.6	1.6	37.9	51.1	40.0
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Delay	8.9	4.0	5.6	1.7	37.9	51.1	40.0
Queue Length 50th (ft)	338	51	118	7	33	210	97
Queue Length 95th (ft)	534	128	149	15	54	255	155
Internal Link Dist (ft)	1281		539		1063	846	
Turn Bay Length (ft)		130		115			220
Base Capacity (vph)	3622	1146	3622	1219	917	917	425
Starvation Cap Reductn	0	0	313	181	0	0	0
Spillback Cap Reductn	35	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.29	0.58	0.44	0.11	0.59	0.38

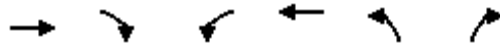
Intersection Summary

5: Peach Ave (East) & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

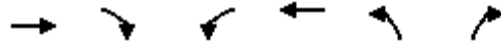


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑	↖	↗
Traffic Volume (vph)	2077	40	135	1880	302	555
Future Volume (vph)	2077	40	135	1880	302	555
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	350		0	0
Storage Lanes		1	1		1	2
Taper Length (ft)			90		90	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	0.88
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	5085	1583	1770	5085	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	5085	1583	1770	5085	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		35				384
Link Speed (mph)	50			50	30	
Link Distance (ft)	619			1280	909	
Travel Time (s)	8.4			17.5	20.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2258	43	147	2043	328	603
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2258	43	147	2043	328	603
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.9	22.9	9.9	22.9	22.9	22.9
Total Split (s)	66.0	66.0	20.0	86.0	34.0	34.0
Total Split (%)	55.0%	55.0%	16.7%	71.7%	28.3%	28.3%
Maximum Green (s)	61.1	61.1	15.1	81.1	30.0	30.0
Yellow Time (s)	3.9	3.9	3.9	3.9	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.9	4.9	4.0	4.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0	7.0

5: Peach Ave (East) & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

10/15/2021



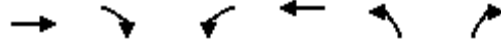
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effect Green (s)	64.6	64.6	15.1	84.6	26.5	26.5
Actuated g/C Ratio	0.54	0.54	0.13	0.70	0.22	0.22
v/c Ratio	0.82	0.05	0.66	0.57	0.84	0.66
Control Delay	10.0	1.6	44.6	2.9	63.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	1.6	44.6	2.9	63.8	18.1
LOS	B	A	D	A	E	B
Approach Delay	9.9			5.7	34.2	
Approach LOS	A			A	C	
Queue Length 50th (ft)	100	1	105	40	240	82
Queue Length 95th (ft)	136	m1	m165	78	344	149
Internal Link Dist (ft)	539			1200	829	
Turn Bay Length (ft)			350			
Base Capacity (vph)	2739	868	222	3586	442	984
Starvation Cap Reductn	14	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	0.83	0.05	0.66	0.57	0.74	0.61

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 62 (52%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 12.4 Intersection LOS: B
 Intersection Capacity Utilization 75.8% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Peach Ave (East) & Herndon Ave





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2258	43	147	2043	328	603
v/c Ratio	0.82	0.05	0.66	0.57	0.84	0.66
Control Delay	10.0	1.6	44.6	2.9	63.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	1.6	44.6	2.9	63.8	18.1
Queue Length 50th (ft)	100	1	105	40	240	82
Queue Length 95th (ft)	136	m1	m165	78	344	149
Internal Link Dist (ft)	539			1200	829	
Turn Bay Length (ft)			350			
Base Capacity (vph)	2739	868	222	3586	442	984
Starvation Cap Reductn	14	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	0.83	0.05	0.66	0.57	0.74	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

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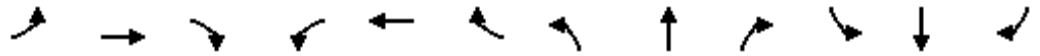
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↔		↖↗	↑↑	↖
Traffic Volume (vph)	171	2170	282	202	1639	346	264	320	135	303	280	120
Future Volume (vph)	171	2170	282	202	1639	346	264	320	135	303	280	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		115	270		165	225		0	160		160
Storage Lanes	2		1	2		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.956				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3383	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3383	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			254		46				124
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1280			1261			1032			465	
Travel Time (s)		17.5			17.2			15.6			7.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	176	2237	291	208	1690	357	272	330	139	312	289	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	2237	291	208	1690	357	272	469	0	312	289	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	15.2	64.0	64.0	14.0	62.8	62.8	16.4	24.0		18.0	25.6	25.6
Total Split (%)	12.7%	53.3%	53.3%	11.7%	52.3%	52.3%	13.7%	20.0%		15.0%	21.3%	21.3%
Maximum Green (s)	11.2	59.1	59.1	10.0	57.9	57.9	12.4	19.1		14.0	20.7	20.7
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

AGENDA ITEM NO. 20.

10/15/2021

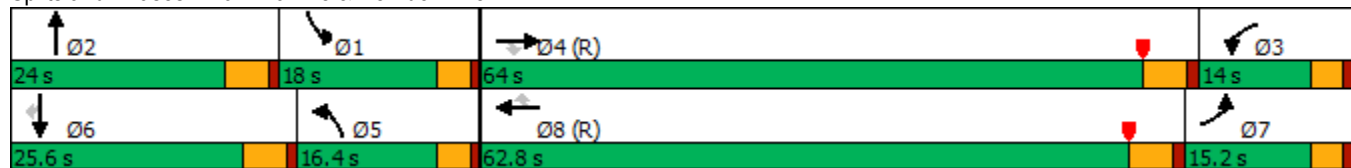


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effect Green (s)	11.1	60.3	60.3	9.9	59.1	59.1	16.8	18.2		13.8	15.2	15.2
Actuated g/C Ratio	0.09	0.50	0.50	0.08	0.49	0.49	0.14	0.15		0.12	0.13	0.13
v/c Ratio	0.56	0.87	0.34	0.74	0.67	0.39	0.57	0.85		0.79	0.65	0.40
Control Delay	44.1	15.2	3.2	51.0	14.9	3.8	53.8	59.6		67.1	56.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	44.1	15.2	3.2	51.0	14.9	3.8	53.8	59.6		67.1	56.3	11.8
LOS	D	B	A	D	B	A	D	E		E	E	B
Approach Delay		15.8			16.5			57.5			53.3	
Approach LOS		B			B			E			D	
Queue Length 50th (ft)	71	228	4	82	130	18	101	168		122	113	0
Queue Length 95th (ft)	m91	343	m26	m#130	180	70	153	#245		#186	154	54
Internal Link Dist (ft)		1200			1181			952			385	
Turn Bay Length (ft)	250		115	270		165	225			160		160
Base Capacity (vph)	320	2557	854	286	2506	909	480	577		403	610	375
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.55	0.87	0.34	0.73	0.67	0.39	0.57	0.81		0.77	0.47	0.33

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 70 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.1 Intersection LOS: C
 Intersection Capacity Utilization 84.3% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	176	2237	291	208	1690	357	272	469	312	289	124
v/c Ratio	0.56	0.87	0.34	0.74	0.67	0.39	0.57	0.85	0.79	0.65	0.40
Control Delay	44.1	15.2	3.2	51.0	14.9	3.8	53.8	59.6	67.1	56.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	15.2	3.2	51.0	14.9	3.8	53.8	59.6	67.1	56.3	11.8
Queue Length 50th (ft)	71	228	4	82	130	18	101	168	122	113	0
Queue Length 95th (ft)	m91	343	m26	m#130	180	70	153	#245	#186	154	54
Internal Link Dist (ft)		1200			1181			952		385	
Turn Bay Length (ft)	250		115	270		165	225		160		160
Base Capacity (vph)	320	2557	854	286	2506	909	480	577	403	610	375
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.87	0.34	0.73	0.67	0.39	0.57	0.81	0.77	0.47	0.33

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Intersection						
Int Delay, s/veh	17.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	2582	145	0	2188	0	192
Future Vol, veh/h	2582	145	0	2188	0	192
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2662	149	0	2256	0	198

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 1406
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.92
Pot Cap-1 Maneuver	-	-	0 - 0 ~ 110
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - ~ 110
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	\$ 460.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	110	-	-	-
HCM Lane V/C Ratio	1.799	-	-	-
HCM Control Delay (s)	\$ 460.2	-	-	-
HCM Lane LOS	F	-	-	-
HCM 95th %tile Q(veh)	15.7	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inter

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	2675	11	27	2148	266	16	2	29	141	1	24
Future Volume (vph)	88	2675	11	27	2148	266	16	2	29	141	1	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	275		275	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.917			0.856	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1770	5080	0	1770	5085	1583	0	1679	0	1770	1595	0
Flt Permitted	0.950			0.950				0.907		0.782		
Satd. Flow (perm)	1770	5080	0	1770	5085	1583	0	1549	0	1457	1595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				277		30			25	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		769			499			196			160	
Travel Time (s)		10.5			6.8			4.5			3.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	2786	11	28	2238	277	17	2	30	147	1	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	2797	0	28	2238	277	0	49	0	147	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	22.9	22.9		22.9	22.9	
Total Split (s)	16.9	83.0		10.2	76.3	76.3	26.8	26.8		26.8	26.8	
Total Split (%)	14.1%	69.2%		8.5%	63.6%	63.6%	22.3%	22.3%		22.3%	22.3%	
Maximum Green (s)	12.9	78.1		6.2	71.4	71.4	21.9	21.9		21.9	21.9	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9		4.9		4.9	4.9	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	Min	Min		Min	Min	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inte

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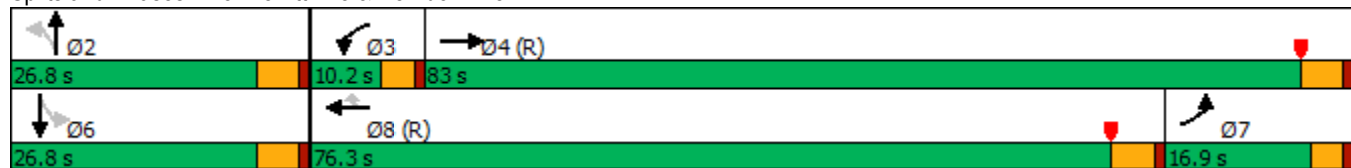


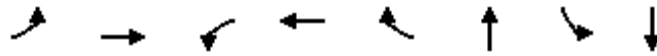
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	12.9	86.6		6.6	76.4	76.4		16.9		16.9	16.9	
Actuated g/C Ratio	0.11	0.72		0.06	0.64	0.64		0.14		0.14	0.14	
v/c Ratio	0.48	0.76		0.29	0.69	0.25		0.20		0.72	0.11	
Control Delay	40.2	5.2		62.0	16.2	1.8		23.7		67.9	16.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	40.2	5.2		62.0	16.2	1.8		23.7		67.9	16.8	
LOS	D	A		E	B	A		C		E	B	
Approach Delay		6.3			15.1			23.7			60.2	
Approach LOS		A			B			C			E	
Queue Length 50th (ft)	61	106		21	387	0		13		110	1	
Queue Length 95th (ft)	m77	195		53	491	34		48		175	26	
Internal Link Dist (ft)		689			419			116			80	
Turn Bay Length (ft)	275			275		275						
Base Capacity (vph)	190	3666		99	3236	1108		307		265	311	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.48	0.76		0.28	0.69	0.25		0.16		0.55	0.08	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 72 (60%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 12.1 Intersection LOS: B
 Intersection Capacity Utilization 82.1% ICU Level of Service E
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Dewitt Ave & Herndon Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	92	2797	28	2238	277	49	147	26
v/c Ratio	0.48	0.76	0.29	0.69	0.25	0.20	0.72	0.11
Control Delay	40.2	5.2	62.0	16.2	1.8	23.7	67.9	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	5.2	62.0	16.2	1.8	23.7	67.9	16.8
Queue Length 50th (ft)	61	106	21	387	0	13	110	1
Queue Length 95th (ft)	m77	195	53	491	34	48	175	26
Internal Link Dist (ft)		689		419		116		80
Turn Bay Length (ft)	275		275		275			
Base Capacity (vph)	190	3666	99	3236	1108	307	265	311
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.76	0.28	0.69	0.25	0.16	0.55	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	15	123	419	27	666	196	1257	69	377	1100	85
Future Volume (vph)	146	15	123	419	27	666	196	1257	69	377	1100	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	220		0	160		120	220		150
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt		0.866				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3065	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3065	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		134				325			124			132
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		664			821			1246			864	
Travel Time (s)		15.1			18.7			17.0			11.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	159	16	134	455	29	724	213	1366	75	410	1196	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	150	0	455	29	724	213	1366	75	410	1196	92
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	11.2	33.3		28.9	51.0	51.0	17.8	45.8	45.8	22.0	50.0	50.0
Total Split (%)	8.6%	25.6%		22.2%	39.2%	39.2%	13.7%	35.2%	35.2%	16.9%	38.5%	38.5%
Maximum Green (s)	7.2	28.4		24.9	46.1	46.1	13.8	40.9	40.9	18.0	45.1	45.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inter

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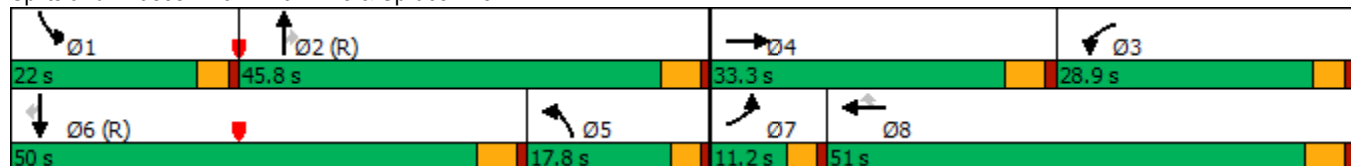


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	7.5	6.9		44.4	43.7	43.7	18.5	43.2	43.2	17.8	42.4	42.4
Actuated g/C Ratio	0.06	0.05		0.34	0.34	0.34	0.14	0.33	0.33	0.14	0.33	0.33
v/c Ratio	0.80	0.52		0.39	0.05	0.97	0.44	0.81	0.12	0.87	0.72	0.15
Control Delay	88.2	19.3		33.5	27.9	49.2	55.0	44.8	1.1	75.0	41.7	2.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.2	19.3		33.5	27.9	49.2	55.0	44.8	1.1	75.0	41.7	2.1
LOS	F	B		C	C	D	E	D	A	E	D	A
Approach Delay		54.7			42.8			44.2			47.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	69	6		144	16	373	85	394	0	176	335	0
Queue Length 95th (ft)	#131	41		199	38	#645	131	457	6	#261	367	15
Internal Link Dist (ft)		584			741			1166			784	
Turn Bay Length (ft)	125			220			160		120	220		150
Base Capacity (vph)	199	774		1171	660	771	489	1687	608	477	1784	641
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.19		0.39	0.04	0.94	0.44	0.81	0.12	0.86	0.67	0.14

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 45.7
 Intersection LOS: D
 Intersection Capacity Utilization 81.2%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Willow Ave & Spruce Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	159	150	455	29	724	213	1366	75	410	1196	92
v/c Ratio	0.80	0.52	0.39	0.05	0.97	0.44	0.81	0.12	0.87	0.72	0.15
Control Delay	88.2	19.3	33.5	27.9	49.2	55.0	44.8	1.1	75.0	41.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.2	19.3	33.5	27.9	49.2	55.0	44.8	1.1	75.0	41.7	2.1
Queue Length 50th (ft)	69	6	144	16	373	85	394	0	176	335	0
Queue Length 95th (ft)	#131	41	199	38	#645	131	457	6	#261	367	15
Internal Link Dist (ft)		584		741			1166			784	
Turn Bay Length (ft)	125		220			160		120	220		150
Base Capacity (vph)	199	774	1171	660	771	489	1687	608	477	1784	641
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.19	0.39	0.04	0.94	0.44	0.81	0.12	0.86	0.67	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	14	118	44	15	116	95	2011	21	155	1913	42
Future Volume (vph)	174	14	118	44	15	116	95	2011	21	155	1913	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	100		80	150		0	160		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.866				0.850		0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1613	0	1770	1863	1583	1770	3532	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1613	0	1770	1863	1583	1770	3532	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		126				109		1				135
Link Speed (mph)		30			30			50				50
Link Distance (ft)		192			345			539				695
Travel Time (s)		4.4			7.8			7.4				9.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	185	15	126	47	16	123	101	2139	22	165	2035	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	141	0	47	16	123	101	2161	0	165	2035	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	15.0	25.2		12.7	22.9	22.9	11.2	68.1		14.0	70.9	70.9
Total Split (%)	12.5%	21.0%		10.6%	19.1%	19.1%	9.3%	56.8%		11.7%	59.1%	59.1%
Maximum Green (s)	11.0	20.3		8.7	18.0	18.0	7.2	63.2		10.0	66.0	66.0
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

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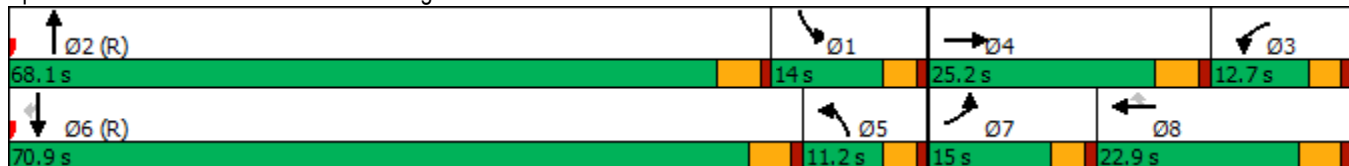


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	11.0	11.0		10.0	8.2	8.2	7.2	73.0		10.0	75.8	75.8
Actuated g/C Ratio	0.09	0.09		0.08	0.07	0.07	0.06	0.61		0.08	0.63	0.63
v/c Ratio	1.14	0.54		0.32	0.13	0.59	0.95	1.01		1.12	0.91	0.04
Control Delay	162.5	19.6		56.9	52.6	24.3	132.0	44.8		138.1	16.0	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	36.0		0.0	0.0	0.0
Total Delay	162.5	19.6		56.9	52.6	24.3	132.0	80.8		138.1	16.0	0.0
LOS	F	B		E	D	C	F	F		F	B	A
Approach Delay		100.7			35.0			83.1			24.7	
Approach LOS		F			C			F			C	
Queue Length 50th (ft)	~167	11		35	12	11	79	802		~149	226	0
Queue Length 95th (ft)	#316	73		74	34	68	#193	#1134		m#225	#998	m0
Internal Link Dist (ft)		112			265			459			615	
Turn Bay Length (ft)	95			100		80	150			160		
Base Capacity (vph)	162	378		157	279	330	106	2150		147	2236	1049
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	6	0	229		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.14	0.37		0.30	0.06	0.38	0.95	1.12		1.12	0.91	0.04

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 116 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 56.3 Intersection LOS: E
 Intersection Capacity Utilization 93.5% ICU Level of Service F
 Analysis Period (min) 15
 ~ 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Willow Ave & Magill Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	185	141	47	16	123	101	2161	165	2035	45
v/c Ratio	1.14	0.54	0.32	0.13	0.59	0.95	1.01	1.12	0.91	0.04
Control Delay	162.5	19.6	56.9	52.6	24.3	132.0	44.8	138.1	16.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	36.0	0.0	0.0	0.0
Total Delay	162.5	19.6	56.9	52.6	24.3	132.0	80.8	138.1	16.0	0.0
Queue Length 50th (ft)	~167	11	35	12	11	79	802	~149	226	0
Queue Length 95th (ft)	#316	73	74	34	68	#193	#1134	m#225	#998	m0
Internal Link Dist (ft)		112		265			459		615	
Turn Bay Length (ft)	95		100		80	150		160		
Base Capacity (vph)	162	378	157	279	330	106	2150	147	2236	1049
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	6	0	229	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.37	0.30	0.06	0.38	0.95	1.12	1.12	0.91	0.04

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.
- m Volume for 95th percentile queue is metered by upstream signal.

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	333	2157	397	291	1812	197	226	594	260	402	699	324
Future Volume (vph)	333	2157	397	291	1812	197	226	594	260	402	699	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		180	250		155	250		220	215		140
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.95	1.00		0.95	0.99		0.95	0.98		0.95
Flt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	3467	5136	1599	3467	3574	1599	3467	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3450	5136	1513	3457	5136	1513	3415	3574	1512	3406	3574	1513
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			227			135			179			210
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2590			2649			1021			649	
Travel Time (s)		35.3			36.1			15.5			9.8	
Confl. Peds. (#/hr)	21		21	21		21	21		21	21		21
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	354	2295	422	310	1928	210	240	632	277	428	744	345
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	2295	422	310	1928	210	240	632	277	428	744	345
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	17.3	59.6	59.6	15.2	57.5	57.5	13.3	26.1	26.1	19.1	31.9	31.9
Total Split (%)	14.4%	49.7%	49.7%	12.7%	47.9%	47.9%	11.1%	21.8%	21.8%	15.9%	26.6%	26.6%
Maximum Green (s)	13.3	54.7	54.7	11.2	52.6	52.6	9.3	21.2	21.2	15.1	27.0	27.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inter

AGENDA ITEM NO. 20.

10/15/2021



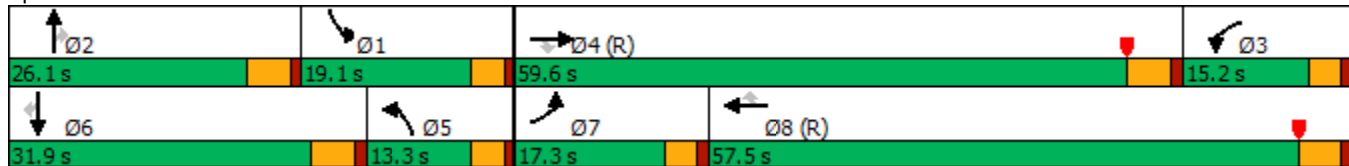
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	13.3	54.7	54.7	11.2	52.6	52.6	9.3	21.2	21.2	15.1	27.0	27.0
Actuated g/C Ratio	0.11	0.46	0.46	0.09	0.44	0.44	0.08	0.18	0.18	0.13	0.22	0.22
v/c Ratio	0.92	0.98	0.52	0.96	0.86	0.28	0.89	1.00	0.67	0.98	0.93	0.69
Control Delay	83.0	46.9	12.6	88.8	37.2	15.5	88.3	85.7	25.3	91.3	64.0	24.0
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	83.0	46.9	12.6	88.8	37.2	15.5	88.3	85.7	25.3	91.3	64.0	24.0
LOS	F	D	B	F	D	B	F	F	C	F	E	C
Approach Delay		46.3			41.9			71.7			62.6	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	142	626	98	114	329	36	96	~261	68	172	298	95
Queue Length 95th (ft)	#232	#757	191	m#211	448	m99	#172	#387	167	#278	#414	205
Internal Link Dist (ft)		2510			2569			941			569	
Turn Bay Length (ft)	250		180	250		155	250		220	215		140
Base Capacity (vph)	384	2341	813	323	2251	739	269	631	414	436	804	503
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	0.92	0.98	0.52	0.96	0.86	0.28	0.89	1.00	0.67	0.98	0.93	0.69

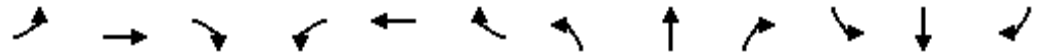
Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 20 (17%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 51.6 Intersection LOS: D
 Intersection Capacity Utilization 92.7% ICU Level of Service F
 Analysis Period (min) 15

- ~ 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.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Cedar Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	354	2295	422	310	1928	210	240	632	277	428	744	345
v/c Ratio	0.92	0.98	0.52	0.96	0.86	0.28	0.89	1.00	0.67	0.98	0.93	0.69
Control Delay	83.0	46.9	12.6	88.8	37.2	15.5	88.3	85.7	25.3	91.3	64.0	24.0
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	83.0	46.9	12.6	88.8	37.2	15.5	88.3	85.7	25.3	91.3	64.0	24.0
Queue Length 50th (ft)	142	626	98	114	329	36	96	~261	68	172	298	95
Queue Length 95th (ft)	#232	#757	191	m#211	448	m99	#172	#387	167	#278	#414	205
Internal Link Dist (ft)		2510			2569			941			569	
Turn Bay Length (ft)	250		180	250		155	250		220	215		140
Base Capacity (vph)	384	2341	813	323	2251	739	269	631	414	436	804	503
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	0.92	0.98	0.52	0.96	0.86	0.28	0.89	1.00	0.67	0.98	0.93	0.69

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.
- m Volume for 95th percentile queue is metered by upstream signal.

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Inter

AGENDA ITEM NO. 20.

10/15/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	2528	85	47	1898	242	54	41	41	383	96	344
Future Volume (vph)	228	2528	85	47	1898	242	54	41	41	383	96	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		165	275		170	115		0	140		140
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.98	1.00	0.99		1.00		0.98
Frt			0.850			0.850		0.925				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	1787	5136	1599	3467	1725	0	3467	1881	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3466	5136	1555	1787	5136	1573	3455	1725	0	3455	1881	1572
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			159			35			180
Link Speed (mph)		50			50			40				40
Link Distance (ft)		2649			2634			1000				1305
Travel Time (s)		36.1			35.9			17.0				22.2
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	243	2689	90	50	2019	257	57	44	44	407	102	366
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	2689	90	50	2019	257	57	88	0	407	102	366
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	15.1	68.8	68.8	9.9	63.6	63.6	9.9	22.9		18.4	31.4	31.4
Total Split (%)	12.6%	57.3%	57.3%	8.3%	53.0%	53.0%	8.3%	19.1%		15.3%	26.2%	26.2%
Maximum Green (s)	11.1	63.9	63.9	5.9	58.7	58.7	5.9	18.0		14.4	26.5	26.5
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	Lag

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 With Quad Int

AGENDA ITEM NO. 20.

10/15/2021

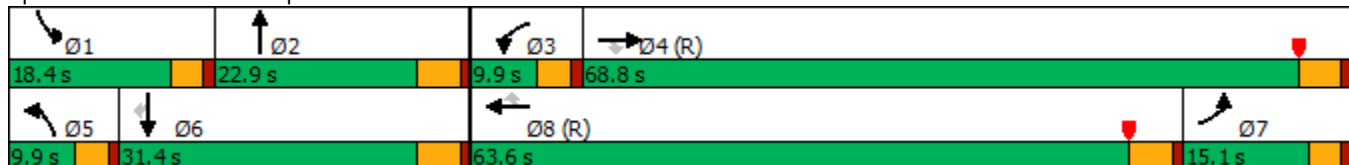


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effect Green (s)	11.1	70.4	70.4	6.8	64.1	64.1	5.8	12.6		14.4	23.1	23.1
Actuated g/C Ratio	0.09	0.59	0.59	0.06	0.53	0.53	0.05	0.10		0.12	0.19	0.19
v/c Ratio	0.76	0.89	0.09	0.50	0.74	0.28	0.34	0.42		0.98	0.28	0.82
Control Delay	38.0	7.7	0.1	75.4	9.9	1.0	60.9	35.8		91.9	43.1	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.0	7.7	0.1	75.4	9.9	1.0	60.9	35.8		91.9	43.1	38.7
LOS	D	A	A	E	A	A	E	D		F	D	D
Approach Delay		9.9			10.4			45.7			64.0	
Approach LOS		A			B			D			E	
Queue Length 50th (ft)	89	161	0	33	330	2	22	38		164	69	146
Queue Length 95th (ft)	m96	m#212	m1	m48	m426	m9	45	87		#267	117	256
Internal Link Dist (ft)		2569			2554			920			1225	
Turn Bay Length (ft)	260		165	275		170	115			140		140
Base Capacity (vph)	320	3011	963	101	2744	914	170	288		416	415	487
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.76	0.89	0.09	0.50	0.74	0.28	0.34	0.31		0.98	0.25	0.75

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 39 (33%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 18.3 Intersection LOS: B
 Intersection Capacity Utilization 82.1% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Maple Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	243	2689	90	50	2019	257	57	88	407	102	366
v/c Ratio	0.76	0.89	0.09	0.50	0.74	0.28	0.34	0.42	0.98	0.28	0.82
Control Delay	38.0	7.7	0.1	75.4	9.9	1.0	60.9	35.8	91.9	43.1	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	7.7	0.1	75.4	9.9	1.0	60.9	35.8	91.9	43.1	38.7
Queue Length 50th (ft)	89	161	0	33	330	2	22	38	164	69	146
Queue Length 95th (ft)	m96	m#212	m1	m48	m426	m9	45	87	#267	117	256
Internal Link Dist (ft)		2569			2554			920		1225	
Turn Bay Length (ft)	260		165	275		170	115		140		140
Base Capacity (vph)	320	3011	963	101	2744	914	170	288	416	415	487
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.89	0.09	0.50	0.74	0.28	0.34	0.31	0.98	0.25	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.































Year 2042 Without Quad Intersections

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  					 		
Traffic Volume (vph)	171	1687	170	117	2415	216	179	286	75	144	305	199
Future Volume (vph)	171	1687	170	117	2415	216	179	286	75	144	305	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	315		220	280		200	225		0	250		250
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			141			122			115			154
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2634			1941			956			651	
Travel Time (s)		35.9			26.5			21.7			14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	1834	185	127	2625	235	195	311	82	157	332	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	1834	185	127	2625	235	195	311	82	157	332	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	12.2	76.1	76.1	13.9	77.8	77.8	20.0	37.1	37.1	12.9	30.0	30.0
Total Split (%)	8.7%	54.4%	54.4%	9.9%	55.6%	55.6%	14.3%	26.5%	26.5%	9.2%	21.4%	21.4%
Maximum Green (s)	8.2	71.2	71.2	9.9	72.9	72.9	16.0	32.2	32.2	8.9	25.1	25.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021

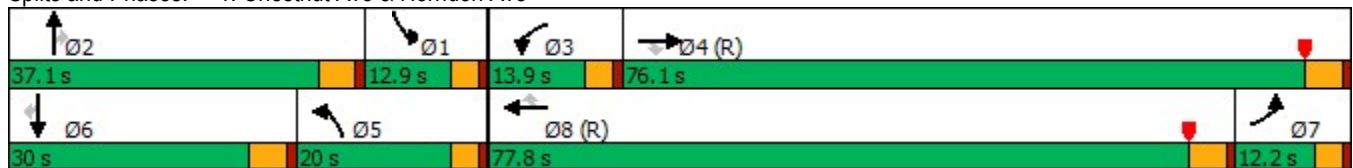


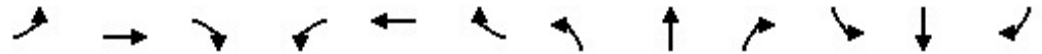
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	8.2	71.8	71.8	9.3	72.9	72.9	16.0	32.2	32.2	8.9	25.1	25.1
Actuated g/C Ratio	0.06	0.51	0.51	0.07	0.52	0.52	0.11	0.23	0.23	0.06	0.18	0.18
v/c Ratio	0.93	0.70	0.21	0.56	0.99	0.27	0.97	0.73	0.18	0.72	0.99	0.53
Control Delay	105.1	26.6	9.0	87.8	23.4	5.1	115.9	60.9	3.6	83.0	104.6	21.1
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	105.1	26.6	9.0	87.8	23.4	5.1	115.9	60.9	3.6	83.0	104.6	21.1
LOS	F	C	A	F	C	A	F	E	A	F	F	C
Approach Delay		31.7			24.7			71.1			74.2	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	88	403	48	63	361	21	180	264	0	73	306	49
Queue Length 95th (ft)	#162	543	114	m57	m205	m17	#338	374	19	#123	#508	134
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	201	2607	880	242	2647	882	202	428	452	218	334	410
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	0.93	0.70	0.21	0.52	0.99	0.27	0.97	0.73	0.18	0.72	0.99	0.53

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 14 (10%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 36.7 Intersection LOS: D
 Intersection Capacity Utilization 92.3% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Chestnut Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	186	1834	185	127	2625	235	195	311	82	157	332	216
v/c Ratio	0.93	0.70	0.21	0.56	0.99	0.27	0.97	0.73	0.18	0.72	0.99	0.53
Control Delay	105.1	26.6	9.0	87.8	23.4	5.1	115.9	60.9	3.6	83.0	104.6	21.1
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	105.1	26.6	9.0	87.8	23.4	5.1	115.9	60.9	3.6	83.0	104.6	21.1
Queue Length 50th (ft)	88	403	48	63	361	21	180	264	0	73	306	49
Queue Length 95th (ft)	#162	543	114	m57	m205	m17	#338	374	19	#123	#508	134
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	201	2607	880	242	2647	882	202	428	452	218	334	410
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	0.93	0.70	0.21	0.52	0.99	0.27	0.97	0.73	0.18	0.72	0.99	0.53

Intersection Summary

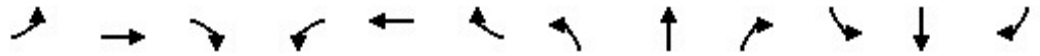
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

2: Willow Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	205	1270	430	234	1956	163	554	1047	115	196	1281	263
Future Volume (vph)	205	1270	430	234	1956	163	554	1047	115	196	1281	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		225	275		150	325		215	265		265
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234			122			116			154
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1941			1380			695			1246	
Travel Time (s)		26.5			18.8			9.5			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	223	1380	467	254	2126	177	602	1138	125	213	1392	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	1380	467	254	2126	177	602	1138	125	213	1392	286
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	12.0	50.6	50.6	15.4	54.0	54.0	24.0	55.6	55.6	18.4	50.0	50.0
Total Split (%)	8.6%	36.1%	36.1%	11.0%	38.6%	38.6%	17.1%	39.7%	39.7%	13.1%	35.7%	35.7%
Maximum Green (s)	8.0	45.7	45.7	11.4	49.1	49.1	20.0	50.7	50.7	14.4	45.1	45.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	223	1380	467	254	2126	177	602	1138	125	213	1392	286
v/c Ratio	1.14	0.83	0.69	0.91	1.19	0.28	1.23	0.62	0.19	0.60	1.22	0.47
Control Delay	144.4	36.6	18.6	89.4	116.3	4.3	168.5	38.5	6.9	67.9	148.2	19.5
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	144.4	36.6	18.6	89.4	116.3	4.3	168.5	38.5	6.9	67.9	148.2	19.5
Queue Length 50th (ft)	~117	224	91	111	~861	34	~347	310	5	97	~817	92
Queue Length 95th (ft)	m#205	310	182	#200	#935	49	#468	361	49	141	#957	179
Internal Link Dist (ft)		1861			1300			615			1166	
Turn Bay Length (ft)	300		225	275		150	325		215	265		265
Base Capacity (vph)	196	1659	674	279	1783	634	490	1841	647	353	1140	614
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	1.14	0.83	0.69	0.91	1.19	0.28	1.23	0.62	0.19	0.60	1.22	0.47

Intersection Summary

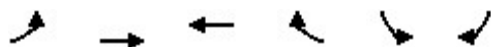
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021

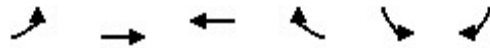


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↖	↑↑↑	↑↑↑	↗	↘↘	↘↘
Traffic Volume (vph)	117	1469	2232	73	104	109
Future Volume (vph)	117	1469	2232	73	104	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			215	0	0
Storage Lanes	2			1	2	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	5085	5085	1583	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	5085	5085	1583	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				68		118
Link Speed (mph)		50	50		30	
Link Distance (ft)		1380	1361		790	
Travel Time (s)		18.8	18.6		18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	1597	2426	79	113	118
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	1597	2426	79	113	118
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	22.9	22.9	22.9
Total Split (s)	16.0	116.0	100.0	100.0	24.0	24.0
Total Split (%)	11.4%	82.9%	71.4%	71.4%	17.1%	17.1%
Maximum Green (s)	12.0	111.1	95.1	95.1	19.1	19.1
Yellow Time (s)	3.0	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

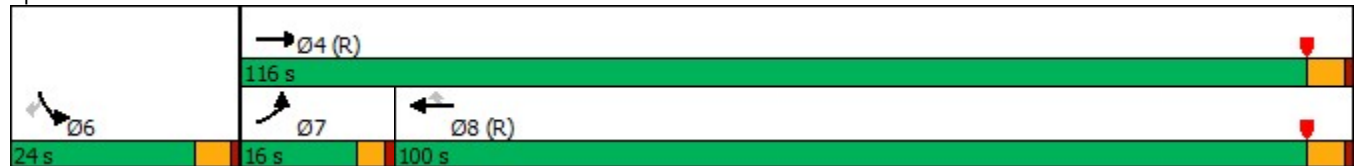


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	10.5	120.2	105.7	105.7	10.0	10.0
Actuated g/C Ratio	0.08	0.86	0.76	0.76	0.07	0.07
v/c Ratio	0.49	0.37	0.63	0.07	0.46	0.38
Control Delay	40.0	6.0	1.1	0.1	68.3	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	6.0	1.1	0.1	68.3	13.7
LOS	D	A	A	A	E	B
Approach Delay		8.5	1.1		40.4	
Approach LOS		A	A		D	
Queue Length 50th (ft)	61	178	10	0	52	0
Queue Length 95th (ft)	m79	239	12	m0	83	34
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	301	4367	3840	1212	468	482
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	0.42	0.37	0.63	0.07	0.24	0.24

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 10 (7%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 6.0
 Intersection LOS: A
 Intersection Capacity Utilization 62.4%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Herndon Ave & Helm Ave



3: Herndon Ave & Helm Ave
Queues

Year 2042 Without Quad Inte

10/14/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	127	1597	2426	79	113	118
v/c Ratio	0.49	0.37	0.63	0.07	0.46	0.38
Control Delay	40.0	6.0	1.1	0.1	68.3	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	6.0	1.1	0.1	68.3	13.7
Queue Length 50th (ft)	61	178	10	0	52	0
Queue Length 95th (ft)	m79	239	12	m0	83	34
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	301	4367	3840	1212	468	482
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	0.42	0.37	0.63	0.07	0.24	0.24

Intersection Summary

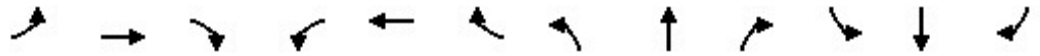
m Volume for 95th percentile queue is metered by upstream signal.

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	1407	60	82	2106	160	75	94	48	174	133	136
Future Volume (vph)	106	1407	60	82	2106	160	75	94	48	174	133	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		130	160		115	240		50	90		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			122			115			122			148
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1361			619			1143			926	
Travel Time (s)		18.6			8.4			19.5			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	1529	65	89	2289	174	82	102	52	189	145	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	1529	65	89	2289	174	82	102	52	189	145	148
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	17.0	75.5	75.5	17.6	76.1	76.1	17.0	22.9	22.9	24.0	29.9	29.9
Total Split (%)	12.1%	53.9%	53.9%	12.6%	54.4%	54.4%	12.1%	16.4%	16.4%	17.1%	21.4%	21.4%
Maximum Green (s)	13.0	70.6	70.6	13.6	71.2	71.2	13.0	18.0	18.0	20.0	25.0	25.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

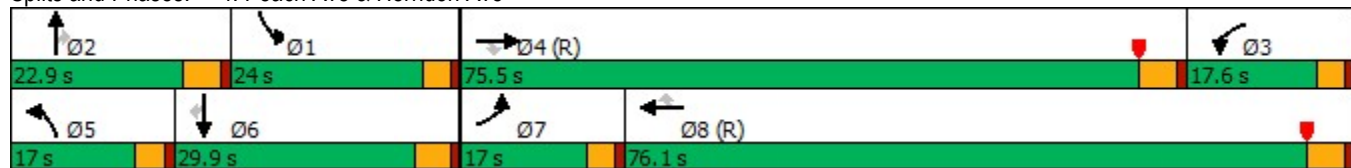


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	12.5	76.6	76.6	13.6	77.6	77.6	11.0	13.0	13.0	19.1	21.1	21.1
Actuated g/C Ratio	0.09	0.55	0.55	0.10	0.55	0.55	0.08	0.09	0.09	0.14	0.15	0.15
v/c Ratio	0.73	0.55	0.07	0.52	0.81	0.19	0.59	0.59	0.20	0.78	0.52	0.41
Control Delay	81.4	11.5	0.7	47.7	10.3	1.0	79.3	74.4	1.8	80.4	60.8	10.8
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	81.4	11.5	0.7	47.7	10.3	1.0	79.3	74.4	1.8	80.4	60.8	10.8
LOS	F	B	A	D	B	A	E	E	A	F	E	B
Approach Delay		15.8			11.0			60.1			53.1	
Approach LOS		B			B			E			D	
Queue Length 50th (ft)	80	351	1	80	175	4	73	91	0	167	123	0
Queue Length 95th (ft)	#186	350	7	m99	218	m9	130	148	0	#276	190	61
Internal Link Dist (ft)		1281			539			1063			846	
Turn Bay Length (ft)	300		130	160		115	240		50	90		220
Base Capacity (vph)	169	2780	920	171	2819	928	164	239	309	262	332	404
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	0.68	0.55	0.07	0.52	0.81	0.19	0.50	0.43	0.17	0.72	0.44	0.37

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 86 (61%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 19.0 Intersection LOS: B
 Intersection Capacity Utilization 76.0% ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Peach Ave & Herndon Ave

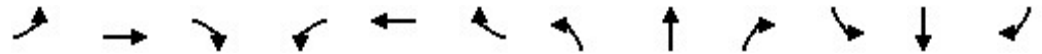


4: Peach Ave & Herndon Ave
Queues

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	115	1529	65	89	2289	174	82	102	52	189	145	148
v/c Ratio	0.73	0.55	0.07	0.52	0.81	0.19	0.59	0.59	0.20	0.78	0.52	0.41
Control Delay	81.4	11.5	0.7	47.7	10.3	1.0	79.3	74.4	1.8	80.4	60.8	10.8
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	81.4	11.5	0.7	47.7	10.3	1.0	79.3	74.4	1.8	80.4	60.8	10.8
Queue Length 50th (ft)	80	351	1	80	175	4	73	91	0	167	123	0
Queue Length 95th (ft)	#186	350	7	m99	218	m9	130	148	0	#276	190	61
Internal Link Dist (ft)		1281			539			1063			846	
Turn Bay Length (ft)	300		130	160		115	240		50	90		220
Base Capacity (vph)	169	2780	920	171	2819	928	164	239	309	262	332	404
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	0.68	0.55	0.07	0.52	0.81	0.19	0.50	0.43	0.17	0.72	0.44	0.37

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘	↑↑↑		↘
Traffic Vol, veh/h	1583	46	60	2348	0	27
Future Vol, veh/h	1583	46	60	2348	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1721	50	65	2552	0	29

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1771	0	886
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	5.34	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	3.12	-	3.92
Pot Cap-1 Maneuver	-	-	163	-	247
Stage 1	-	-	-	-	0
Stage 2	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	163	-	247
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	21.5
HCM LOS			C

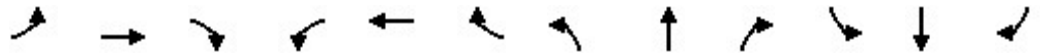
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	247	-	-	163	-
HCM Lane V/C Ratio	0.119	-	-	0.4	-
HCM Control Delay (s)	21.5	-	-	41.1	-
HCM Lane LOS	C	-	-	E	-
HCM 95th %tile Q(veh)	0.4	-	-	1.8	-

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↔		↔↔	↑↑	↔
Traffic Volume (vph)	108	1240	262	113	2018	256	257	235	157	281	316	133
Future Volume (vph)	108	1240	262	113	2018	256	257	235	157	281	316	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		115	270		165	225		0	160		160
Storage Lanes	2		1	2		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.940				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3327	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3327	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172			142		98				115
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1280			1261			1032			465	
Travel Time (s)		17.5			17.2			15.6			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	1348	285	123	2193	278	279	255	171	305	343	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	1348	285	123	2193	278	279	426	0	305	343	145
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	13.0	77.3	77.3	13.7	78.0	78.0	22.0	26.0		23.0	27.0	27.0
Total Split (%)	9.3%	55.2%	55.2%	9.8%	55.7%	55.7%	15.7%	18.6%		16.4%	19.3%	19.3%
Maximum Green (s)	9.0	72.4	72.4	9.7	73.1	73.1	18.0	21.1		19.0	22.1	22.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

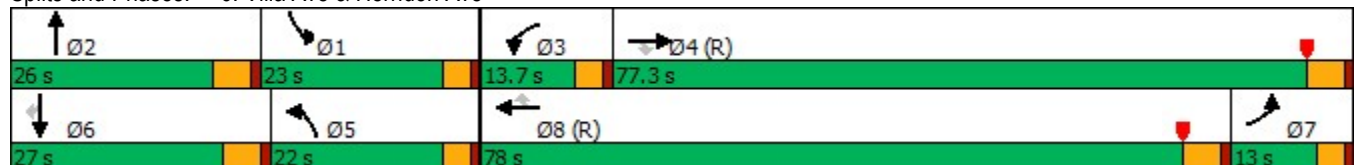


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effect Green (s)	9.0	77.5	77.5	9.3	77.8	77.8	16.7	18.5		16.9	18.7	18.7
Actuated g/C Ratio	0.06	0.55	0.55	0.07	0.56	0.56	0.12	0.13		0.12	0.13	0.13
v/c Ratio	0.53	0.48	0.30	0.54	0.78	0.29	0.68	0.81		0.74	0.73	0.47
Control Delay	48.6	2.3	1.0	87.4	14.2	1.9	67.9	58.0		70.4	67.3	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.6	2.3	1.0	87.4	14.2	1.9	67.9	58.0		70.4	67.3	19.7
LOS	D	A	A	F	B	A	E	E		E	E	B
Approach Delay		5.2			16.3			61.9			59.8	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	57	60	8	51	509	12	125	155		139	160	24
Queue Length 95th (ft)	m90	43	7	m77	269	22	175	214		189	209	90
Internal Link Dist (ft)		1200			1181			952			385	
Turn Bay Length (ft)	250		115	270		165	225			160		160
Base Capacity (vph)	220	2815	953	241	2826	943	445	584		465	558	346
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.53	0.48	0.30	0.51	0.78	0.29	0.63	0.73		0.66	0.61	0.42

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 90 (64%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 24.4 Intersection LOS: C
 Intersection Capacity Utilization 77.5% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Villa Ave & Herndon Ave



6: Villa Ave & Herndon Ave
Queues

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	117	1348	285	123	2193	278	279	426	305	343	145
v/c Ratio	0.53	0.48	0.30	0.54	0.78	0.29	0.68	0.81	0.74	0.73	0.47
Control Delay	48.6	2.3	1.0	87.4	14.2	1.9	67.9	58.0	70.4	67.3	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	2.3	1.0	87.4	14.2	1.9	67.9	58.0	70.4	67.3	19.7
Queue Length 50th (ft)	57	60	8	51	509	12	125	155	139	160	24
Queue Length 95th (ft)	m90	43	7	m77	269	22	175	214	189	209	90
Internal Link Dist (ft)		1200			1181			952		385	
Turn Bay Length (ft)	250		115	270		165	225		160		160
Base Capacity (vph)	220	2815	953	241	2826	943	445	584	465	558	346
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.48	0.30	0.51	0.78	0.29	0.63	0.73	0.66	0.61	0.42

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	1584	123	0	2382	0	84
Future Vol, veh/h	1584	123	0	2382	0	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1722	134	0	2589	0	91

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	-	-	928
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	232
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	232
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	30.2
HCM LOS			D

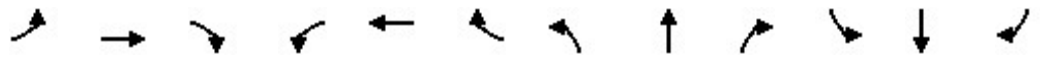
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	232	-	-	-
HCM Lane V/C Ratio	0.394	-	-	-
HCM Control Delay (s)	30.2	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	1.8	-	-	-

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

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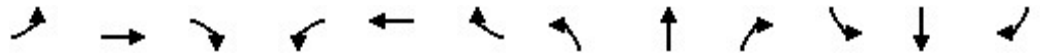


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘	↑↑↑	↗		↕		↘	↗	
Traffic Volume (vph)	36	1615	17	35	2349	238	1	1	7	135	4	32
Future Volume (vph)	36	1615	17	35	2349	238	1	1	7	135	4	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	275		275	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.892			0.865	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1770	5075	0	1770	5085	1583	0	1653	0	1770	1611	0
Flt Permitted	0.950			0.950				0.985		0.751		
Satd. Flow (perm)	1770	5075	0	1770	5085	1583	0	1637	0	1399	1611	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				245		8			35	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		769			499			196			160	
Travel Time (s)		10.5			6.8			4.5			3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	1755	18	38	2553	259	1	1	8	147	4	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	1773	0	38	2553	259	0	10	0	147	39	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	22.9	22.9		22.9	22.9	
Total Split (s)	13.0	97.0		12.0	96.0	96.0	31.0	31.0		31.0	31.0	
Total Split (%)	9.3%	69.3%		8.6%	68.6%	68.6%	22.1%	22.1%		22.1%	22.1%	
Maximum Green (s)	9.0	92.1		8.0	91.1	91.1	26.1	26.1		26.1	26.1	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9		4.9		4.9	4.9	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	Min	Min		Min	Min	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

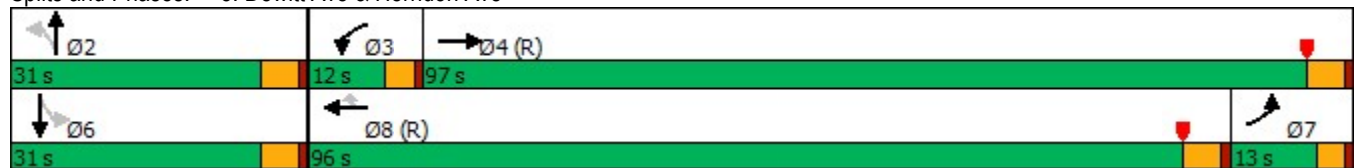


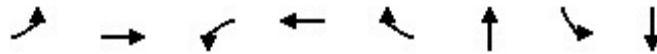
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	8.3	100.8		7.7	100.2	100.2		19.6		19.6	19.6	
Actuated g/C Ratio	0.06	0.72		0.06	0.72	0.72		0.14		0.14	0.14	
v/c Ratio	0.38	0.49		0.39	0.70	0.22		0.04		0.75	0.15	
Control Delay	64.3	9.4		75.1	14.1	1.7		27.8		80.4	18.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	64.3	9.4		75.1	14.1	1.7		27.8		80.4	18.5	
LOS	E	A		E	B	A		C		F	B	
Approach Delay		10.5			13.8			27.8			67.4	
Approach LOS		B			B			C			E	
Queue Length 50th (ft)	31	161		34	479	4		2		130	3	
Queue Length 95th (ft)	m64	282		73	617	35		18		199	36	
Internal Link Dist (ft)		689			419			116			80	
Turn Bay Length (ft)	275			275		275						
Base Capacity (vph)	113	3653		106	3639	1202		311		260	328	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.35	0.49		0.36	0.70	0.22		0.03		0.57	0.12	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 80 (57%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 14.7 Intersection LOS: B
 Intersection Capacity Utilization 67.7% ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Dewitt Ave & Herndon Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	39	1773	38	2553	259	10	147	39
v/c Ratio	0.38	0.49	0.39	0.70	0.22	0.04	0.75	0.15
Control Delay	64.3	9.4	75.1	14.1	1.7	27.8	80.4	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	9.4	75.1	14.1	1.7	27.8	80.4	18.5
Queue Length 50th (ft)	31	161	34	479	4	2	130	3
Queue Length 95th (ft)	m64	282	73	617	35	18	199	36
Internal Link Dist (ft)		689		419		116		80
Turn Bay Length (ft)	275		275		275			
Base Capacity (vph)	113	3653	106	3639	1202	311	260	328
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.49	0.36	0.70	0.22	0.03	0.57	0.12

Intersection Summary

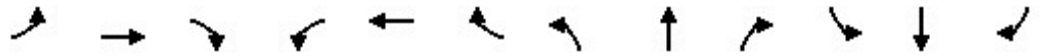
m Volume for 95th percentile queue is metered by upstream signal.

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



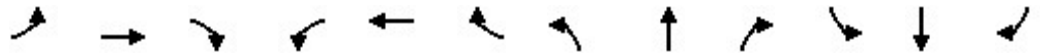
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕	↔	↔↔	↕↕↕	↔	↔↔	↕↕↕	↔
Traffic Volume (vph)	53	8	106	12	8	80	63	1114	27	55	1553	52
Future Volume (vph)	53	8	106	12	8	80	63	1114	27	55	1553	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	220		0	160		120	220		150
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt		0.861				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3047	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3047	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		115				87			83			83
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		664			821			1246			864	
Travel Time (s)		15.1			18.7			17.0			11.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	9	115	13	9	87	68	1211	29	60	1688	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	124	0	13	9	87	68	1211	29	60	1688	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	12.0	27.0		11.0	26.0	26.0	13.0	80.0	80.0	12.0	79.0	79.0
Total Split (%)	9.2%	20.8%		8.5%	20.0%	20.0%	10.0%	61.5%	61.5%	9.2%	60.8%	60.8%
Maximum Green (s)	8.0	22.1		7.0	21.1	21.1	9.0	75.1	75.1	8.0	74.1	74.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021

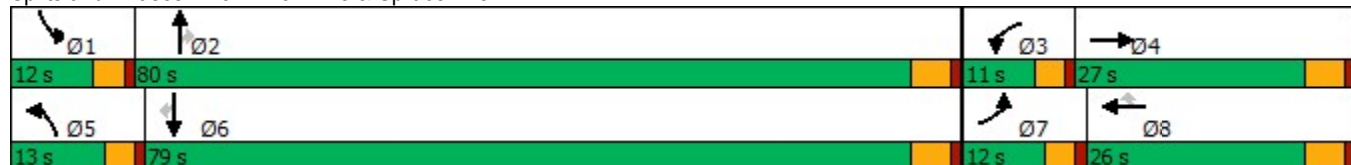


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	7.0	13.5		6.1	6.8	6.8	7.3	40.4	40.4	7.1	40.1	40.1
Actuated g/C Ratio	0.09	0.18		0.08	0.09	0.09	0.10	0.55	0.55	0.10	0.54	0.54
v/c Ratio	0.18	0.19		0.05	0.05	0.39	0.20	0.44	0.03	0.18	0.61	0.06
Control Delay	37.8	9.6		39.1	37.8	15.0	37.3	11.9	0.1	37.8	14.3	1.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	9.6		39.1	37.8	15.0	37.3	11.9	0.1	37.8	14.3	1.3
LOS	D	A		D	D	B	D	B	A	D	B	A
Approach Delay		18.6			19.7			13.0			14.7	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	12	1		3	4	0	15	126	0	13	202	0
Queue Length 95th (ft)	37	29		13	20	45	41	185	0	38	294	10
Internal Link Dist (ft)		584			741			1166			784	
Turn Bay Length (ft)	125			220			160		120	220		150
Base Capacity (vph)	391	1040		342	561	537	441	4759	1487	391	4728	1478
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.12		0.04	0.02	0.16	0.15	0.25	0.02	0.15	0.36	0.04

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 74.1
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 14.4
 Intersection LOS: B
 Intersection Capacity Utilization 46.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 9: Willow Ave & Spruce Ave



9: Willow Ave & Spruce Ave
Queues

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	58	124	13	9	87	68	1211	29	60	1688	57
v/c Ratio	0.18	0.19	0.05	0.05	0.39	0.20	0.44	0.03	0.18	0.61	0.06
Control Delay	37.8	9.6	39.1	37.8	15.0	37.3	11.9	0.1	37.8	14.3	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	9.6	39.1	37.8	15.0	37.3	11.9	0.1	37.8	14.3	1.3
Queue Length 50th (ft)	12	1	3	4	0	15	126	0	13	202	0
Queue Length 95th (ft)	37	29	13	20	45	41	185	0	38	294	10
Internal Link Dist (ft)		584		741			1166			784	
Turn Bay Length (ft)	125		220			160		120	220		150
Base Capacity (vph)	391	1040	342	561	537	441	4759	1487	391	4728	1478
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.12	0.04	0.02	0.16	0.15	0.25	0.02	0.15	0.36	0.04

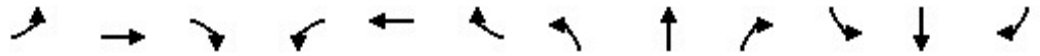
Intersection Summary

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	2	25	15	4	39	49	1638	96	104	1750	81
Future Volume (vph)	38	2	25	15	4	39	49	1638	96	104	1750	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	100		80	150		0	160		76
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.860				0.850		0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1602	0	1770	1863	1583	1770	3511	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1602	0	1770	1863	1583	1770	3511	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				117		8				83
Link Speed (mph)		30			30			50				50
Link Distance (ft)		192			345			539				695
Travel Time (s)		4.4			7.8			7.4				9.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	2	27	16	4	42	53	1780	104	113	1902	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	29	0	16	4	42	53	1884	0	113	1902	88
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	10.0	23.0		9.9	22.9	22.9	10.6	81.1		16.0	86.5	86.5
Total Split (%)	7.7%	17.7%		7.6%	17.6%	17.6%	8.2%	62.4%		12.3%	66.5%	66.5%
Maximum Green (s)	6.0	18.1		5.9	18.0	18.0	6.6	76.2		12.0	81.6	81.6
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	6.2	10.4		6.1	6.5	6.5	6.7	67.4		11.2	76.7	76.7
Actuated g/C Ratio	0.06	0.10		0.06	0.06	0.06	0.06	0.65		0.11	0.74	0.74
v/c Ratio	0.39	0.16		0.16	0.03	0.20	0.46	0.82		0.59	0.73	0.07
Control Delay	65.0	22.6		57.3	53.2	2.2	66.9	19.2		62.9	13.5	1.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.5	0.0
Total Delay	65.0	22.6		57.3	53.2	2.2	66.9	19.2		62.9	14.0	1.8
LOS	E	C		E	D	A	E	B		E	B	A
Approach Delay		47.4			19.7			20.5			16.1	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)	30	1		11	3	0	38	525		80	453	1
Queue Length 95th (ft)	#71	32		36	15	0	#94	680		#161	591	17
Internal Link Dist (ft)		112			265			459			615	
Turn Bay Length (ft)	95			100		80	150			160		76
Base Capacity (vph)	108	317		106	341	385	119	2593		216	2747	1247
Starvation Cap Reductn	0	0		0	0	0	0	0		0	393	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.38	0.09		0.15	0.01	0.11	0.45	0.73		0.52	0.81	0.07

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 103.7
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 18.7
 Intersection LOS: B
 Intersection Capacity Utilization 74.4%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: Willow Ave & Magill Ave

Ø1 16 s	Ø2 81.1 s	Ø3 9.9 s	Ø4 23 s
Ø5 10.6 s	Ø6 86.5 s	Ø7 10 s	Ø8 22.9 s



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	41	29	16	4	42	53	1884	113	1902	88
v/c Ratio	0.39	0.16	0.16	0.03	0.20	0.46	0.82	0.59	0.73	0.07
Control Delay	65.0	22.6	57.3	53.2	2.2	66.9	19.2	62.9	13.5	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	65.0	22.6	57.3	53.2	2.2	66.9	19.2	62.9	14.0	1.8
Queue Length 50th (ft)	30	1	11	3	0	38	525	80	453	1
Queue Length 95th (ft)	#71	32	36	15	0	#94	680	#161	591	17
Internal Link Dist (ft)		112		265			459		615	
Turn Bay Length (ft)	95		100		80	150		160		76
Base Capacity (vph)	108	317	106	341	385	119	2593	216	2747	1247
Starvation Cap Reductn	0	0	0	0	0	0	0	0	393	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.09	0.15	0.01	0.11	0.45	0.73	0.52	0.81	0.07

Intersection Summary


































95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

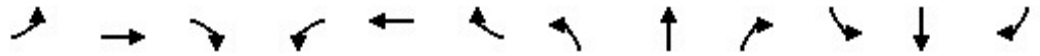
10/14/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	 		 		
Traffic Volume (vph)	328	1817	185	161	2190	389	226	577	145	113	346	170
Future Volume (vph)	328	1817	185	161	2190	389	226	577	145	113	346	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		180	250		155	250		220	215		140
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	1.00		0.97	0.99		0.96	0.99		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	3467	5136	1599	3467	3574	1599	3467	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3463	5136	1544	3459	5136	1544	3424	3574	1540	3437	3574	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			172			149			185
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2640			2645			1240			608	
Travel Time (s)		36.0			36.1			18.8			9.2	
Confl. Peds. (#/hr)	9		9	9		9	9		9	9		9
Confl. Bikes (#/hr)			4			4			4			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	357	1975	201	175	2380	423	246	627	158	123	376	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	1975	201	175	2380	423	246	627	158	123	376	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	21.0	79.6	79.6	16.4	75.0	75.0	16.9	33.0	33.0	11.0	27.1	27.1
Total Split (%)	15.0%	56.9%	56.9%	11.7%	53.6%	53.6%	12.1%	23.6%	23.6%	7.9%	19.4%	19.4%
Maximum Green (s)	17.0	74.7	74.7	12.4	70.1	70.1	12.9	28.1	28.1	7.0	22.2	22.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

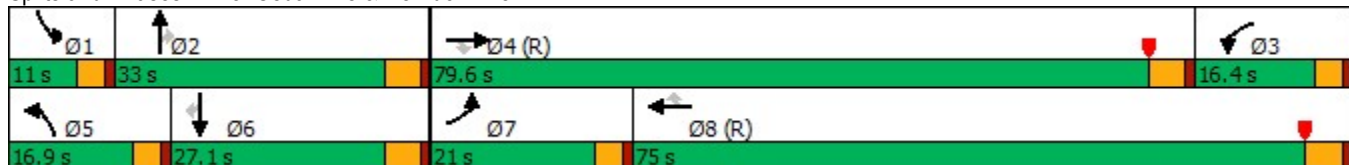


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	16.7	75.5	75.5	12.4	71.2	71.2	12.6	27.3	27.3	7.0	21.7	21.7
Actuated g/C Ratio	0.12	0.54	0.54	0.09	0.51	0.51	0.09	0.20	0.20	0.05	0.16	0.16
v/c Ratio	0.87	0.71	0.23	0.57	0.91	0.49	0.79	0.90	0.38	0.71	0.68	0.47
Control Delay	81.6	26.1	7.1	42.4	14.0	1.9	80.6	71.8	11.0	87.4	62.7	11.0
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	81.6	26.1	7.1	42.4	14.0	1.9	80.6	71.8	11.0	87.4	62.7	11.0
LOS	F	C	A	D	B	A	F	E	B	F	E	B
Approach Delay		32.4			13.9			64.6			53.1	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	166	484	32	75	478	12	114	294	7	57	171	0
Queue Length 95th (ft)	#246	540	75	m92	535	m11	#174	#391	69	#104	228	69
Internal Link Dist (ft)		2560			2565			1160			528	
Turn Bay Length (ft)	250		180	250		155	250		220	215		140
Base Capacity (vph)	420	2769	890	307	2613	869	319	717	428	173	566	399
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	0.85	0.71	0.23	0.57	0.91	0.49	0.77	0.87	0.37	0.71	0.66	0.46

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 68 (49%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 31.4 Intersection LOS: C
 Intersection Capacity Utilization 86.6% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Cedar Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	357	1975	201	175	2380	423	246	627	158	123	376	185
v/c Ratio	0.87	0.71	0.23	0.57	0.91	0.49	0.79	0.90	0.38	0.71	0.68	0.47
Control Delay	81.6	26.1	7.1	42.4	14.0	1.9	80.6	71.8	11.0	87.4	62.7	11.0
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	81.6	26.1	7.1	42.4	14.0	1.9	80.6	71.8	11.0	87.4	62.7	11.0
Queue Length 50th (ft)	166	484	32	75	478	12	114	294	7	57	171	0
Queue Length 95th (ft)	#246	540	75	m92	535	m11	#174	#391	69	#104	228	69
Internal Link Dist (ft)		2560			2565			1160				528
Turn Bay Length (ft)	250		180	250		155	250		220	215		140
Base Capacity (vph)	420	2769	890	307	2613	869	319	717	428	173	566	399
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	0.85	0.71	0.23	0.57	0.91	0.49	0.77	0.87	0.37	0.71	0.66	0.46

Intersection Summary

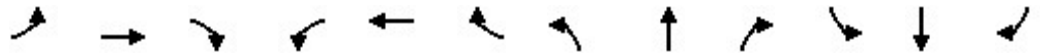
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	1804	28	16	2410	359	86	55	39	186	22	242
Future Volume (vph)	256	1804	28	16	2410	359	86	55	39	186	22	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		165	275		170	115		0	140		140
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	1787	5136	1599	3467	1765	0	3467	1881	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	5136	1599	1787	5136	1599	3467	1765	0	3467	1881	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77			187		21				160
Link Speed (mph)		50			50			40				40
Link Distance (ft)		2645			2634			921				1304
Travel Time (s)		36.1			35.9			15.7				22.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	278	1961	30	17	2620	390	93	60	42	202	24	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	278	1961	30	17	2620	390	93	102	0	202	24	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	18.3	92.2	92.2	9.9	83.8	83.8	10.1	22.9		15.0	27.8	27.8
Total Split (%)	13.1%	65.9%	65.9%	7.1%	59.9%	59.9%	7.2%	16.4%		10.7%	19.9%	19.9%
Maximum Green (s)	14.3	87.3	87.3	5.9	78.9	78.9	6.1	18.0		11.0	22.9	22.9
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021

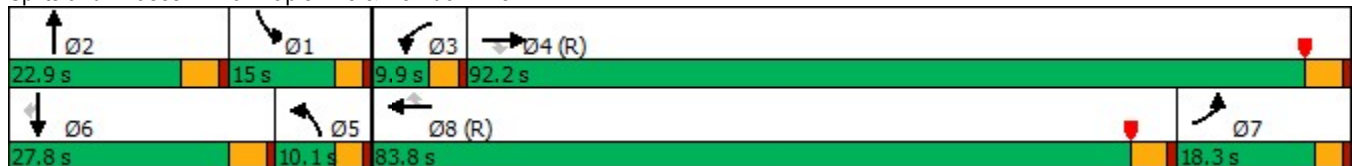


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	14.3	97.9	97.9	6.0	83.5	83.5	9.5	11.8		12.6	14.9	14.9
Actuated g/C Ratio	0.10	0.70	0.70	0.04	0.60	0.60	0.07	0.08		0.09	0.11	0.11
v/c Ratio	0.79	0.55	0.03	0.22	0.86	0.38	0.40	0.61		0.65	0.12	0.84
Control Delay	57.9	10.8	0.9	92.9	3.7	0.4	68.4	63.4		71.8	54.3	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	57.9	10.8	0.9	92.9	3.7	0.4	68.4	63.4		71.8	54.3	46.1
LOS	E	B	A	F	A	A	E	E		E	D	D
Approach Delay		16.5			3.7			65.8			57.1	
Approach LOS		B			A			E			E	
Queue Length 50th (ft)	113	185	0	16	80	2	42	72		92	20	94
Queue Length 95th (ft)	#186	303	m1	m17	m109	m3	#78	130		137	47	188
Internal Link Dist (ft)		2565			2554			841			1224	
Turn Bay Length (ft)	260		165	275		170	115			140		140
Base Capacity (vph)	354	3589	1140	77	3063	1029	235	245		316	307	395
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.79	0.55	0.03	0.22	0.86	0.38	0.40	0.42		0.64	0.08	0.67

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 50 (36%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 15.0
 Intersection LOS: B
 Intersection Capacity Utilization 77.3%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Maple Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	278	1961	30	17	2620	390	93	102	202	24	263
v/c Ratio	0.79	0.55	0.03	0.22	0.86	0.38	0.40	0.61	0.65	0.12	0.84
Control Delay	57.9	10.8	0.9	92.9	3.7	0.4	68.4	63.4	71.8	54.3	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	10.8	0.9	92.9	3.7	0.4	68.4	63.4	71.8	54.3	46.1
Queue Length 50th (ft)	113	185	0	16	80	2	42	72	92	20	94
Queue Length 95th (ft)	#186	303	m1	m17	m109	m3	#78	130	137	47	188
Internal Link Dist (ft)		2565			2554			841		1224	
Turn Bay Length (ft)	260		165	275		170	115		140		140
Base Capacity (vph)	354	3589	1140	77	3063	1029	235	245	316	307	395
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.55	0.03	0.22	0.86	0.38	0.40	0.42	0.64	0.08	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	2621	218	100	1835	90	158	426	85	243	343	229
Future Volume (vph)	111	2621	218	100	1835	90	158	426	85	243	343	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	315		220	280		200	225		0	250		250
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			80			109			125
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		2634			1941			956			651	
Travel Time (s)		35.9			26.5			21.7			14.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	2849	237	109	1995	98	172	463	92	264	373	249
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	2849	237	109	1995	98	172	463	92	264	373	249
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	13.9	83.9	83.9	9.9	79.9	79.9	18.7	39.0	39.0	15.2	35.5	35.5
Total Split (%)	9.4%	56.7%	56.7%	6.7%	54.0%	54.0%	12.6%	26.4%	26.4%	10.3%	24.0%	24.0%
Maximum Green (s)	9.9	79.0	79.0	5.9	75.0	75.0	14.7	34.1	34.1	11.2	30.6	30.6
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

1: Chestnut Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

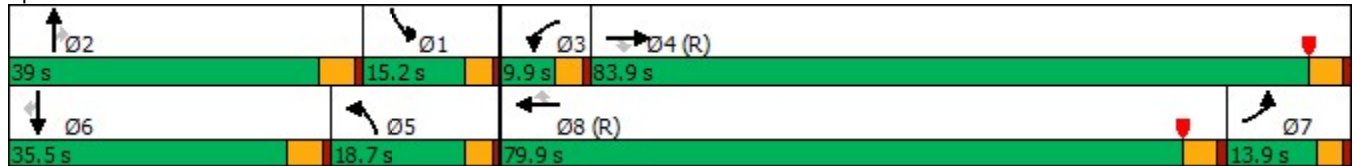
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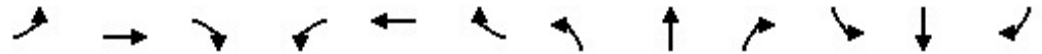
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	9.9	79.0	79.0	5.9	75.0	75.0	14.7	34.1	34.1	11.2	30.6	30.6
Actuated g/C Ratio	0.07	0.53	0.53	0.04	0.51	0.51	0.10	0.23	0.23	0.08	0.21	0.21
v/c Ratio	0.53	1.05	0.26	0.80	0.77	0.12	0.98	1.08	0.21	1.02	0.97	0.58
Control Delay	55.6	47.2	4.4	63.3	38.0	8.0	128.8	118.8	6.1	126.7	96.3	31.9
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	55.6	47.2	4.4	63.3	38.0	8.0	128.8	118.8	6.1	126.7	96.3	31.9
LOS	E	D	A	E	D	A	F	F	A	F	F	C
Approach Delay		44.4			37.9			106.9			87.2	
Approach LOS		D			D			F			F	
Queue Length 50th (ft)	56	~1078	16	50	643	33	169	~497	0	~138	361	108
Queue Length 95th (ft)	m65	#1159	m34	m57	m653	m34	#324	#719	34	#232	#569	204
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	229	2714	899	136	2576	841	175	429	448	259	385	426
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	0.53	1.05	0.26	0.80	0.77	0.12	0.98	1.08	0.21	1.02	0.97	0.58

Intersection Summary

Area Type: Other
 Cycle Length: 148
 Actuated Cycle Length: 148
 Offset: 109 (74%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 54.2 Intersection LOS: D
 Intersection Capacity Utilization 91.5% ICU Level of Service F
 Analysis Period (min) 15
 ~ 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Chestnut Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	121	2849	237	109	1995	98	172	463	92	264	373	249
v/c Ratio	0.53	1.05	0.26	0.80	0.77	0.12	0.98	1.08	0.21	1.02	0.97	0.58
Control Delay	55.6	47.2	4.4	63.3	38.0	8.0	128.8	118.8	6.1	126.7	96.3	31.9
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	55.6	47.2	4.4	63.3	38.0	8.0	128.8	118.8	6.1	126.7	96.3	31.9
Queue Length 50th (ft)	56	~1078	16	50	643	33	169	~497	0	~138	361	108
Queue Length 95th (ft)	m65	#1159	m34	m57	m653	m34	#324	#719	34	#232	#569	204
Internal Link Dist (ft)		2554			1861			876			571	
Turn Bay Length (ft)	315		220	280		200	225			250		250
Base Capacity (vph)	229	2714	899	136	2576	841	175	429	448	259	385	426
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	0.53	1.05	0.26	0.80	0.77	0.12	0.98	1.08	0.21	1.02	0.97	0.58

Intersection Summary

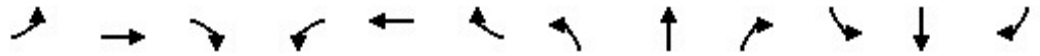
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

2: Willow Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	482	1921	596	351	1292	284	458	1595	248	246	1163	280
Future Volume (vph)	482	1921	596	351	1292	284	458	1595	248	246	1163	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		225	275		150	325		215	265		265
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			203			147			152			186
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1941			1380			695			1246	
Travel Time (s)		26.5			18.8			9.5			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	524	2088	648	382	1404	309	498	1734	270	267	1264	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	524	2088	648	382	1404	309	498	1734	270	267	1264	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	26.5	58.0	58.0	18.0	49.5	49.5	22.0	56.1	56.1	15.9	50.0	50.0
Total Split (%)	17.9%	39.2%	39.2%	12.2%	33.4%	33.4%	14.9%	37.9%	37.9%	10.7%	33.8%	33.8%
Maximum Green (s)	22.5	53.1	53.1	14.0	44.6	44.6	18.0	51.2	51.2	11.9	45.1	45.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

2: Willow Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

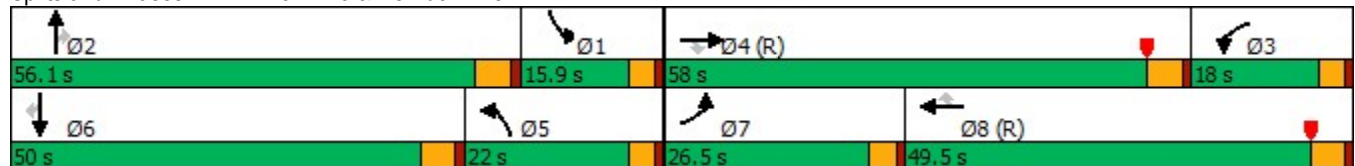


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	22.5	53.1	53.1	14.0	44.6	44.6	18.0	51.2	51.2	11.9	45.1	45.1
Actuated g/C Ratio	0.15	0.36	0.36	0.09	0.30	0.30	0.12	0.35	0.35	0.08	0.30	0.30
v/c Ratio	1.01	1.14	0.93	1.18	0.92	0.53	1.19	0.99	0.42	0.97	1.17	0.50
Control Delay	68.6	88.1	16.7	152.1	49.0	22.6	162.2	66.1	17.6	113.2	132.6	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	68.6	88.1	16.7	152.1	49.0	22.6	162.2	66.5	17.6	113.2	132.6	18.7
LOS	E	F	B	F	D	C	F	E	B	F	F	B
Approach Delay		70.8			63.9			80.3			110.9	
Approach LOS		E			E			F			F	
Queue Length 50th (ft)	~255	~850	417	~231	521	140	~298	607	82	135	~763	89
Queue Length 95th (ft)	m242	m#789	m364	#328	#453	166	#414	#722	164	#228	#903	184
Internal Link Dist (ft)		1861			1300			615			1166	
Turn Bay Length (ft)	300		225	275		150	325		215	265		265
Base Capacity (vph)	521	1824	698	324	1532	579	417	1759	647	276	1078	611
Starvation Cap Reductn	0	0	0	0	0	0	0	4	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	1.01	1.14	0.93	1.18	0.92	0.53	1.19	0.99	0.42	0.97	1.17	0.50

Intersection Summary

Area Type: Other
 Cycle Length: 148
 Actuated Cycle Length: 148
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 79.3 Intersection LOS: E
 Intersection Capacity Utilization 107.2% ICU Level of Service G
 Analysis Period (min) 15
 ~ 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.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Willow Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	524	2088	648	382	1404	309	498	1734	270	267	1264	304
v/c Ratio	1.01	1.14	0.93	1.18	0.92	0.53	1.19	0.99	0.42	0.97	1.17	0.50
Control Delay	68.6	88.1	16.7	152.1	49.0	22.6	162.2	66.1	17.6	113.2	132.6	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	68.6	88.1	16.7	152.1	49.0	22.6	162.2	66.5	17.6	113.2	132.6	18.7
Queue Length 50th (ft)	~255	~850	417	~231	521	140	~298	607	82	135	~763	89
Queue Length 95th (ft)	m242	m#789	m364	#328	#453	166	#414	#722	164	#228	#903	184
Internal Link Dist (ft)		1861			1300			615			1166	
Turn Bay Length (ft)	300		225	275		150	325		215	265		265
Base Capacity (vph)	521	1824	698	324	1532	579	417	1759	647	276	1078	611
Starvation Cap Reductn	0	0	0	0	0	0	0	4	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	1.01	1.14	0.93	1.18	0.92	0.53	1.19	0.99	0.42	0.97	1.17	0.50

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.
- m Volume for 95th percentile queue is metered by upstream signal.

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021

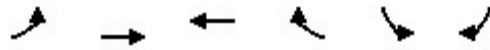


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↖	↗↗↗	↖↖↖	↗	↖↖	↗↗
Traffic Volume (vph)	260	2182	1672	246	247	250
Future Volume (vph)	260	2182	1672	246	247	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			215	0	0
Storage Lanes	2			1	2	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	5085	5085	1583	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	5085	5085	1583	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				267		272
Link Speed (mph)		50	50		30	
Link Distance (ft)		1380	1361		790	
Travel Time (s)		18.8	18.6		18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	283	2372	1817	267	268	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	283	2372	1817	267	268	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	22.9	22.9	22.9
Total Split (s)	13.0	51.1	38.1	38.1	22.9	22.9
Total Split (%)	17.6%	69.1%	51.5%	51.5%	30.9%	30.9%
Maximum Green (s)	9.0	46.2	33.2	33.2	18.0	18.0
Yellow Time (s)	3.0	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0

3: Herndon Ave & Helm Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

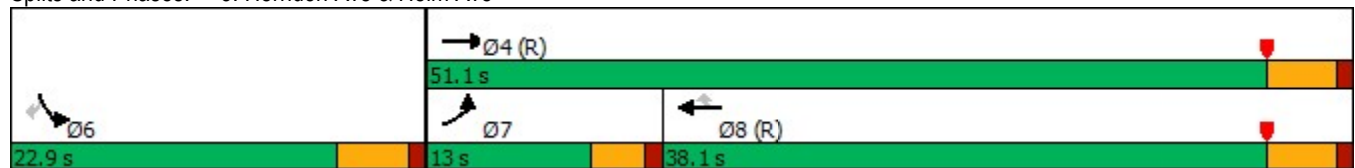


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	10.9	53.0	38.1	38.1	11.2	11.2
Actuated g/C Ratio	0.15	0.72	0.51	0.51	0.15	0.15
v/c Ratio	0.56	0.65	0.69	0.28	0.52	0.42
Control Delay	36.5	7.7	13.6	4.9	32.0	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	7.7	13.6	4.9	32.0	5.8
LOS	D	A	B	A	C	A
Approach Delay		10.7	12.4		18.8	
Approach LOS		B	B		B	
Queue Length 50th (ft)	122	223	264	31	59	0
Queue Length 95th (ft)	m109	m175	363	m88	88	31
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	511	3640	2618	944	835	883
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	0.55	0.65	0.69	0.28	0.32	0.31

Intersection Summary

Area Type: Other
 Cycle Length: 74
 Actuated Cycle Length: 74
 Offset: 5 (7%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 12.2
 Intersection LOS: B
 Intersection Capacity Utilization 58.3%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Herndon Ave & Helm Ave





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	283	2372	1817	267	268	272
v/c Ratio	0.56	0.65	0.69	0.28	0.52	0.42
Control Delay	36.5	7.7	13.6	4.9	32.0	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	7.7	13.6	4.9	32.0	5.8
Queue Length 50th (ft)	122	223	264	31	59	0
Queue Length 95th (ft)	m109	m175	363	m88	88	31
Internal Link Dist (ft)		1300	1281		710	
Turn Bay Length (ft)	300			215		
Base Capacity (vph)	511	3640	2618	944	835	883
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	0.55	0.65	0.69	0.28	0.32	0.31

Intersection Summary

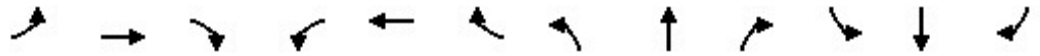
m Volume for 95th percentile queue is metered by upstream signal.

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	2117	132	88	1635	245	129	92	121	343	158	149
Future Volume (vph)	173	2117	132	88	1635	245	129	92	121	343	158	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		130	160		115	240		50	90		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			102			139			162
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1361			619			1143			926	
Travel Time (s)		18.6			8.4			19.5			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	188	2301	143	96	1777	266	140	100	132	373	172	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	2301	143	96	1777	266	140	100	132	373	172	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	24.1	75.1	75.1	13.0	64.0	64.0	24.5	22.9	22.9	37.0	35.4	35.4
Total Split (%)	16.3%	50.7%	50.7%	8.8%	43.2%	43.2%	16.6%	15.5%	15.5%	25.0%	23.9%	23.9%
Maximum Green (s)	20.1	70.2	70.2	9.0	59.1	59.1	20.5	18.0	18.0	33.0	30.5	30.5
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0

4: Peach Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

10/14/2021

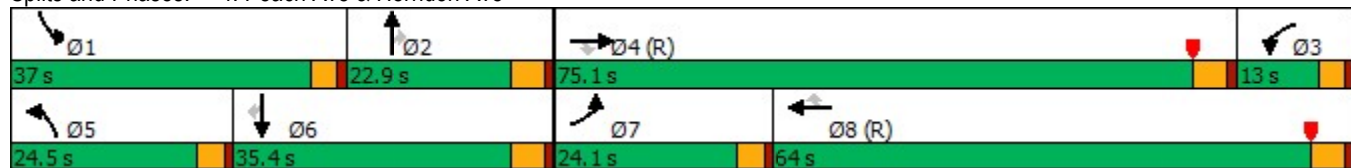


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	19.5	75.5	75.5	9.0	64.9	64.9	16.4	13.2	13.2	32.5	29.3	29.3
Actuated g/C Ratio	0.13	0.51	0.51	0.06	0.44	0.44	0.11	0.09	0.09	0.22	0.20	0.20
v/c Ratio	0.81	0.89	0.17	0.90	0.80	0.35	0.71	0.60	0.49	0.96	0.47	0.37
Control Delay	71.9	25.5	3.1	109.1	25.1	10.6	82.7	79.4	14.5	93.4	57.1	9.2
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	71.9	25.5	3.1	109.1	25.1	10.6	82.7	79.4	14.5	93.4	57.1	9.2
LOS	E	C	A	F	C	B	F	E	B	F	E	A
Approach Delay		27.6			27.1			57.6			65.3	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	156	639	16	90	234	24	132	95	0	358	148	0
Queue Length 95th (ft)	#295	#677	44	m#201	530	100	203	154	57	#560	224	63
Internal Link Dist (ft)		1281			539			1063			846	
Turn Bay Length (ft)	300		130	160		115	240		50	90		220
Base Capacity (vph)	250	2593	860	107	2231	751	245	226	314	394	383	454
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	0.75	0.89	0.17	0.90	0.80	0.35	0.57	0.44	0.42	0.95	0.45	0.36

Intersection Summary

Area Type: Other
 Cycle Length: 148
 Actuated Cycle Length: 148
 Offset: 74 (50%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 33.9 Intersection LOS: C
 Intersection Capacity Utilization 84.5% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Peach Ave & Herndon Ave

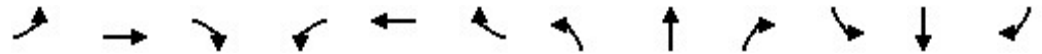


4: Peach Ave & Herndon Ave
Queues

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	188	2301	143	96	1777	266	140	100	132	373	172	162
v/c Ratio	0.81	0.89	0.17	0.90	0.80	0.35	0.71	0.60	0.49	0.96	0.47	0.37
Control Delay	71.9	25.5	3.1	109.1	25.1	10.6	82.7	79.4	14.5	93.4	57.1	9.2
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	71.9	25.5	3.1	109.1	25.1	10.6	82.7	79.4	14.5	93.4	57.1	9.2
Queue Length 50th (ft)	156	639	16	90	234	24	132	95	0	358	148	0
Queue Length 95th (ft)	#295	#677	44	m#201	530	100	203	154	57	#560	224	63
Internal Link Dist (ft)		1281			539			1063			846	
Turn Bay Length (ft)	300		130	160		115	240		50	90		220
Base Capacity (vph)	250	2593	860	107	2231	751	245	226	314	394	383	454
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	0.75	0.89	0.17	0.90	0.80	0.35	0.57	0.44	0.42	0.95	0.45	0.36

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Intersection						
Int Delay, s/veh	5.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖ ↑↑↑			↗
Traffic Vol, veh/h	2541	40	47	1968	0	91
Future Vol, veh/h	2541	40	47	1968	0	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2762	43	51	2139	0	99

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	2805
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5.34	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.12	-
Pot Cap-1 Maneuver	-	~ 48	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	~ 48	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.6	129.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	111	-	-	~ 48	-
HCM Lane V/C Ratio	0.891	-	-	1.064	-
HCM Control Delay (s)	129.6	-	-	284.5	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	5.4	-	-	4.6	-

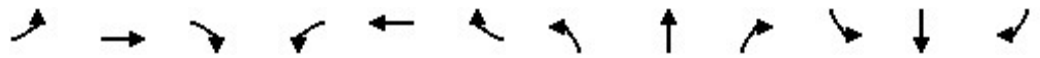
Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021

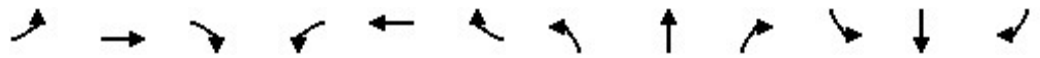


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑		↖↖	↑↑	↗
Traffic Volume (vph)	171	2170	282	202	1639	346	264	320	135	303	280	120
Future Volume (vph)	171	2170	282	202	1639	346	264	320	135	303	280	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		115	270		165	225		0	160		160
Storage Lanes	2		1	2		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.956				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3383	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3383	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			217		37				124
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1280			1261			1032			465	
Travel Time (s)		17.5			17.2			15.6			7.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	176	2237	291	208	1690	357	272	330	139	312	289	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	2237	291	208	1690	357	272	469	0	312	289	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	16.9	80.0	80.0	17.0	80.1	80.1	22.2	29.0		22.0	28.8	28.8
Total Split (%)	11.4%	54.1%	54.1%	11.5%	54.1%	54.1%	15.0%	19.6%		14.9%	19.5%	19.5%
Maximum Green (s)	12.9	75.1	75.1	13.0	75.2	75.2	18.2	24.1		18.0	23.9	23.9
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

6: Villa Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

10/14/2021



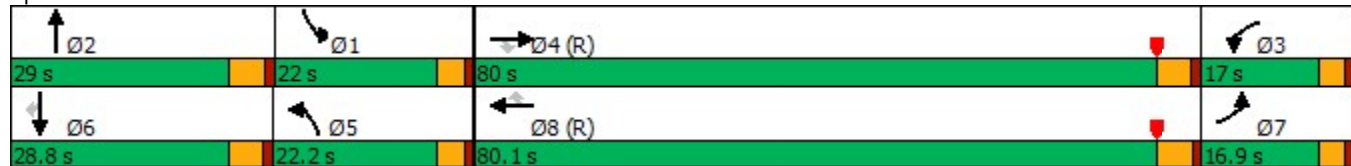
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effect Green (s)	12.3	78.2	78.2	12.4	78.3	78.3	22.1	22.6		17.0	17.5	17.5
Actuated g/C Ratio	0.08	0.53	0.53	0.08	0.53	0.53	0.15	0.15		0.11	0.12	0.12
v/c Ratio	0.62	0.83	0.33	0.72	0.63	0.38	0.53	0.86		0.79	0.69	0.42
Control Delay	57.6	12.0	4.8	61.1	12.6	2.8	62.6	71.9		79.0	71.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	57.6	12.0	4.8	61.1	12.6	2.8	62.6	71.9		79.0	71.2	13.3
LOS	E	B	A	E	B	A	E	E		E	E	B
Approach Delay		14.2			15.5			68.5			64.7	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	92	156	19	102	122	23	124	215		152	143	0
Queue Length 95th (ft)	m104	250	m43	147	134	42	178	282		206	187	60
Internal Link Dist (ft)		1200			1181			952			385	
Turn Bay Length (ft)	250		115	270		165	225			160		160
Base Capacity (vph)	299	2687	882	301	2690	940	511	581		417	571	359
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.59	0.83	0.33	0.69	0.63	0.38	0.53	0.81		0.75	0.51	0.35

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	91 (61%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	26.6
Intersection LOS:	C
Intersection Capacity Utilization:	84.3%
ICU Level of Service:	E
Analysis Period (min):	15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Villa Ave & Herndon Ave



6: Villa Ave & Herndon Ave
Queues

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	176	2237	291	208	1690	357	272	469	312	289	124
v/c Ratio	0.62	0.83	0.33	0.72	0.63	0.38	0.53	0.86	0.79	0.69	0.42
Control Delay	57.6	12.0	4.8	61.1	12.6	2.8	62.6	71.9	79.0	71.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	12.0	4.8	61.1	12.6	2.8	62.6	71.9	79.0	71.2	13.3
Queue Length 50th (ft)	92	156	19	102	122	23	124	215	152	143	0
Queue Length 95th (ft)	m104	250	m43	147	134	42	178	282	206	187	60
Internal Link Dist (ft)		1200			1181			952		385	
Turn Bay Length (ft)	250		115	270		165	225		160		160
Base Capacity (vph)	299	2687	882	301	2690	940	511	581	417	571	359
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.83	0.33	0.69	0.63	0.38	0.53	0.81	0.75	0.51	0.35

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Intersection						
Int Delay, s/veh	17.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	2582	145	0	2188	0	192
Future Vol, veh/h	2582	145	0	2188	0	192
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2662	149	0	2256	0	198

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 1406
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.92
Pot Cap-1 Maneuver	-	-	0 - 0 ~ 110
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - ~ 110
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	\$ 460.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	110	-	-	-
HCM Lane V/C Ratio	1.799	-	-	-
HCM Control Delay (s)	\$ 460.2	-	-	-
HCM Lane LOS	F	-	-	-
HCM 95th %tile Q(veh)	15.7	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021



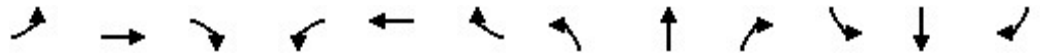
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	2675	11	27	2148	266	16	2	29	141	1	24
Future Volume (vph)	88	2675	11	27	2148	266	16	2	29	141	1	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	275		0	275		275	0		0	0		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.917			0.856	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1770	5080	0	1770	5085	1583	0	1679	0	1770	1595	0
Flt Permitted	0.950			0.950				0.908		0.744		
Satd. Flow (perm)	1770	5080	0	1770	5085	1583	0	1551	0	1386	1595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				256		30			25	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		769			499			196			160	
Travel Time (s)		10.5			6.8			4.5			3.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	2786	11	28	2238	277	17	2	30	147	1	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	2797	0	28	2238	277	0	49	0	147	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	22.9	22.9		22.9	22.9	
Total Split (s)	20.0	105.0		11.0	96.0	96.0	32.0	32.0		32.0	32.0	
Total Split (%)	13.5%	70.9%		7.4%	64.9%	64.9%	21.6%	21.6%		21.6%	21.6%	
Maximum Green (s)	16.0	100.1		7.0	91.1	91.1	27.1	27.1		27.1	27.1	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9		4.9		4.9	4.9	
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	Min	Min		Min	Min	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	

8: Dewitt Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021

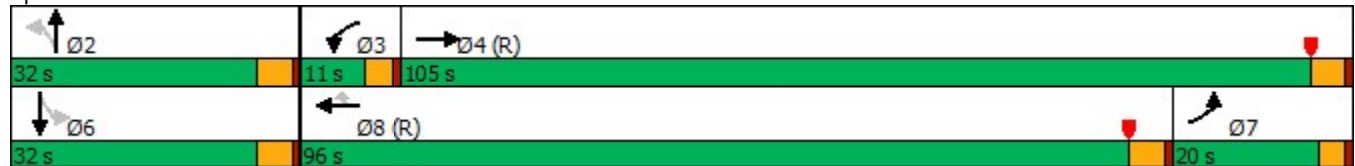


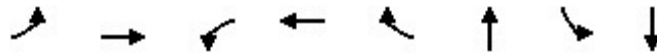
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	16.0	110.6		7.1	97.7	97.7		20.5		20.5	20.5	
Actuated g/C Ratio	0.11	0.75		0.05	0.66	0.66		0.14		0.14	0.14	
v/c Ratio	0.48	0.74		0.33	0.67	0.24		0.20		0.77	0.11	
Control Delay	48.9	4.3		78.4	17.1	2.2		27.7		85.8	18.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	48.9	4.3		78.4	17.1	2.2		27.7		85.8	18.9	
LOS	D	A		E	B	A		C		F	B	
Approach Delay		5.7			16.2			27.7			75.8	
Approach LOS		A			B			C			E	
Queue Length 50th (ft)	80	155		27	454	7		16		138	1	
Queue Length 95th (ft)	m103	168		62	570	44		54		210	29	
Internal Link Dist (ft)		689			419			116			80	
Turn Bay Length (ft)	275			275		275						
Base Capacity (vph)	191	3795		89	3357	1132		308		253	312	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.48	0.74		0.31	0.67	0.24		0.16		0.58	0.08	

Intersection Summary

Area Type: Other
 Cycle Length: 148
 Actuated Cycle Length: 148
 Offset: 91 (61%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 12.8 Intersection LOS: B
 Intersection Capacity Utilization 82.1% ICU Level of Service E
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Dewitt Ave & Herndon Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	92	2797	28	2238	277	49	147	26
v/c Ratio	0.48	0.74	0.33	0.67	0.24	0.20	0.77	0.11
Control Delay	48.9	4.3	78.4	17.1	2.2	27.7	85.8	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	4.3	78.4	17.1	2.2	27.7	85.8	18.9
Queue Length 50th (ft)	80	155	27	454	7	16	138	1
Queue Length 95th (ft)	m103	168	62	570	44	54	210	29
Internal Link Dist (ft)		689		419		116		80
Turn Bay Length (ft)	275		275		275			
Base Capacity (vph)	191	3795	89	3357	1132	308	253	312
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.74	0.31	0.67	0.24	0.16	0.58	0.08

Intersection Summary

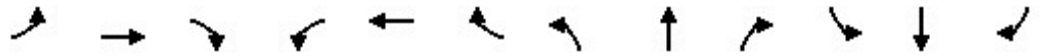
m Volume for 95th percentile queue is metered by upstream signal.

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

10/14/2021

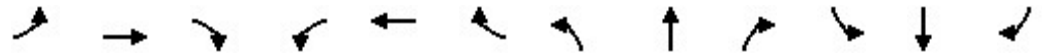


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗		↖↗	↖	↖	↖↗	↖↖↗	↖	↖↗	↖↖↗	↖
Traffic Volume (vph)	146	15	123	68	27	184	196	1739	69	131	1346	85
Future Volume (vph)	146	15	123	68	27	184	196	1739	69	131	1346	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	220		0	160		120	220		150
Storage Lanes	2		0	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt		0.867				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3068	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3068	0	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		128				165			124			132
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		664			821			1246			864	
Travel Time (s)		15.1			18.7			17.0			11.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	152	16	128	71	28	192	204	1811	72	136	1402	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	144	0	71	28	192	204	1811	72	136	1402	89
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	16.0	30.0		11.0	25.0	25.0	19.0	74.0	74.0	15.0	70.0	70.0
Total Split (%)	12.3%	23.1%		8.5%	19.2%	19.2%	14.6%	56.9%	56.9%	11.5%	53.8%	53.8%
Maximum Green (s)	12.0	25.1		7.0	20.1	20.1	15.0	69.1	69.1	11.0	65.1	65.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0

9: Willow Ave & Spruce Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

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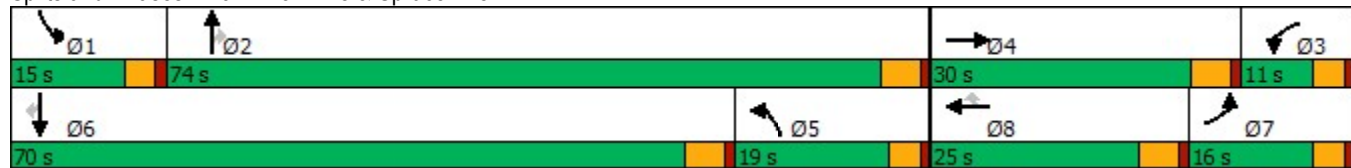


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	9.7	9.8		11.3	8.7	8.7	18.2	47.1	47.1	9.2	38.2	38.2
Actuated g/C Ratio	0.10	0.10		0.12	0.09	0.09	0.19	0.50	0.50	0.10	0.41	0.41
v/c Ratio	0.43	0.33		0.17	0.16	0.65	0.30	0.71	0.08	0.40	0.68	0.12
Control Delay	47.3	14.4		41.6	46.4	21.9	36.4	19.5	0.4	47.7	24.6	1.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	14.4		41.6	46.4	21.9	36.4	19.5	0.4	47.7	24.6	1.4
LOS	D	B		D	D	C	D	B	A	D	C	A
Approach Delay		31.3			29.1			20.5			25.3	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	42	4		19	15	15	51	272	0	37	230	0
Queue Length 95th (ft)	96	40		48	50	95	110	413	3	88	363	10
Internal Link Dist (ft)		584			741			1166			784	
Turn Bay Length (ft)	125			220			160		120	220		150
Base Capacity (vph)	461	953		427	419	483	690	3917	1248	422	3704	1189
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.15		0.17	0.07	0.40	0.30	0.46	0.06	0.32	0.38	0.07

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 93.4
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 23.6
 Intersection LOS: C
 Intersection Capacity Utilization 61.2%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 9: Willow Ave & Spruce Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	144	71	28	192	204	1811	72	136	1402	89
v/c Ratio	0.43	0.33	0.17	0.16	0.65	0.30	0.71	0.08	0.40	0.68	0.12
Control Delay	47.3	14.4	41.6	46.4	21.9	36.4	19.5	0.4	47.7	24.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	14.4	41.6	46.4	21.9	36.4	19.5	0.4	47.7	24.6	1.4
Queue Length 50th (ft)	42	4	19	15	15	51	272	0	37	230	0
Queue Length 95th (ft)	96	40	48	50	95	110	413	3	88	363	10
Internal Link Dist (ft)		584		741			1166			784	
Turn Bay Length (ft)	125		220			160		120	220		150
Base Capacity (vph)	461	953	427	419	483	690	3917	1248	422	3704	1189
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.15	0.17	0.07	0.40	0.30	0.46	0.06	0.32	0.38	0.07

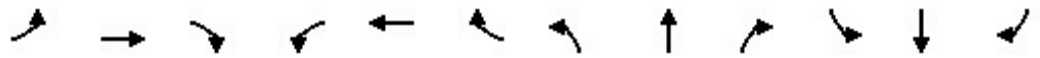
Intersection Summary

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

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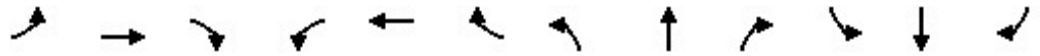
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	14	118	44	15	116	95	2011	21	155	1913	42
Future Volume (vph)	174	14	118	44	15	116	95	2011	21	155	1913	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	100		80	150		0	160		76
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.866				0.850		0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1613	0	1770	1863	1583	1770	3532	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1613	0	1770	1863	1583	1770	3532	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		126				108		1				83
Link Speed (mph)		30			30			50				50
Link Distance (ft)		192			345			539				695
Travel Time (s)		4.4			7.8			7.4				9.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	185	15	126	47	16	123	101	2139	22	165	2035	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	141	0	47	16	123	101	2161	0	165	2035	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	16.0	25.9		13.0	22.9	22.9	11.8	76.1		15.0	79.3	79.3
Total Split (%)	12.3%	19.9%		10.0%	17.6%	17.6%	9.1%	58.5%		11.5%	61.0%	61.0%
Maximum Green (s)	12.0	21.0		9.0	18.0	18.0	7.8	71.2		11.0	74.4	74.4
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0

10: Willow Ave & Magill Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	12.0	11.2		10.6	7.9	7.9	7.8	71.2		11.0	74.5	74.5
Actuated g/C Ratio	0.10	0.09		0.09	0.07	0.07	0.06	0.59		0.09	0.62	0.62
v/c Ratio	1.05	0.53		0.30	0.13	0.60	0.88	1.03		1.02	0.93	0.04
Control Delay	132.7	19.7		56.5	54.3	25.7	112.7	52.9		130.1	29.6	0.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	33.4	0.0
Total Delay	132.7	19.7		56.5	54.3	25.7	112.7	52.9		130.1	63.0	0.5
LOS	F	B		E	D	C	F	D		F	E	A
Approach Delay		83.8			36.0			55.6			66.6	
Approach LOS		F			D			E			E	
Queue Length 50th (ft)	~152	11		34	12	11	78	~922		~129	670	0
Queue Length 95th (ft)	#319	75		77	35	72	#194	#1160		#289	#1004	3
Internal Link Dist (ft)		112			265			459			615	
Turn Bay Length (ft)	95			100		80	150			160		76
Base Capacity (vph)	177	387		167	279	329	115	2097		162	2195	1013
Starvation Cap Reductn	0	0		0	0	0	0	0		0	297	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.05	0.36		0.28	0.06	0.37	0.88	1.03		1.02	1.07	0.04

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 61.7
 Intersection LOS: E
 Intersection Capacity Utilization 93.5%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 10: Willow Ave & Magill Ave





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	185	141	47	16	123	101	2161	165	2035	45
v/c Ratio	1.05	0.53	0.30	0.13	0.60	0.88	1.03	1.02	0.93	0.04
Control Delay	132.7	19.7	56.5	54.3	25.7	112.7	52.9	130.1	29.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.4	0.0
Total Delay	132.7	19.7	56.5	54.3	25.7	112.7	52.9	130.1	63.0	0.5
Queue Length 50th (ft)	~152	11	34	12	11	78	~922	~129	670	0
Queue Length 95th (ft)	#319	75	77	35	72	#194	#1160	#289	#1004	3
Internal Link Dist (ft)		112		265			459		615	
Turn Bay Length (ft)	95		100		80	150		160		76
Base Capacity (vph)	177	387	167	279	329	115	2097	162	2195	1013
Starvation Cap Reductn	0	0	0	0	0	0	0	0	297	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.36	0.28	0.06	0.37	0.88	1.03	1.02	1.07	0.04

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.

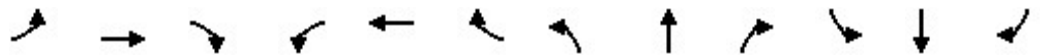
Queue shown is maximum after two cycles.

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

AGENDA ITEM NO. 20.

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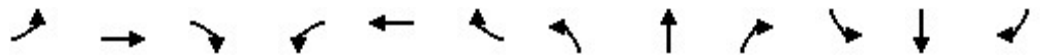


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	333	2157	397	291	1812	197	226	594	260	402	699	324
Future Volume (vph)	333	2157	397	291	1812	197	226	594	260	402	699	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		180	250		155	250		220	215		140
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.94	1.00		0.94	0.98		0.94	0.98		0.94
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	3467	5136	1599	3467	3574	1599	3467	3574	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3446	5136	1498	3455	5136	1498	3403	3574	1497	3392	3574	1497
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184			122			172			186
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		5280			2638			1538			625	
Travel Time (s)		72.0			36.0			23.3			9.5	
Confl. Peds. (#/hr)	21		21	21		21	21		21	21		21
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	354	2295	422	310	1928	210	240	632	277	428	744	345
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	2295	422	310	1928	210	240	632	277	428	744	345
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	23.4	72.6	72.6	19.1	68.3	68.3	16.1	32.1	32.1	24.2	40.2	40.2
Total Split (%)	15.8%	49.1%	49.1%	12.9%	46.1%	46.1%	10.9%	21.7%	21.7%	16.4%	27.2%	27.2%
Maximum Green (s)	18.5	67.7	67.7	14.2	63.4	63.4	11.2	27.2	27.2	19.3	35.3	35.3
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	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 Lost Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag

15: Cedar Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

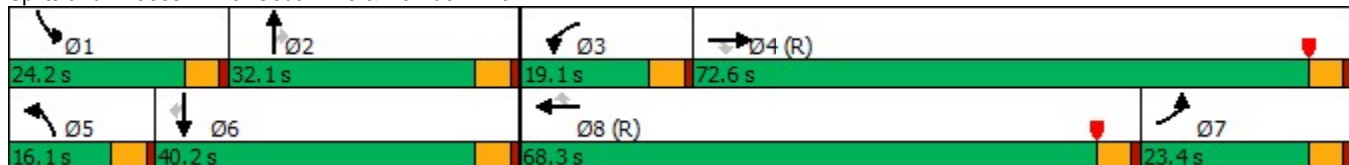


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	18.5	67.7	67.7	14.2	63.4	63.4	11.2	27.2	27.2	19.3	35.3	35.3
Actuated g/C Ratio	0.12	0.46	0.46	0.10	0.43	0.43	0.08	0.18	0.18	0.13	0.24	0.24
v/c Ratio	0.82	0.98	0.54	0.93	0.88	0.30	0.92	0.96	0.67	0.95	0.87	0.69
Control Delay	78.8	53.2	18.2	91.4	27.5	5.3	104.7	86.6	29.4	94.2	66.4	31.1
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	78.8	53.2	18.2	91.4	27.5	5.3	104.7	86.6	29.4	94.2	66.4	31.1
LOS	E	D	B	F	C	A	F	F	C	F	E	C
Approach Delay		51.3			33.7			76.6			66.2	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	174	784	160	147	683	36	120	322	94	214	366	143
Queue Length 95th (ft)	#246	#909	265	#246	742	m77	#204	#445	202	#319	#466	263
Internal Link Dist (ft)		5200			2558			1458			545	
Turn Bay Length (ft)	250		180	250		155	250		220	215		140
Base Capacity (vph)	433	2349	785	332	2200	711	262	656	415	452	852	498
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	0.82	0.98	0.54	0.93	0.88	0.30	0.92	0.96	0.67	0.95	0.87	0.69

Intersection Summary

Area Type: Other
 Cycle Length: 148
 Actuated Cycle Length: 148
 Offset: 24 (16%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 52.4 Intersection LOS: D
 Intersection Capacity Utilization 94.2% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Cedar Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	354	2295	422	310	1928	210	240	632	277	428	744	345
v/c Ratio	0.82	0.98	0.54	0.93	0.88	0.30	0.92	0.96	0.67	0.95	0.87	0.69
Control Delay	78.8	53.2	18.2	91.4	27.5	5.3	104.7	86.6	29.4	94.2	66.4	31.1
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	78.8	53.2	18.2	91.4	27.5	5.3	104.7	86.6	29.4	94.2	66.4	31.1
Queue Length 50th (ft)	174	784	160	147	683	36	120	322	94	214	366	143
Queue Length 95th (ft)	#246	#909	265	#246	742	m77	#204	#445	202	#319	#466	263
Internal Link Dist (ft)		5200			2558			1458			545	
Turn Bay Length (ft)	250		180	250		155	250		220	215		140
Base Capacity (vph)	433	2349	785	332	2200	711	262	656	415	452	852	498
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	0.82	0.98	0.54	0.93	0.88	0.30	0.92	0.96	0.67	0.95	0.87	0.69

Intersection Summary

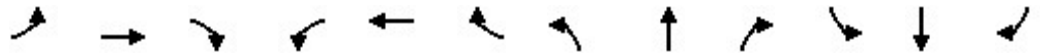
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inter

AGENDA ITEM NO. 20.

10/14/2021

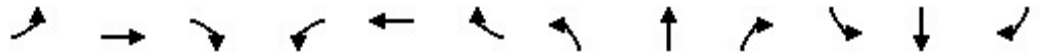


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	2528	85	47	1898	242	54	41	41	383	96	344
Future Volume (vph)	228	2528	85	47	1898	242	54	41	41	383	96	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		165	275		170	115		0	140		140
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.98	1.00	0.99		1.00		0.98
Frt			0.850			0.850		0.925				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	5136	1599	1787	5136	1599	3467	1724	0	3467	1881	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3465	5136	1553	1787	5136	1571	3452	1724	0	3452	1881	1571
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			133			28			211
Link Speed (mph)		50			50			40				40
Link Distance (ft)		2638			2634			1018				1320
Travel Time (s)		36.0			35.9			17.4				22.5
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	243	2689	90	50	2019	257	57	44	44	407	102	366
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	2689	90	50	2019	257	57	88	0	407	102	366
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	20.7	89.1	89.1	11.0	79.4	79.4	9.9	22.9		25.0	38.0	38.0
Total Split (%)	14.0%	60.2%	60.2%	7.4%	53.6%	53.6%	6.7%	15.5%		16.9%	25.7%	25.7%
Maximum Green (s)	16.7	84.2	84.2	7.0	74.5	74.5	5.9	18.0		21.0	33.1	33.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead		Lag	Lead	Lead

16: Maple Ave & Herndon Ave
Lanes, Volumes, Timings

Year 2042 Without Quad Inte

10/14/2021

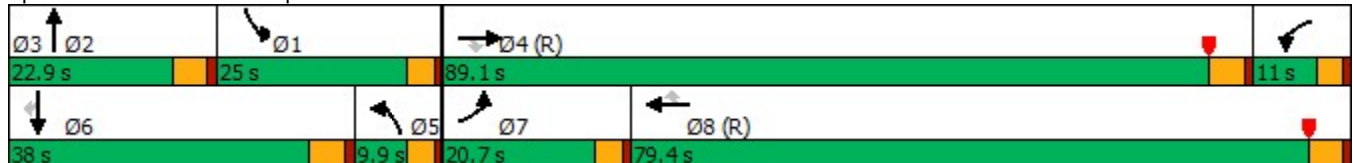


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effect Green (s)	14.9	87.1	87.1	6.8	77.0	77.0	5.9	18.0		20.3	34.4	34.4
Actuated g/C Ratio	0.10	0.59	0.59	0.05	0.52	0.52	0.04	0.12		0.14	0.23	0.23
v/c Ratio	0.70	0.89	0.09	0.61	0.76	0.29	0.42	0.38		0.86	0.23	0.69
Control Delay	80.5	12.0	0.2	67.9	14.2	4.7	78.7	45.6		80.0	48.5	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	80.5	12.0	0.2	67.9	14.2	4.7	78.7	45.6		80.0	48.5	29.5
LOS	F	B	A	E	B	A	E	D		E	D	C
Approach Delay		17.2			14.3			58.6			55.2	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	109	852	0	45	167	9	28	54		199	82	141
Queue Length 95th (ft)	m115	m889	m0	m61	m285	m42	53	112		#276	138	266
Internal Link Dist (ft)		2558			2554			938			1240	
Turn Bay Length (ft)	260		165	275		170	115			140		140
Base Capacity (vph)	391	3021	961	84	2671	880	138	234		491	437	527
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.62	0.89	0.09	0.60	0.76	0.29	0.41	0.38		0.83	0.23	0.69

Intersection Summary

Area Type: Other
 Cycle Length: 148
 Actuated Cycle Length: 148
 Offset: 107 (72%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 22.3 Intersection LOS: C
 Intersection Capacity Utilization 82.1% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Maple Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	243	2689	90	50	2019	257	57	88	407	102	366
v/c Ratio	0.70	0.89	0.09	0.61	0.76	0.29	0.42	0.38	0.86	0.23	0.69
Control Delay	80.5	12.0	0.2	67.9	14.2	4.7	78.7	45.6	80.0	48.5	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.5	12.0	0.2	67.9	14.2	4.7	78.7	45.6	80.0	48.5	29.5
Queue Length 50th (ft)	109	852	0	45	167	9	28	54	199	82	141
Queue Length 95th (ft)	m115	m889	m0	m61	m285	m42	53	112	#276	138	266
Internal Link Dist (ft)		2558			2554			938		1240	
Turn Bay Length (ft)	260		165	275		170	115		140		140
Base Capacity (vph)	391	3021	961	84	2671	880	138	234	491	437	527
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.89	0.09	0.60	0.76	0.29	0.41	0.38	0.83	0.23	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX D

QUEUING AND BLOCKING REPORTS

Year 2042 With Quad Intersections

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	177	218	284	304	378	282	88	266	491	632	597	290
Average Queue (ft)	91	103	161	183	229	47	39	82	330	378	403	200
95th Queue (ft)	165	181	244	273	329	166	75	236	494	598	593	390
Link Distance (ft)			2529	2529	2529				1810	1810	1810	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	315	315				220	280	280				200
Storage Blk Time (%)		0	0		8				21		42	
Queuing Penalty (veh)		0	0		14				25		90	

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R
Maximum Queue (ft)	313	446	108	143	340	590	340
Average Queue (ft)	180	223	38	44	170	381	191
95th Queue (ft)	307	384	86	111	360	670	393
Link Distance (ft)		882	882			576	
Upstream Blk Time (%)						15	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	225			250	250		250
Storage Blk Time (%)	11	8				37	0
Queuing Penalty (veh)	33	15				127	0

Intersection: 2: Willow Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	T	T	T	R	T	T	T	R	T	T	T	R
Maximum Queue (ft)	226	267	359	310	502	556	588	240	461	528	570	305
Average Queue (ft)	129	135	168	193	265	297	342	127	299	301	393	133
95th Queue (ft)	203	213	278	309	447	487	524	291	425	469	591	348
Link Distance (ft)	1810	1810	1810		1248	1248	1248		574	574	574	
Upstream Blk Time (%)										0	2	
Queuing Penalty (veh)										0	9	
Storage Bay Dist (ft)				225				150				215
Storage Blk Time (%)			1	8			34	0			36	
Queuing Penalty (veh)			6	39			56	1			41	

Intersection: 2: Willow Ave & Herndon Ave

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	1153	1162	1164	355
Average Queue (ft)	1075	1082	1070	189
95th Queue (ft)	1290	1296	1317	374
Link Distance (ft)	1117	1117	1117	
Upstream Blk Time (%)	28	36	31	
Queuing Penalty (veh)	157	207	179	
Storage Bay Dist (ft)				265
Storage Blk Time (%)			21	1
Queuing Penalty (veh)			56	5

Intersection: 3: Herndon Ave & Helm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	SB	SB
Directions Served	L	L	T	T	T	T	T	T	R	R	L	L
Maximum Queue (ft)	184	195	48	79	108	260	279	310	278	74	197	174
Average Queue (ft)	95	115	9	24	42	151	158	185	46	32	113	92
95th Queue (ft)	159	174	35	63	89	235	249	280	149	64	177	162
Link Distance (ft)			1248	1248	1248	1260	1260	1260			704	704
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300							215	215		
Storage Blk Time (%)								3				
Queuing Penalty (veh)								10				

Intersection: 3: Herndon Ave & Helm Ave

Movement	SB	SB
Directions Served	R	R
Maximum Queue (ft)	310	282
Average Queue (ft)	194	172
95th Queue (ft)	279	259
Link Distance (ft)	704	704
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Peach Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	T	T	T	R	T	T	T	R	T	T	T	T
Maximum Queue (ft)	125	147	197	117	117	139	157	95	134	103	218	193
Average Queue (ft)	44	64	108	26	50	63	84	29	64	19	145	101
95th Queue (ft)	98	121	177	78	92	114	139	69	116	73	204	188
Link Distance (ft)	1260	1260	1260		543	543	543				862	862
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130				115							
Storage Blk Time (%)	3			2						0		
Queuing Penalty (veh)	5			5						0		

Intersection: 4: Peach Ave & Herndon Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	148
Average Queue (ft)	59
95th Queue (ft)	117
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	220
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Peach Ave (East) & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R	R
Maximum Queue (ft)	152	160	192	42	193	148	198	241	244	128	108
Average Queue (ft)	81	83	111	10	88	37	72	109	129	59	32
95th Queue (ft)	137	139	171	32	161	106	149	197	210	104	74
Link Distance (ft)	543	543	543	543		1172	1172	1172			
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	350										
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 6: Villa Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	94	101	110	132	140	115	98	114	290	301	343	255
Average Queue (ft)	37	49	44	64	63	37	41	57	158	167	178	73
95th Queue (ft)	77	89	90	109	118	85	82	96	257	267	290	187
Link Distance (ft)			1172	1172	1172				1179	1179	1179	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				115	270	270				165
Storage Blk Time (%)					1	0			1		13	0
Queuing Penalty (veh)					3	1			1		33	0

Intersection: 6: Villa Ave & Herndon Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	210	250	218	268	204	246	280	210	178
Average Queue (ft)	97	150	116	143	115	172	144	107	66
95th Queue (ft)	195	227	196	238	222	243	241	188	130
Link Distance (ft)			957	957			389	389	
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)	225	225			160	160			160
Storage Blk Time (%)	0	1	0		1	16	5	1	0
Queuing Penalty (veh)	0	2	0		1	25	13	2	1

Intersection: 7: Minneawa Ave & Herndon Ave

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	3	92
Average Queue (ft)	0	38
95th Queue (ft)	3	69
Link Distance (ft)	1179	666
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Dewitt Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	LTR	L	TR
Maximum Queue (ft)	90	128	154	174	119	346	321	335	105	32	126	73
Average Queue (ft)	30	54	79	96	32	168	131	133	29	7	89	21
95th Queue (ft)	70	113	138	159	84	301	267	265	74	28	131	54
Link Distance (ft)		696	696	696		464	464	464		138	91	91
Upstream Blk Time (%)						0	0	0			23	0
Queuing Penalty (veh)						0	0	0			0	0
Storage Bay Dist (ft)	275				275				275			
Storage Blk Time (%)						1		0				
Queuing Penalty (veh)						0		1				

Intersection: 9: Willow Ave & Spruce Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	45	95	256	454	264	310	764	627	62	198	293	310
Average Queue (ft)	3	37	22	163	171	235	403	99	17	50	120	134
95th Queue (ft)	22	79	172	442	314	375	990	401	47	114	270	283
Link Distance (ft)			587	587			744	744			1117	1117
Upstream Blk Time (%)			0	4			43	4				
Queuing Penalty (veh)			0	0			0	0				
Storage Bay Dist (ft)	125	125			220	220			160	160		
Storage Blk Time (%)	0	0			46	59						6
Queuing Penalty (veh)	0	0			4	5						4

Intersection: 9: Willow Ave & Spruce Ave

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	T	R
Maximum Queue (ft)	420	210	199	310	815	790	771	240
Average Queue (ft)	161	141	94	246	540	503	447	86
95th Queue (ft)	382	258	177	392	1009	974	927	266
Link Distance (ft)	1117				811	811	811	
Upstream Blk Time (%)					22	13	11	
Queuing Penalty (veh)					0	0	0	
Storage Bay Dist (ft)		120	220	220				150
Storage Blk Time (%)	5	10	0	1	57		50	
Queuing Penalty (veh)	30	31	1	3	143		26	

Intersection: 10: Willow Ave & Magill Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	82	66	48	33	71	126	416	510	203	367	375	45
Average Queue (ft)	28	19	12	4	29	41	160	231	73	111	128	7
95th Queue (ft)	64	49	36	19	60	90	349	459	151	274	294	27
Link Distance (ft)		133		286			505	505		574	574	574
Upstream Blk Time (%)							0	2				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)	95		100		80	150			160			
Storage Blk Time (%)	0	0			0		4		1	3		
Queuing Penalty (veh)	0	0			0		2		5	3		

Intersection: 11: Peach Ave (East) & Peach Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 15: Cedar Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	278	316	422	392	359	268	114	123	276	314	343	245
Average Queue (ft)	182	200	252	238	207	51	50	67	173	206	218	145
95th Queue (ft)	289	322	450	417	320	161	97	109	256	290	309	262
Link Distance (ft)			2561	2561	2561				2505	2505	2505	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				180	1000	1000				155
Storage Blk Time (%)	7	10	2		8						26	4
Queuing Penalty (veh)	40	63	7		15						103	32

Intersection: 15: Cedar Ave & Herndon Ave

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	176	266	358	334	184	102	143	236	218	169
Average Queue (ft)	85	139	216	191	57	39	61	141	121	75
95th Queue (ft)	174	218	307	281	132	84	112	207	189	140
Link Distance (ft)			952	952				534	534	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	250	250			220	215	215			140
Storage Blk Time (%)		0	5	4			0	1	4	1
Queuing Penalty (veh)		0	10	6			0	1	7	1

Intersection: 16: Maple Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	177	189	280	302	314	94	62	211	906	256	235	108
Average Queue (ft)	91	99	158	179	195	9	17	116	168	159	90	18
95th Queue (ft)	155	162	247	268	290	52	47	195	562	242	171	62
Link Distance (ft)			2505	2505	2505			2529	2529	2529		
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	260	260				165	275				170	115
Storage Blk Time (%)			0		11			0		6	0	0
Queuing Penalty (veh)			1		3			0		23	4	0

Intersection: 16: Maple Ave & Herndon Ave

Movement	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	L	T	R
Maximum Queue (ft)	146	185	177	217	295	222
Average Queue (ft)	67	63	72	118	55	118
95th Queue (ft)	123	138	151	192	202	205
Link Distance (ft)		906			1237	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	115		140	140		140
Storage Blk Time (%)	3	3	1	4	2	8
Queuing Penalty (veh)	3	2	2	11	7	16

Network Summary

Network wide Queuing Penalty: 1775

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	106	405	1900	2045	2012	310	90	133	357	385	409	290
Average Queue (ft)	38	190	1143	1187	1224	243	37	52	253	285	304	85
95th Queue (ft)	86	478	2074	2146	2164	432	75	102	335	365	389	260
Link Distance (ft)			2529	2529	2529				1810	1810	1810	
Upstream Blk Time (%)				0								
Queuing Penalty (veh)				0								
Storage Bay Dist (ft)	315	315				220	280	280				200
Storage Blk Time (%)		0	41		49			0	4		32	
Queuing Penalty (veh)		0	45		107			0	4		29	

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R
Maximum Queue (ft)	315	920	912	225	340	580	340
Average Queue (ft)	253	760	513	106	199	322	162
95th Queue (ft)	421	1119	1205	211	354	586	353
Link Distance (ft)		882	882			576	
Upstream Blk Time (%)		49	27			7	
Queuing Penalty (veh)		0	0			0	
Storage Bay Dist (ft)	225			250	250		250
Storage Blk Time (%)	3	70		0	1	26	0
Queuing Penalty (veh)	14	110		0	3	122	2

Intersection: 2: Willow Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	T	T	T	R	T	T	T	R	T	T	T	R
Maximum Queue (ft)	636	800	632	315	178	210	242	200	519	518	527	305
Average Queue (ft)	339	325	360	283	111	133	162	94	322	326	316	164
95th Queue (ft)	524	577	554	355	161	182	221	167	511	518	511	359
Link Distance (ft)	1810	1810	1810		1248	1248	1248		574	574	574	
Upstream Blk Time (%)		0							0	0	0	
Queuing Penalty (veh)		0							1	2	1	
Storage Bay Dist (ft)				225				150				215
Storage Blk Time (%)			23	21			7	1				25
Queuing Penalty (veh)			138	170			20	8				62

Intersection: 2: Willow Ave & Herndon Ave

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	1147	1162	1156	355
Average Queue (ft)	1025	1033	1005	212
95th Queue (ft)	1299	1302	1316	420
Link Distance (ft)	1117	1117	1117	
Upstream Blk Time (%)	7	11	9	
Queuing Penalty (veh)	39	60	51	
Storage Bay Dist (ft)				265
Storage Blk Time (%)			11	2
Queuing Penalty (veh)			32	9

Intersection: 3: Herndon Ave & Helm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	SB	SB
Directions Served	L	L	T	T	T	T	T	T	R	R	L	L
Maximum Queue (ft)	236	241	141	181	205	269	262	301	270	127	273	256
Average Queue (ft)	142	156	66	103	123	178	179	206	81	70	168	148
95th Queue (ft)	208	217	127	169	193	246	249	275	177	112	247	233
Link Distance (ft)			1248	1248	1248	1260	1260	1260			704	704
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300							215	215		
Storage Blk Time (%)	0							4				
Queuing Penalty (veh)	0							21				

Intersection: 3: Herndon Ave & Helm Ave

Movement	SB	SB
Directions Served	R	R
Maximum Queue (ft)	242	213
Average Queue (ft)	136	108
95th Queue (ft)	211	187
Link Distance (ft)	704	704
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Peach Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	T	T	T	R	T	T	T	R	T	T	T	T
Maximum Queue (ft)	156	170	328	176	127	166	305	205	120	90	288	264
Average Queue (ft)	58	80	111	38	64	80	154	78	57	13	184	147
95th Queue (ft)	128	150	258	103	111	135	245	178	103	57	253	223
Link Distance (ft)	1260	1260	1260		543	543	543				862	862
Upstream Blk Time (%)	0											
Queuing Penalty (veh)	0											
Storage Bay Dist (ft)	130				115							
Storage Blk Time (%)	4			0	14			0	0			
Queuing Penalty (veh)	12			1	58			2	1			

Intersection: 4: Peach Ave & Herndon Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	156
Average Queue (ft)	64
95th Queue (ft)	124
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	220
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 5: Peach Ave (East) & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R	R
Maximum Queue (ft)	208	192	212	36	182	128	274	367	344	265	221
Average Queue (ft)	139	129	146	7	104	40	93	194	201	175	132
95th Queue (ft)	200	187	203	26	164	99	199	326	306	245	202
Link Distance (ft)	543	543	543	543		1172	1172	1172			
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					350						
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 6: Villa Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	123	126	278	304	323	205	144	156	274	389	514	255
Average Queue (ft)	65	71	162	182	201	108	76	89	141	185	268	166
95th Queue (ft)	109	112	252	269	297	226	125	138	228	313	434	310
Link Distance (ft)			1172	1172	1172				1179	1179	1179	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				115	270	270				165
Storage Blk Time (%)			1		30	2			0		32	2
Queuing Penalty (veh)			1		84	15			1		111	9

Intersection: 6: Villa Ave & Herndon Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	209	264	285	281	204	248	304	187	137
Average Queue (ft)	86	153	151	168	131	181	131	90	63
95th Queue (ft)	189	235	239	251	226	246	235	157	119
Link Distance (ft)			957	957			389	389	
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	225	225			160	160			160
Storage Blk Time (%)	0	1	1		1	21	2	0	0
Queuing Penalty (veh)	0	2	4		1	29	5	0	0

Intersection: 7: Minneawa Ave & Herndon Ave

Movement	EB	EB	EB	NB
Directions Served	T	T	TR	R
Maximum Queue (ft)	4	7	8	175
Average Queue (ft)	0	0	0	89
95th Queue (ft)	4	5	5	153
Link Distance (ft)	1179	1179	1179	666
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Dewitt Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	LTR	L	TR
Maximum Queue (ft)	147	248	272	285	90	313	365	431	316	96	120	55
Average Queue (ft)	63	139	162	175	26	167	165	214	57	38	92	16
95th Queue (ft)	117	227	252	269	65	276	310	370	185	78	124	43
Link Distance (ft)		696	696	696		464	464	464		138	91	91
Upstream Blk Time (%)							0	0		0	23	
Queuing Penalty (veh)							0	0		0	0	
Storage Bay Dist (ft)	275				275				275			
Storage Blk Time (%)		0				0		3				
Queuing Penalty (veh)		0				0		8				

Intersection: 9: Willow Ave & Spruce Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	162	190	78	177	257	294	414	703	141	250	377	386
Average Queue (ft)	67	119	11	58	126	183	77	387	64	116	217	241
95th Queue (ft)	165	178	47	138	246	277	397	676	123	232	354	365
Link Distance (ft)			587	587			744	744			1117	1117
Upstream Blk Time (%)							2	4				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)	125	125			220	220			160	160		
Storage Blk Time (%)	1	16			1	6			0	1	20	
Queuing Penalty (veh)	0	1			0	2			1	3	40	

Intersection: 9: Willow Ave & Spruce Ave

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	T	R
Maximum Queue (ft)	389	210	263	310	796	742	688	240
Average Queue (ft)	244	70	159	260	479	431	362	87
95th Queue (ft)	375	204	255	364	889	830	761	250
Link Distance (ft)	1117				811	811	811	
Upstream Blk Time (%)					17	6	4	
Queuing Penalty (veh)					0	0	0	
Storage Bay Dist (ft)		120	220	220				150
Storage Blk Time (%)	33		2	8	45		38	
Queuing Penalty (veh)	23		7	31	170		33	

Intersection: 10: Willow Ave & Magill Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	133	157	90	85	114	240	547	542	250	589	614	619
Average Queue (ft)	115	124	34	19	54	127	463	445	166	358	365	106
95th Queue (ft)	147	180	72	59	93	262	621	624	280	575	594	475
Link Distance (ft)		133		286			505	505		574	574	574
Upstream Blk Time (%)	11	20					20	18		1	6	3
Queuing Penalty (veh)	0	0					0	0		8	41	22
Storage Bay Dist (ft)	95		100		80	150			160			
Storage Blk Time (%)	37	13	0	0	3	3	32		14	30		
Queuing Penalty (veh)	49	23	0	0	2	33	30		132	47		

Intersection: 11: Peach Ave (East) & Peach Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 15: Cedar Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	295	340	1184	1155	1097	270	214	340	408	425	460	245
Average Queue (ft)	257	324	701	687	633	252	121	150	283	316	338	192
95th Queue (ft)	354	398	1252	1228	1120	329	206	287	386	418	445	328
Link Distance (ft)			2523	2523	2523				2535	2535	2535	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				180	250	250				155
Storage Blk Time (%)	41	56	29		40	9	1	2	16		41	0
Queuing Penalty (veh)	297	403	95		160	62	4	12	47		81	1

Intersection: 15: Cedar Ave & Herndon Ave

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B34	B34
Directions Served	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	207	325	441	427	302	257	305	534	499	230	51	27
Average Queue (ft)	104	179	270	248	163	171	234	314	288	180	5	2
95th Queue (ft)	191	308	431	409	306	264	341	524	483	283	48	27
Link Distance (ft)			946	946				556	556		626	626
Upstream Blk Time (%)								2	1			
Queuing Penalty (veh)								0	0			
Storage Bay Dist (ft)	250	250			220	215	215			140		
Storage Blk Time (%)	0	0	17	19	3	4	12	23	34	12		
Queuing Penalty (veh)	0	1	39	50	8	15	43	91	110	42		

Intersection: 16: Maple Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	150	217	339	360	381	255	104	153	173	176	116	60
Average Queue (ft)	75	86	229	252	270	77	43	77	98	102	52	12
95th Queue (ft)	131	152	319	340	363	245	88	136	155	157	102	40
Link Distance (ft)			2535	2535	2535			2529	2529	2529		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	260	260				165	275				170	115
Storage Blk Time (%)			5		31					0		0
Queuing Penalty (veh)			11		26					1		0

Intersection: 16: Maple Ave & Herndon Ave

Movement	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	L	T	R
Maximum Queue (ft)	95	131	185	230	698	230
Average Queue (ft)	38	52	162	198	268	170
95th Queue (ft)	82	104	214	257	636	254
Link Distance (ft)		921			1230	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	115		140	140		140
Storage Blk Time (%)	0	0	20	40	1	22
Queuing Penalty (veh)	0	0	89	176	5	104

Network Summary

Network wide Queuing Penalty: 4069

Year 2042 Without Quad Intersections

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	143	249	633	890	544	310	104	110	332	368	408	290
Average Queue (ft)	77	98	252	283	315	131	41	58	249	285	308	143
95th Queue (ft)	137	181	511	624	485	347	85	98	317	353	386	337
Link Distance (ft)			2528	2528	2528				1822	1822	1822	
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	315	315				220	280	280				200
Storage Blk Time (%)		0	2		21				3		37	
Queuing Penalty (veh)		0	4		35				3		79	

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R
Maximum Queue (ft)	313	421	100	151	340	601	340
Average Queue (ft)	171	221	38	47	178	393	205
95th Queue (ft)	287	363	80	112	375	660	399
Link Distance (ft)		882	882			576	
Upstream Blk Time (%)						12	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	225			250	250		250
Storage Blk Time (%)	6	10		0	0	39	1
Queuing Penalty (veh)	16	17		0	0	132	6

Intersection: 2: Willow Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	265	316	416	397	488	315	223	365	1273	1286	1273	240
Average Queue (ft)	141	164	228	228	264	253	121	293	1142	1152	1161	173
95th Queue (ft)	286	315	369	348	422	356	208	480	1520	1509	1496	330
Link Distance (ft)			1822	1822	1822				1248	1248	1248	
Upstream Blk Time (%)									10	11	13	
Queuing Penalty (veh)									80	87	103	
Storage Bay Dist (ft)	300	300				225	275	275				150
Storage Blk Time (%)	3	5	3		16	21	0	1	61		67	0
Queuing Penalty (veh)	14	21	7		67	88	1	7	142		109	1

Intersection: 2: Willow Ave & Herndon Ave

Movement	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	R
Maximum Queue (ft)	370	415	595	579	370	141	121	355	1136	1143	355
Average Queue (ft)	354	399	519	310	205	35	46	236	1088	1092	298
95th Queue (ft)	417	465	738	590	311	89	100	475	1267	1272	476
Link Distance (ft)			573	573	573				1117	1117	
Upstream Blk Time (%)			30	0	0				14	18	
Queuing Penalty (veh)			170	2	0				115	149	
Storage Bay Dist (ft)	325	325				215	265	265			265
Storage Blk Time (%)	35	60	1		8			0	64	64	2
Queuing Penalty (veh)	123	210	3		9			0	125	169	10

Intersection: 3: Herndon Ave & Helm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	T	T	R	L	L	R
Maximum Queue (ft)	104	123	187	328	376	1286	1299	1290	305	126	97	127
Average Queue (ft)	36	60	79	104	146	692	707	724	139	59	29	61
95th Queue (ft)	83	105	159	245	288	1581	1594	1594	388	110	73	112
Link Distance (ft)			1248	1248	1248	1265	1265	1265		716	716	716
Upstream Blk Time (%)				0	0	2	3	4				
Queuing Penalty (veh)				0	0	19	23	28				
Storage Bay Dist (ft)	300	300							215			
Storage Blk Time (%)								52				
Queuing Penalty (veh)								38				

Intersection: 3: Herndon Ave & Helm Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	88
Average Queue (ft)	23
95th Queue (ft)	59
Link Distance (ft)	716
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Peach Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	174	114	218	250	101	250	568	573	565	205	130	188
Average Queue (ft)	88	40	66	88	9	104	299	309	320	96	65	75
95th Queue (ft)	154	89	141	176	54	249	603	608	610	247	118	151
Link Distance (ft)		1265	1265	1265			543	543	543			
Upstream Blk Time (%)							11	11	13			
Queuing Penalty (veh)							84	89	100			
Storage Bay Dist (ft)	300				130	160				115	240	
Storage Blk Time (%)				3		0	34		45	0		37
Queuing Penalty (veh)				2		1	28		72	0		45

Intersection: 4: Peach Ave & Herndon Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	T	R
Maximum Queue (ft)	137	179	316	232
Average Queue (ft)	30	123	131	72
95th Queue (ft)	88	191	249	154
Link Distance (ft)			856	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	50	90		220
Storage Blk Time (%)	1	32	21	
Queuing Penalty (veh)	1	85	66	

Intersection: 5: Peach Ave (East) & Herndon Ave

Movement	EB	WB	WB	WB	WB	NB
Directions Served	TR	L	T	T	T	R
Maximum Queue (ft)	14	402	958	1001	1016	56
Average Queue (ft)	1	62	170	182	193	20
95th Queue (ft)	9	247	714	745	775	49
Link Distance (ft)	543		1190	1190	1190	
Upstream Blk Time (%)			0	0	0	
Queuing Penalty (veh)			1	1	2	
Storage Bay Dist (ft)		350				
Storage Blk Time (%)			12			
Queuing Penalty (veh)			7			

Intersection: 6: Villa Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	95	101	114	139	145	126	102	140	358	383	391	249
Average Queue (ft)	34	47	37	60	68	43	48	65	162	165	162	62
95th Queue (ft)	76	88	90	120	128	99	91	114	282	292	299	178
Link Distance (ft)			1190	1190	1190				1179	1179	1179	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				115	270	270				165
Storage Blk Time (%)					1	0			1		9	0
Queuing Penalty (veh)					3	2			1		23	1

Intersection: 6: Villa Ave & Herndon Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	183	226	217	272	202	248	326	215	151
Average Queue (ft)	86	134	123	157	122	178	157	112	61
95th Queue (ft)	169	200	197	251	226	247	260	191	119
Link Distance (ft)			957	957			389	389	
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	225	225			160	160			160
Storage Blk Time (%)		0	0		1	19	5	1	0
Queuing Penalty (veh)		0	0		1	30	14	1	0

Intersection: 7: Minneawa Ave & Herndon Ave

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	5	86
Average Queue (ft)	0	38
95th Queue (ft)	5	68
Link Distance (ft)	1179	666
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Dewitt Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	LTR	L	TR
Maximum Queue (ft)	84	183	209	225	147	423	373	324	98	37	120	73
Average Queue (ft)	31	70	95	115	33	199	153	126	27	7	91	23
95th Queue (ft)	72	151	181	203	95	357	304	248	71	29	129	60
Link Distance (ft)		696	696	696		464	464	464		138	91	91
Upstream Blk Time (%)						0	0	0			28	1
Queuing Penalty (veh)						0	0	0			0	0
Storage Bay Dist (ft)	275				275				275			
Storage Blk Time (%)						2		0				
Queuing Penalty (veh)						1		1				

Intersection: 9: Willow Ave & Spruce Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	17	86	58	217	27	49	24	79	61	83	224	253
Average Queue (ft)	1	31	4	68	3	10	5	29	13	39	66	81
95th Queue (ft)	8	69	32	156	16	35	19	59	42	76	177	209
Link Distance (ft)			586	586			744	744			1117	1117
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	125	125			220	220			160	160		
Storage Blk Time (%)												1
Queuing Penalty (veh)												1

Intersection: 9: Willow Ave & Spruce Ave

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	T	R
Maximum Queue (ft)	263	169	41	310	858	863	856	240
Average Queue (ft)	93	11	7	143	614	600	555	113
95th Queue (ft)	222	71	28	367	1079	1077	1074	304
Link Distance (ft)	1117				811	811	811	
Upstream Blk Time (%)					40	42	37	
Queuing Penalty (veh)					0	0	0	
Storage Bay Dist (ft)		120	220	220				150
Storage Blk Time (%)	5				57		67	1
Queuing Penalty (veh)	1				31		35	5

Intersection: 10: Willow Ave & Magill Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	91	107	55	81	87	240	547	528	179	366	386	150
Average Queue (ft)	39	30	12	9	29	97	437	380	73	115	127	16
95th Queue (ft)	90	92	42	51	68	252	676	655	147	282	290	78
Link Distance (ft)		127		281			505	505		573	573	
Upstream Blk Time (%)	2	4					41	5				
Queuing Penalty (veh)	0	0					0	0				
Storage Bay Dist (ft)	95		100		80	150			160			76
Storage Blk Time (%)	4	3		1	2	0	51		0	3	8	0
Queuing Penalty (veh)	1	1		1	0	1	25		2	3	7	0

Intersection: 11: Peach Ave (East) & Peach Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 15: Cedar Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	228	283	341	331	332	248	111	122	210	228	241	187
Average Queue (ft)	132	154	232	229	213	52	47	63	106	137	152	73
95th Queue (ft)	210	236	311	308	298	170	96	106	183	204	221	150
Link Distance (ft)			2574	2574	2574				2532	2532	2532	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				180	250	250				155
Storage Blk Time (%)	0	0	4		11				0		8	1
Queuing Penalty (veh)	0	2	12		20				0		32	5

Intersection: 15: Cedar Ave & Herndon Ave

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	165	298	364	330	272	113	166	234	214	181
Average Queue (ft)	89	143	233	215	70	44	67	145	123	74
95th Queue (ft)	176	237	329	309	173	96	124	211	190	143
Link Distance (ft)			1165	1165				514	514	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	250	250			220	215	215			140
Storage Blk Time (%)		0	8	9			0	1	4	1
Queuing Penalty (veh)		0	17	13			0	1	7	2

Intersection: 16: Maple Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	164	191	535	554	363	231	52	193	224	246	202	107
Average Queue (ft)	91	102	210	228	239	19	15	98	133	144	81	14
95th Queue (ft)	148	162	448	465	337	115	41	174	201	216	155	55
Link Distance (ft)			2532	2532	2532			2528	2528	2528		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	260	260				165	275				170	115
Storage Blk Time (%)		0	2		17				4		0	0
Queuing Penalty (veh)		0	4		5				15		3	0

Intersection: 16: Maple Ave & Herndon Ave

Movement	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	L	T	R
Maximum Queue (ft)	129	155	164	202	275	225
Average Queue (ft)	58	64	62	104	48	123
95th Queue (ft)	111	130	133	174	174	208
Link Distance (ft)		845			1229	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	115		140	140		140
Storage Blk Time (%)	2	4	0	2	1	9
Queuing Penalty (veh)	2	3	1	6	5	18

Network Summary

Network wide Queuing Penalty: 3168

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	92	405	2054	2086	2118	310	98	259	433	470	495	290
Average Queue (ft)	35	168	1000	1016	1060	227	42	62	310	343	370	122
95th Queue (ft)	73	443	2025	2046	2080	432	83	159	420	450	479	337
Link Distance (ft)			2528	2528	2528				1822	1822	1822	
Upstream Blk Time (%)			0	0	0							
Queuing Penalty (veh)			1	1	2							
Storage Bay Dist (ft)	315	315				220	280	280				200
Storage Blk Time (%)		0	44		48				8		22	
Queuing Penalty (veh)		0	48		106				8		20	

Intersection: 1: Chestnut Ave & Herndon Ave

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R
Maximum Queue (ft)	315	863	701	233	340	593	340
Average Queue (ft)	255	619	243	133	226	371	196
95th Queue (ft)	402	1012	814	243	379	621	385
Link Distance (ft)		882	882			576	
Upstream Blk Time (%)		17	3			8	
Queuing Penalty (veh)		0	0			0	
Storage Bay Dist (ft)	225			250	250		250
Storage Blk Time (%)	8	58		3	5	28	0
Queuing Penalty (veh)	36	91		15	28	130	1

Intersection: 2: Willow Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	335	390	1832	1832	1846	315	320	365	1205	1190	1110	240
Average Queue (ft)	235	350	1333	1345	1389	313	284	322	710	607	495	200
95th Queue (ft)	360	476	2229	2217	2224	336	381	444	1377	1192	987	311
Link Distance (ft)			1822	1822	1822				1248	1248	1248	
Upstream Blk Time (%)			1	1	1				7	0	0	
Queuing Penalty (veh)			6	5	13				46	1	1	
Storage Bay Dist (ft)	300	300				225	275	275				150
Storage Blk Time (%)	11	17	44		49	48	46	58	10		41	9
Queuing Penalty (veh)	68	107	211		295	309	196	250	35		118	40

Intersection: 2: Willow Ave & Herndon Ave

Movement	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	T	T	R
Maximum Queue (ft)	369	415	591	584	539	305	166	355	1139	1143	355
Average Queue (ft)	316	371	459	418	363	215	74	264	1078	1082	293
95th Queue (ft)	434	487	642	600	509	396	144	480	1287	1288	482
Link Distance (ft)			573	573	573				1117	1117	
Upstream Blk Time (%)			6	0	0				13	17	
Queuing Penalty (veh)			45	3	1				97	127	
Storage Bay Dist (ft)	325	325				215	265	265			265
Storage Blk Time (%)	18	34	12		31	1			67	68	1
Queuing Penalty (veh)	97	178	54		76	4			164	190	6

Intersection: 3: Herndon Ave & Helm Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	T	T	R	L	L	R
Maximum Queue (ft)	161	177	319	348	280	494	469	488	302	156	132	144
Average Queue (ft)	74	97	123	146	172	205	186	214	75	82	45	66
95th Queue (ft)	130	152	260	290	280	447	420	411	202	134	97	121
Link Distance (ft)			1248	1248	1248	1265	1265	1265		716	716	716
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300							215			
Storage Blk Time (%)								5				
Queuing Penalty (veh)								13				

Intersection: 3: Herndon Ave & Helm Ave

Movement	SB
Directions Served	R
Maximum Queue (ft)	108
Average Queue (ft)	34
95th Queue (ft)	80
Link Distance (ft)	716
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Peach Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (ft)	230	328	354	369	220	239	360	411	477	205	233	212
Average Queue (ft)	131	153	178	201	55	95	201	224	277	128	110	84
95th Queue (ft)	209	267	292	322	183	194	308	350	428	266	191	167
Link Distance (ft)		1265	1265	1265			543	543	543			
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									1			
Storage Bay Dist (ft)	300				130	160				115	240	
Storage Blk Time (%)		0		18	0	3	22		44	0	0	37
Queuing Penalty (veh)		0		24	0	15	20		108	0	1	93

Intersection: 4: Peach Ave & Herndon Ave

Movement	NB	SB	SB	SB
Directions Served	R	L	T	R
Maximum Queue (ft)	140	180	879	310
Average Queue (ft)	59	175	592	160
95th Queue (ft)	120	192	995	381
Link Distance (ft)			856	
Upstream Blk Time (%)			10	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)	50	90		220
Storage Blk Time (%)	12	69	11	
Queuing Penalty (veh)	26	212	54	

Intersection: 5: Peach Ave (East) & Herndon Ave

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	L	T	R
Maximum Queue (ft)	57	2	88	12	119
Average Queue (ft)	2	0	31	1	49
95th Queue (ft)	56	2	71	10	93
Link Distance (ft)	543	543		1190	
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)			350		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Villa Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	122	137	297	316	346	205	152	190	266	262	300	248
Average Queue (ft)	58	66	188	214	226	125	84	97	138	142	157	92
95th Queue (ft)	104	112	269	293	317	254	139	156	221	229	256	195
Link Distance (ft)			1190	1190	1190				1179	1179	1179	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				115	270	270				165
Storage Blk Time (%)			1		31	1		0	0		12	1
Queuing Penalty (veh)			2		87	8		0	1		41	7

Intersection: 6: Villa Ave & Herndon Ave

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	196	226	265	312	204	249	341	211	148
Average Queue (ft)	88	138	166	188	137	189	148	104	54
95th Queue (ft)	174	207	251	279	231	255	261	189	114
Link Distance (ft)			957	957			389	389	
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	225	225			160	160			160
Storage Blk Time (%)	0	1	2		1	24	5	2	0
Queuing Penalty (veh)	0	1	6		2	34	15	2	0

Intersection: 7: Minneawa Ave & Herndon Ave

Movement	EB	EB	NB
Directions Served	T	TR	R
Maximum Queue (ft)	121	6	235
Average Queue (ft)	4	0	98
95th Queue (ft)	110	4	195
Link Distance (ft)	1179	1179	666
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Dewitt Ave & Herndon Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	T	R	LTR	L	TR
Maximum Queue (ft)	166	206	246	248	146	438	382	421	310	103	113	60
Average Queue (ft)	66	105	133	144	30	236	198	206	50	35	95	15
95th Queue (ft)	132	189	222	233	91	385	344	362	173	79	128	45
Link Distance (ft)		696	696	696		464	464	464		138	91	91
Upstream Blk Time (%)						0	0	0		0	34	0
Queuing Penalty (veh)						0	0	0		0	0	0
Storage Bay Dist (ft)	275				275				275			
Storage Blk Time (%)						4		3				
Queuing Penalty (veh)						1		7				

Intersection: 9: Willow Ave & Spruce Ave

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	151	180	64	194	85	133	72	171	139	249	454	477
Average Queue (ft)	27	87	6	66	17	48	21	74	60	96	157	188
95th Queue (ft)	100	154	38	144	53	105	54	141	116	181	338	366
Link Distance (ft)			586	586			744	744			1117	1117
Upstream Blk Time (%)											0	0
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	125	125			220	220			160	160		
Storage Blk Time (%)	0	5							0	0	7	
Queuing Penalty (veh)	0	0							0	2	14	

Intersection: 9: Willow Ave & Spruce Ave

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	T	R
Maximum Queue (ft)	404	209	100	310	859	847	853	240
Average Queue (ft)	191	48	35	234	643	618	566	160
95th Queue (ft)	345	170	80	416	1051	1046	1042	337
Link Distance (ft)	1117				811	811	811	
Upstream Blk Time (%)					40	34	28	
Queuing Penalty (veh)					0	0	0	
Storage Bay Dist (ft)		120	220	220				150
Storage Blk Time (%)	15			0	60		71	2
Queuing Penalty (veh)	11			0	79		61	8

Intersection: 10: Willow Ave & Magill Ave

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	127	162	100	126	125	239	555	540	250	581	594	151
Average Queue (ft)	104	113	32	23	53	115	515	487	135	324	335	19
95th Queue (ft)	147	179	77	86	101	257	585	602	255	613	630	94
Link Distance (ft)		127		281			505	505		573	573	
Upstream Blk Time (%)	16	22					38	16		1	2	
Queuing Penalty (veh)	0	0					0	0		9	24	
Storage Bay Dist (ft)	95		100		80	150			160			76
Storage Blk Time (%)	37	14	0	1	4	1	43		4	17	26	
Queuing Penalty (veh)	48	24	0	1	2	8	41		36	26	11	

Intersection: 11: Peach Ave (East) & Peach Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 15: Cedar Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	234	340	724	748	774	270	230	256	315	312	354	245
Average Queue (ft)	133	263	494	506	535	229	129	141	174	204	224	93
95th Queue (ft)	212	426	720	733	767	353	203	227	277	293	321	246
Link Distance (ft)			5213	5213	5213				2526	2526	2526	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				180	250	250				155
Storage Blk Time (%)	0	0	30		38	4	0	0	1		14	0
Queuing Penalty (veh)	2	2	99		153	27	1	2	2		27	0

Intersection: 15: Cedar Ave & Herndon Ave

Movement	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	B37	B37
Directions Served	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	238	339	672	686	310	259	305	536	523	230	111	96
Average Queue (ft)	117	211	373	370	222	191	253	346	329	202	15	12
95th Queue (ft)	204	367	695	695	373	282	352	547	518	278	117	105
Link Distance (ft)			1462	1462				532	532		629	629
Upstream Blk Time (%)								4	1			
Queuing Penalty (veh)								0	0			
Storage Bay Dist (ft)	250	250			220	215	215			140		
Storage Blk Time (%)	0	1	31	35	10	10	21	24	37	23		
Queuing Penalty (veh)	1	2	70	91	31	34	72	96	121	80		

Intersection: 16: Maple Ave & Herndon Ave

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	159	207	857	848	454	216	120	540	328	358	260	63
Average Queue (ft)	96	114	203	224	223	33	47	193	210	222	97	12
95th Queue (ft)	152	197	568	576	402	148	102	439	300	324	238	40
Link Distance (ft)			2526	2526	2526			2528	2528	2528		
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	260	260				165	275				170	115
Storage Blk Time (%)			3		24			1		23		0
Queuing Penalty (veh)			6		21			0		57		0

Intersection: 16: Maple Ave & Herndon Ave

Movement	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	L	T	R
Maximum Queue (ft)	97	140	185	229	717	230
Average Queue (ft)	38	58	150	189	286	166
95th Queue (ft)	83	115	219	254	696	256
Link Distance (ft)		942			1244	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)	115		140	140		140
Storage Blk Time (%)	0	2	11	26	4	20
Queuing Penalty (veh)	0	1	49	114	26	96

Network Summary

Network wide Queuing Penalty: 5698

APPENDIX E

ARTERIAL ANALYSES

Year 2042 With Quad Intersections

Arterial Level of Service: EB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cedar Ave	15	24.5	59.5	0.5	30
Maple Ave	16	23.4	59.3	0.5	30
Chestnut Ave	1	21.8	57.2	0.5	31
Willow Ave	2	24.7	50.6	0.4	26
Helm Ave	3	5.6	24.4	0.3	38
Peach Ave	4	9.6	28.2	0.3	33
Peach Ave (East)	5	10.7	19.3	0.1	22
Villa Ave	6	8.4	25.6	0.2	34
Minneawa Ave	7	3.9	21.4	0.2	40
Dewitt Ave	8	5.2	15.6	0.1	34
Total		137.8	361.2	3.1	31

Arterial Level of Service: WB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Dewitt Ave	8	8.6	15.6	0.1	23
Minneawa Ave	7	4.2	14.7	0.1	36
Villa Ave	6	20.8	37.6	0.2	23
Peach Ave (East)	5	10.5	28.2	0.2	31
Peach Ave	4	4.1	12.7	0.1	33
Helm Ave	3	14.8	33.3	0.3	28
Willow Ave	2	33.8	52.1	0.3	18
Chestnut Ave	1	53.5	79.6	0.4	17
Maple Ave	16	22.5	57.4	0.5	31
Cedar Ave	15	26.0	61.4	0.5	29
Total		198.9	392.6	2.7	25

Arterial Level of Service: EB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cedar Ave	15	73.9	108.2	0.5	16
Maple Ave	16	39.3	75.2	0.5	24
Chestnut Ave	1	137.4	173.3	0.5	11
Willow Ave	2	49.5	75.1	0.4	18
Helm Ave	3	14.2	33.1	0.3	28
Peach Ave	4	11.9	30.6	0.3	30
Peach Ave (East)	5	16.0	24.7	0.1	17
Villa Ave	6	22.4	39.5	0.2	22
Minneawa Ave	7	9.4	26.4	0.2	33
Dewitt Ave	8	9.0	19.4	0.1	27
Total		382.9	605.5	3.1	19

Arterial Level of Service: WB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Dewitt Ave	8	13.1	20.3	0.1	17
Minneawa Ave	7	6.0	16.5	0.1	32
Villa Ave	6	28.2	45.1	0.2	19
Peach Ave (East)	5	16.2	33.6	0.2	26
Peach Ave	4	8.8	17.3	0.1	24
Helm Ave	3	25.0	43.2	0.3	21
Willow Ave	2	10.6	28.8	0.3	33
Chestnut Ave	1	35.7	62.2	0.4	21
Maple Ave	16	14.1	49.8	0.5	36
Cedar Ave	15	49.0	84.5	0.5	21
Total		206.6	401.4	2.7	24

Year 2042 Without Quad Intersections

Arterial Level of Service: EB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cedar Ave	15	25.4	60.5	0.5	30
Maple Ave	16	27.4	63.6	0.5	28
Chestnut Ave	1	39.7	75.1	0.5	24
Willow Ave	2	57.5	83.6	0.4	16
Helm Ave	3	15.9	34.5	0.3	27
Peach Ave	4	12.0	30.9	0.3	30
Peach Ave (East)	5	3.1	11.8	0.1	36
Villa Ave	6	9.6	26.8	0.2	33
Minneawa Ave	7	3.5	20.9	0.2	41
Dewitt Ave	8	6.9	17.3	0.1	30
Total		201.0	424.8	3.1	27

Arterial Level of Service: WB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Dewitt Ave	8	9.3	16.2	0.1	22
Minneawa Ave	7	4.3	14.8	0.1	35
Villa Ave	6	21.0	37.8	0.2	23
Peach Ave (East)	5	33.4	50.9	0.2	17
Peach Ave	4	45.6	53.8	0.1	8
Helm Ave	3	116.8	134.7	0.3	7
Willow Ave	2	197.7	218.4	0.3	4
Chestnut Ave	1	46.2	72.1	0.4	18
Maple Ave	16	18.7	53.6	0.5	33
Cedar Ave	15	17.8	53.6	0.5	34
Total		510.7	706.1	2.7	14

Arterial Level of Service: EB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cedar Ave	15	59.8	129.7	1.0	28
Maple Ave	16	29.7	65.0	0.5	28
Chestnut Ave	1	126.5	160.8	0.5	11
Willow Ave	2	167.4	203.5	0.4	7
Helm Ave	3	19.4	38.0	0.3	25
Peach Ave	4	22.5	41.2	0.3	23
Peach Ave (East)	5	5.9	14.5	0.1	29
Villa Ave	6	22.5	39.5	0.2	22
Minneawa Ave	7	8.7	25.7	0.2	33
Dewitt Ave	8	6.8	17.2	0.1	30
Total		469.3	735.1	3.6	18

Arterial Level of Service: WB Herndon Ave

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Dewitt Ave	8	13.7	20.8	0.1	17
Minneawa Ave	7	5.3	15.8	0.1	33
Villa Ave	6	20.8	37.6	0.2	23
Peach Ave (East)	5	7.0	24.8	0.2	35
Peach Ave	4	32.7	41.0	0.1	10
Helm Ave	3	25.9	44.2	0.3	21
Willow Ave	2	70.1	88.5	0.3	11
Chestnut Ave	1	41.3	67.5	0.4	20
Maple Ave	16	32.9	67.6	0.5	27
Cedar Ave	15	23.2	58.6	0.5	31
Total		272.9	466.5	2.7	21



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
 FROM: Fire Department
 DATE: August 1, 2022
 SUBJECT: Consider Approval – Res. 22-____, Adopting the Clovis Fire Department Master Services Plan.

Staff: John Binaski, Fire Chief

Recommendation: Approve

ATTACHMENTS:

1. Resolution No. 22-____
2. Standards of Cover 2022-2027
3. Strategic Plan 2022-2027
4. 2021 Fire Department Annual Report
5. Emergency Operations Plan (EOP)

CONFLICT OF INTEREST

None

RECOMMENDATION

For the City Council to approve a resolution adopting the updated Master Services Plan for the Fire Department.

EXECUTIVE SUMMARY

One of the key components of an accredited fire agency is the ability to have documents that review past performance, set goals for the future, and have both internal and external input. These documents are known as a Master Services Plan and consists of three major components: 1) Strategic Plan, 2) Standards of Cover and 3) Annual Report. In addition, the City's Emergency Operations Plan (EOP), the annual budget adopted by City Council, and the California Fire Code support planning and deployment of fire services. The Clovis Fire Department adopted the first Master Services Plan in June 2009 and has updated it several times with the last update in June 2017. We are bringing forth updates to the Strategic Plan, Standards of Cover, and Emergency Operations Plan in this resolution. The 2021 Annual Report was presented to Council on April 18, 2022.

These documents are developed to provide guidance to the Fire Department and the community stakeholders regarding fire and life safety issues and deployment within the City of Clovis. Updating and adopting the Master Services Plan provides for efficient emergency response based on service level objectives established by Council, ensures fiscal resources are utilized responsibly, fulfills a key element of the accreditation process, and has a direct impact on reducing insurance rates for customers by evaluation services such as the Insurance Services Office. Adoption of the Master Services Plan is not binding but demonstrates the City's commitment to the Fire Department's planning process.

BACKGROUND

The Fire Department Master Services Plan is a series of documents containing performance data, establishes benchmark performance, establishes goals and objectives for the department and gives a comprehensive picture of the fire and life safety efforts the department provides to the community. As part of the City's General Plan, the Master Services Plan compiles all primary planning guides into one comprehensive document outlining strategies for current and future fire and life safety issues within the community.

The Strategic Plan is the cornerstone of the Master Services Plan. Developed as a collaborative effort between community stakeholders and Fire Department personnel, it serves as a roadmap for current service delivery and establishes goals for the future of the Department. In Fall of 2021, the department held meetings with external stakeholders, and in the Spring of 2022 the department held meetings with each shift for internal stakeholders. Starting with a historical background of fire services within Clovis, followed by strategic initiatives, and specific goals, the Strategic Plan supports the short- and long-term vision by establishing strategic objectives.

While the Strategic Plan provides an overview of the Fire Department, the Standards of Cover document provides the quantifiable data to support daily operations. To responsibly utilize fiscal, physical and personnel resources, the Standards of Cover first establishes a Community Risk Assessment unique to Clovis. Composed of a frequency and severity of loss analysis, the Risk Assessment is followed by Performance Expectations outlining community risk reduction efforts and response strategies within the community. These expectations are then broken down into Critical Task Analysis for both fire and emergency medical type emergencies. Exhibits of current resource deployment and distribution provide geo-spatial context for how the Clovis Fire Department utilizes assets to meet performance expectations. The final portion of the Standards of Cover includes reliability studies, communication and notification performance objectives and historical performance data to measure past performance and plan for the Department's future. In short, it allows the Fire Department to send the appropriate number of resources to the unique call type within a timeframe that provides the best cost/benefit return for the effort.

The Fire Departments Annual report is a summary of our performance for the year along with accomplishments and an update to the department goals and objectives. The annual report also references the City of Clovis Annual Budget, which is approved by Council each year. This document is produced annually and is used to communicate with City Council and external stakeholders on how the Fire Department is performing.

The Emergency Operations Plan is a document written and maintained by the Emergency Operations Manager who works within the Fire Department. This documents the City's protocol to emergencies within City limits.

The Fire Department is recommending adoption of the Master Services Plan to demonstrate comprehensive planning on the part of the City and maintain commitment to the established goal of being the Safest City in the Valley. The purpose is to give the Fire Department the support of its elected body in its pursuit of achieving its mission and to provide a public forum by which to communicate the Department's mission to the community.

FISCAL IMPACT

The Fire Department Master Services Plan bears no fiscal impact as it is a planning document used to provide department direction only.

REASON FOR RECOMMENDATION

Adopting the Master Services Plan affirms commitment to a planned means of delivering fire services to the community, assists with accreditation and improves ratings by evaluation services like the Insurance Services Office.

ACTIONS FOLLOWING APPROVAL

Adopt by resolution and file adopted Fire Department Master Services Plan.

Prepared by: Katie Krahn, Management Analyst

Reviewed by: City Manager *JK*

RESOLUTION 22-__

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS
APPROVING THE UPDATED FIRE DEPARTMENT MASTER SERVICES PLAN**

WHEREAS, the Clovis Fire Department was established in 1917 to provide for the fire and life safety of the community; and

WHEREAS, the Fire Department has updated the Master Services Plan including a Strategic Plan, Standards of Cover, Annual Report, Emergency Operations Plan, and Annual Budget to be included as reference in the City’s General Plan; and

WHEREAS, the Fire Department Master Services Plan provides short and long term direction for Fire Department planning; and

WHEREAS, the Fire Department Master Services Plan is a key component in maintaining the accreditation of the Fire Department by the Commission on Fire Accreditation International and adoption of this Plan is a component in improving our community rating by outside agencies, such as the Insurance Services Office; and

WHEREAS, adoption of this Plan will guide the Fire Department in continuing to protect the lives and property of the inhabitants of the City of Clovis from the adverse effects of fire, sudden emergencies, and exposure to dangerous conditions; and

WHEREAS, the Fire Department Master Services Plan demonstrates the City’s commitment to effective planning.

NOW, THEREFORE, BE IT RESOLVED, that the City of Clovis to adopt the Fire Department Master Services Plan.

* * * * *

The foregoing resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote, to wit.

- AYES:
- NOES:
- ABSENT:
- ABSTAIN:

DATED:

Mayor

City Clerk



CLOVIS FIRE DEPARTMENT COMMUNITY RISK ASSESSMENT & STANDARDS OF COVER

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EXECUTIVE SUMMARY

As part of the ongoing accreditation process and to ensure compliance with adopted standards, the City of Clovis has actively worked to evaluate the fire department's operations, deployment, and staffing. The Fire Department uses risk-based data-driven staffing and deployment plans based upon the specific and unique profile of the City of Clovis. These analyses culminated in a comprehensive deployment and staffing plan referred to as the Community Risk Assessment (CRA)/Standards of Coverage (SOC).

The Clovis Fire Department (CFD) is a paid, career fire department that serves the community of Clovis with various core emergency response services, including fire suppression, emergency medical services (EMS), hazardous materials mitigation and technical rescue. In addition to these core services, CFD also provides several other community supportive functions, such as fire prevention and emergency preparedness services. Twenty-four hours a day, 365 days a year, nineteen personnel are on duty serving from six fire stations. These trained professional firefighters operate five engine companies staffed with three personnel each; one truck company staffed with three personnel; and one battalion chief command vehicle for a total of 19 personnel in daily staffing. In total, CFD employs 67 sworn Fire Suppression personnel, 3 Community Risk Reduction personnel, and 3.5 Administrative personnel. Together, these personnel provide amazing emergency services to the approximately 121,834 citizens within the City's nearly 25 square miles.

Like other business units of a municipality, the fire service must adequately define the levels of service for the community it protects based on the unique characteristics of the community and availability of fiscal resources. As part of the Commission on Fire Accreditation International (CFAI) process, a Community Risk Assessment/Standards of Cover (SOC) document adopted by the agency having jurisdiction sets the foundation for service level goals. In establishing these goals, the Clovis Fire Department used nationally recognized standards and best practices including: the National Fire Protection Association (NFPA) Standards, the CFAI – 10th Edition Fire and Emergency Services Self-Assessment Manual, the Utstein Reporting Criteria, American Heart Association guidelines, and the Insurance Services Office – Fire Suppression Rating Schedule. It also included input from a representative group of stakeholders from the community on the levels of service they want as residents.



A handwritten signature in blue ink that reads "John Binaski". The signature is written in a cursive, flowing style.

Fire Chief John Binaski

COMMUNITY RISK ASSESSMENT

A Community Risk Assessment involves the analysis of risk for fire and non-fire emergencies (i.e., emergency medical services, hazardous materials, and technical rescue). Impacts to life safety, assets, and the environment are measured along with an incident's relative probability. In summary, low risk is defined as incidents having low probability and low consequences; moderate risk is comprised of incidents having high probability with low consequences; high risk is defined as incidents having high probability and high consequences.

Within the categories of fire suppression, emergency medical services, hazardous materials and technical rescue, CFD has established specific risk classifications and has conducted critical task analyses to determine appropriate response levels. Critical task analysis determines how many personnel and what apparatus/equipment are necessary to mitigate a variety of emergency situations.

For low risk fires, three personnel will respond, moderate risk structure fires will have a response of sixteen personnel, and high risk structure fires will have a response of nineteen personnel. Three personnel will respond to all moderate risk EMS incidents. Low and moderate risk technical rescue and hazardous materials (HazMat) incidents will receive three personnel; ten personnel will respond to high risk technical rescue and HazMat incidents.



The Clovis Fire Department has established both baseline and benchmark performance measures. Baseline measures reflect historical performance and benchmarks are Total Response Time (TRT) goals. TRT is measured in two ways, first-arriving unit and effective response force (ERF) (i.e., total number of personnel necessary to address the emergency situation). TRT is comprised of call processing time, turnout time, and travel time. CFD observes the 90th percentile of performance as opposed to the 50th percentile (i.e., average) response time. In other words, what is done the majority of the time as opposed to what it is doing half of the time.

Based on the City of Clovis' adopted General Plan, a comprehensive risk assessment was conducted that included historical datasets, fiscal resources and input from community stakeholders. The Standards of Cover document establishes three (3) primary benchmark performance measures in terms of deployment, and emergency response.

**Fire Department Response Goal: First Unit –
Total Response Time – EMS Calls for Service
= 6 Minutes & 30 Seconds at 90 Percent**

**Fire Department Response Goal: First Unit –
Total Response Time – Fire, Hazardous Material
and Technical Rescue Calls for Service
= 7 Minutes at 90 Percent**

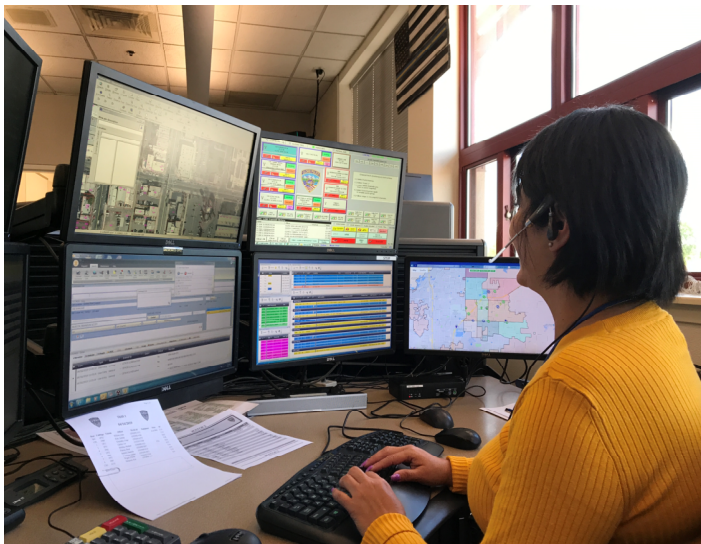
**Fire Department Response Goal:
Effective Response Force – Fire Calls for Service
= 10 Minutes & 30 Seconds at 90 Percent**

EMS benchmarks are 6 minutes and 30 seconds for the first-arriving unit and 10 minutes and 30 seconds for the ERF 90% of the time. Fire suppression, HazMat, and technical rescue benchmarks have been set at 7 minutes for the first-arriving unit and 10 minutes and 30 seconds for the ERF. Baseline performance measures for EMS for the last five years is 7 minutes and 47 seconds for the first-arriving unit and 8 minutes and 6 seconds for the ERF. Baseline performance measures for fire suppression are 8 minutes and 3 seconds for the first-arriving unit and 11 minutes and 25 seconds for the ERF. Baseline performance measure for Hazardous Materials is 7 minutes and 56 seconds for the first arriving unit. Baseline performance measure for Technical Rescue is 7 minutes and 26 seconds for the first-arriving unit.

CFD currently does exceedingly well when considering only turnout times. The department consistently monitors and coordinates with dispatch to meet adopted call processing requirements. CFD actively engages with the development community to ensure circulation and travel for emergency response are considered as part of continued growth.

After reviewing the Department's five-year baseline performance as compared to our established benchmarks, a significant area for improvement was identified in call processing. In some years, call processing times have increased as a result of additional questions being added during ProQA. These questions were a result of the COVID-19 pandemic. An additional delay was noted in the call transfer time from the primary to the secondary PSAP. Improvements have been identified and implemented. This includes rapid dispatch for certain call types and CFD is working towards establishing a CAD-to-CAD interface.

The second area of concern is the southeast and northwest areas of the City. Continued growth in these areas along with higher density housing has added both distance and increased population to



these areas. With Station 6 and another company now in service, we can expect improved response times in the southeast once the road network is improved as part of the various developments and planned infrastructure projects. In the northwest, we will be monitoring station planning efforts using historical benchmarks for opening a new station. Those benchmarks include when a new station response area has call demand greater than 350 calls for service, developed more than 50%, and response times are exceeding CFD's established benchmark by greater than 1 minute.

The purpose of this document is to provide elected officials, cooperating agencies, department personnel and, most importantly, citizens an overview of the assets at risk (people, possessions, homes, businesses, cultural assets, environment, etc.), and the methods the Clovis Fire Department will employ to protect those assets. It is not intended to be a stand-alone document but to be used in conjunction with the Department's Strategic Plan 2022-2027. While the CRA/SOC provides an overview of risk assessment, deployment of resources, and an analysis of current performance, the Strategic Plan outlines the resources needed to address the current service demands, departmental improvements, and anticipated changes within community.

DESCRIPTION OF COMMUNITY SERVED

Location

Clovis is located within northeast Fresno County, approximately seven miles southeast of Madera County. Situated in the northeast quadrant of the Fresno-Clovis Metropolitan Area, Clovis is in the midst of the agriculturally rich San Joaquin Valley. Since its incorporation in 1912, Clovis has been known locally as the "Gateway to the Sierra".

Region Geography

Clovis is situated in California's 10th largest county, Fresno County, which covers an area of over 6,000 square miles in Central California. It is approximately 200 miles north-northeast of Los Angeles and approximately 160 miles southeast of San Francisco. The County is located near the center of California's San Joaquin Valley and is part of the Great Central Valley, one of the State's distinct physical regions. The County's topography is characterized by broad, flat valley floors that generally slope from southeast to northwest; foothills and moderately high mountains (Coast Ranges) in the west; and foothills and high mountains (Sierra Nevada) in the east. Approximately 55 percent of the County is mountainous and 45 percent is valley land. Elevations range from 100 to 400 feet on the Valley floor to 4,000 feet in the Coast Ranges and more than 14,000 feet in the Sierra Nevada. There are two major rivers in Fresno County, both of which originate in the Sierra Nevada, the San Joaquin and Kings rivers.

City Geography

The City of Clovis is approximately 24.36 square miles serving a population of 121,834 as of 2021. Its service area encompasses the City of Clovis and unincorporated Fresno County, inclusive of the City's Sphere of Influence (31.67 square miles). All lands outside of the City's Sphere of Influence are regulated by the Fresno County General Plan and zoning designations. However, State law requires a city plan for areas outside of its immediate jurisdiction, if the areas have a direct relationship to planning needs.

Clovis consists of three distinct geographical areas: 1) The City, which represents the incorporated City defined as area within the City limit boundaries; 2) The Sphere of Influence, which corresponds to the City's existing Sphere of Influence; and 3) The Study Area, which includes unincorporated Fresno County lands outside of the City's Sphere of Influence.

Immediately beyond Clovis to the northeast are the western foothills of the Sierra Nevada Mountains. The City of Fresno and its Sphere of Influence are located to the southwest of Clovis. The southwestern portion of Clovis is characterized by urbanized land uses, whereas the northern and eastern portions of Clovis are predominantly rural in nature, comprised of agriculture, rural residential, and vacant land uses.

Region Climate

The climate varies among the County's three regions. Summers are long, hot, and dry in the Valley moderate to hot in the Coastal Ranges, and relatively cool in the high elevations of the Sierra Nevada. There is little precipitation in the County during the summer. Winters in the Valley and Coast Ranges are short and mild with light rain in the Valley and moderate rainfall in the Coastal Ranges. In the Sierra Nevada, winters vary from short and mild with frequent rain and some snow to moderately severe with frequent snow. Most of the seasonal precipitation occurs between October and April.

City Climate

Clovis experiences annual average temperatures of 63.2 degrees Fahrenheit and 10.2 inches of rain. While the average is relatively temperate, summer and winter months can bring extreme weather patterns to the region. During the winter, the high temperatures hover around 55 degrees. Combined with the regional geography and precipitation during this time, Clovis experiences numerous days with dense fog. This fog has the largest impact on transportation where accident rates jump 50%. Historically, Clovis has been impacted by severe freezing during the winter. Most notable were the winter freezes of 1990, 1997/1998, 2001, and 2006/2007. These freezes affected local agriculture and City infrastructure. Estimated agricultural losses in 2006/2007 totaled \$1M which does not include the additional financial losses resulting from damaged infrastructure.

During the summer months, the region receives extended periods of 100+ degrees Fahrenheit days, well above the national average. While the average summer temperature is 90 degrees Fahrenheit, these extended heat waves affect the medically fragile, elderly, and animal populations. The City staffs cooling centers to protect the vulnerable populations. In addition to heat waves, the Fresno County Region continues to suffer regular drought due to lower than normal snowpack in the Sierra Nevada Mountains that supplies water for agricultural use and replenishes the below-ground water table. Continued periods of drought are expected to periodically affect the region.



Topography

The topography of Clovis is generally flat with very little elevation change throughout the City. It is important to note that the City of Clovis is located within the central portion of California's San Joaquin Valley (27,280 square miles in size). Although Clovis is generally flat in elevation, the eastern border of the City is beginning to encroach upon the foothill areas that will pose a wildland urban interface hazard in the future.

Transportation Networks

The City is generally broken into a transportation pattern with major streets at the one-half mile mark. State Route 168 bisects the City diagonally from the southwest to the northeast and provides quick access to other major freeways that serve the central part of the state.

Population

Current population for the City of Clovis is 121,834. Over the last 20 years, Clovis has become the premier choice for housing developers and homebuyers in the Fresno/Clovis metropolitan area. Clovis has been aided by an outstanding school district that ranks among the best in the US. The City has a reputation as being a safe and friendly community in which to raise a family. However, vacant land is expensive. As Clovis strives to be more than a bedroom community, attention needs to be given to preserving land for job generating activity in order to meet the jobs/housing balance. Clovis shares a western and southwestern border with the City of Fresno. To the east, Fresno County contracts fire protection to CalFire serving primarily rural and suburban areas and fifteen communities.

COMMUNITY BOUNDARIES***Automatic Aid Agency Facts******Fresno Fire Department***

Population: 540,000
 Land Area: 115 sq. miles
 Population Density: Urban
 Stations: 24
 Daily Staffing: 81

***Fresno County Fire Protection District***

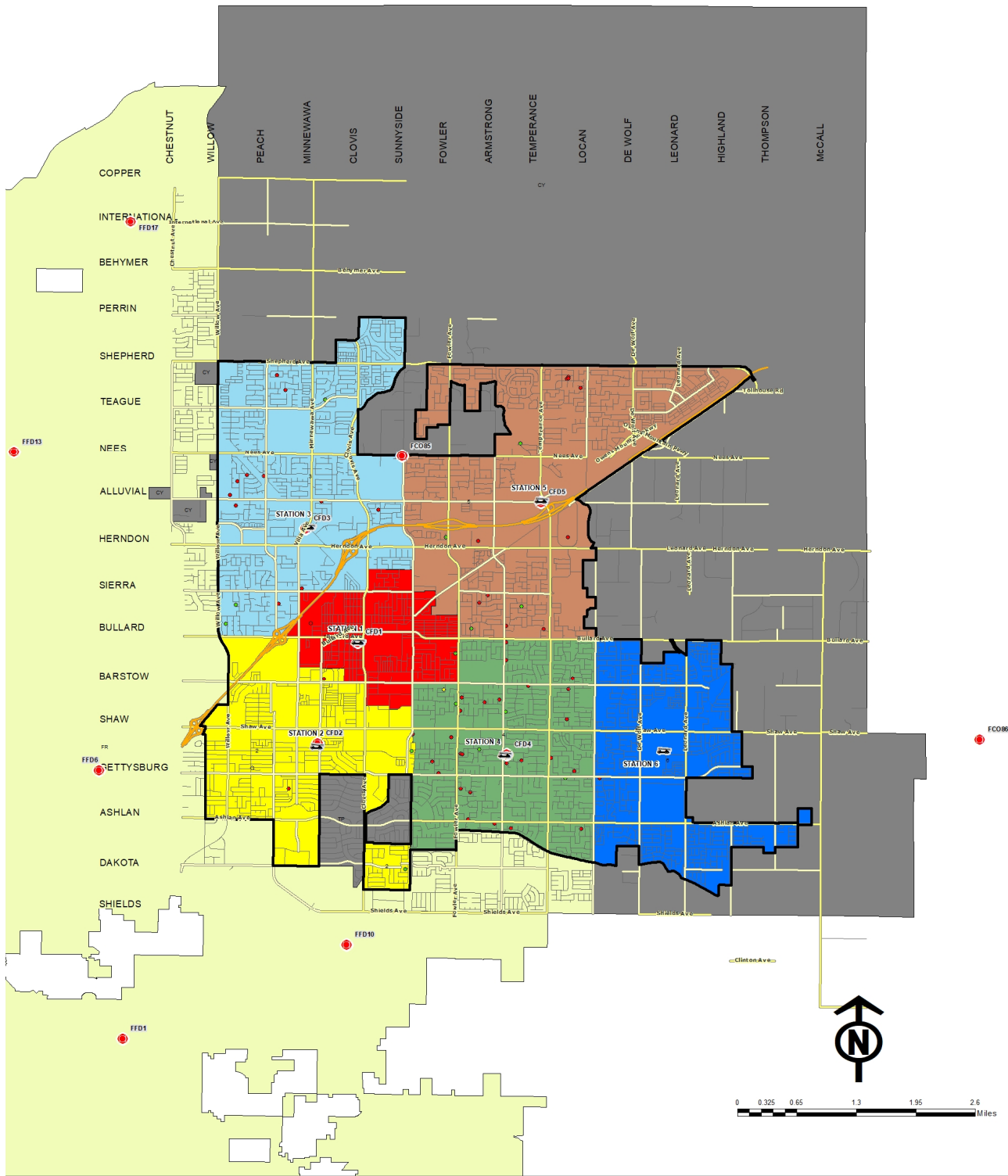
Population: 220,000
 Land Area: 2,655 sq. miles
 Population Density: Rural/
 Suburban
 Stations: 17
 Daily Staffing: 35












CLOVIS FIRE DEPARTMENT

STANDARDS OF COVER

Description of Community Served



**Clovis Fire Department
Service Area Boundaries
2022**

	Station 1		Station 4		County of Fresno
	Station 2		Station 5		Fresno City
	Station 3		Station 6		Tarpey Village

Land Use and Development

Adopted in 1993 and last updated in 2014, the Clovis General Plan provides comprehensive planning for the future. It encompasses what the City is now, what it intends to be, and provides the overall framework of how to achieve this future condition. Estimates are made about future population, household types, and employment base so that plans for land use, circulation and facilities can be made to meet future needs. The General Plan represents an agreement on the fundamental values and a vision shared by the residents and the business community of Clovis and the surrounding area of interest. Its purpose is to provide decision makers and the staff of the City of Clovis direction for confronting present issues as an aid in coordinating planning issues with other governmental agencies and for navigating the future.

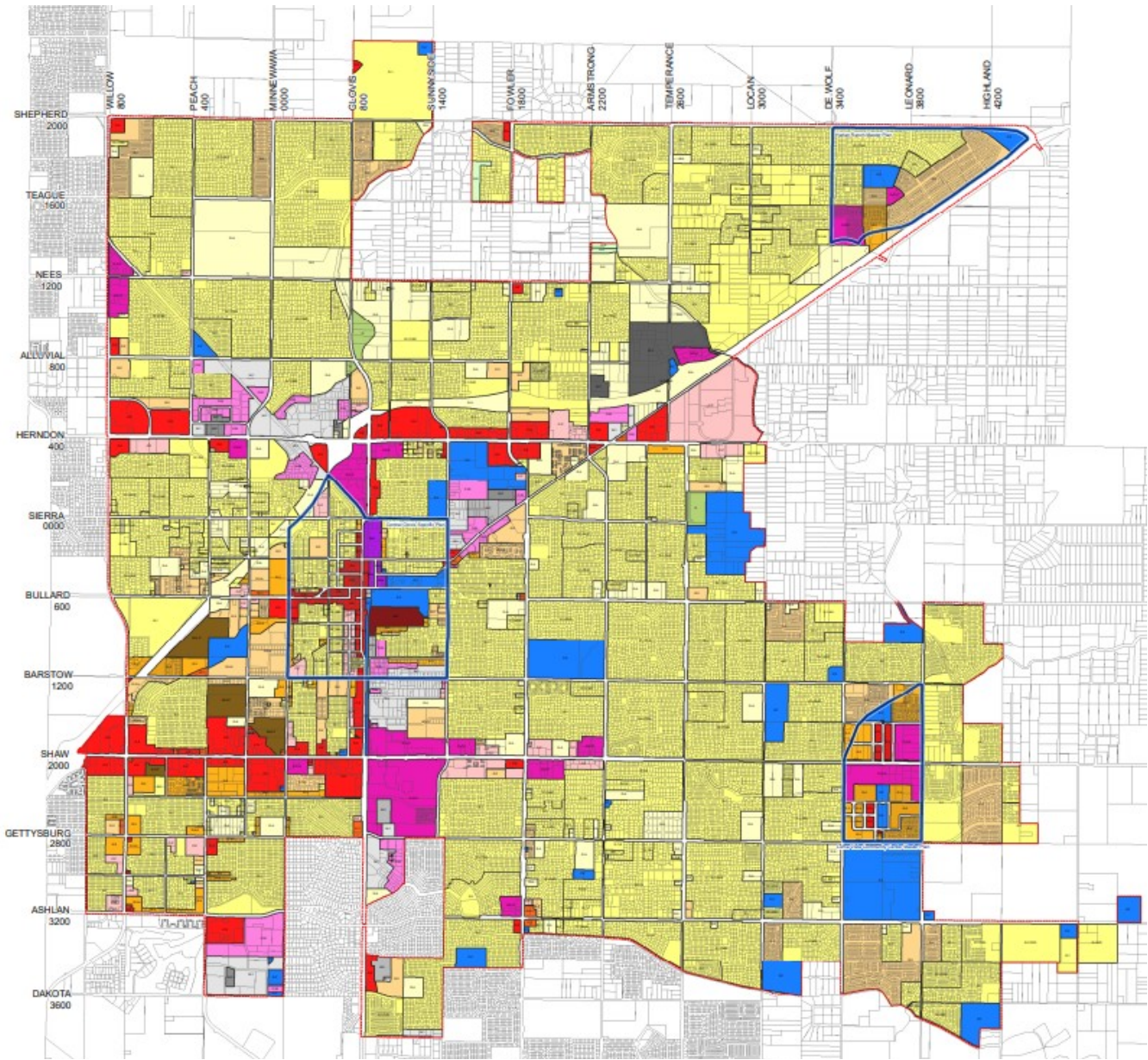
- The Land Use Element provides the central policy context on which to base all land use decision making in Clovis. It is through the implementation of the goals and actions that the future land use pattern of Clovis will continue to be shaped.
- Transportation routes (including the proposed beltway and tiered transportation system), design standards for streets, the transit corridor and current and future traffic levels on city streets are among the issues covered in the circulation section of the General Plan.
- The housing section looks at current and future need for housing units, the capacity in the City for additional units, the types of households that will need some form of assistance or special housing and ways to perpetuate existing housing.
- Conservation issues include strategies for an orderly transition from agriculture to urban uses, re-use of water and wastewater, conservation of ground water resources, and commitment to conservation of agricultural lands in a regional context.
- Open space and conservation issues include discussion of parks and recreation resources, targeted growth of these facilities and targeting open space to function in a multi-use capacity.
- Existing and future noise from traffic and other activities are issues discussed in the noise section.
- The safety section of the General Plan analyzes conditions in the City and surrounding study area that may be hazardous to those who live and work there, such as flood inundation, fire and hazardous materials.

Each of these issue areas have goals, policies and implementation measures designed to provide a safe and pleasant environment in the future. The City of Clovis General Plan contains not only the seven issue components required by state law, but also several chapters that detail the City's plan for the future. Included among these are chapters regarding public facilities and air quality. Each General Plan chapter covers an aspect of the City's growth and development. Components of each section are interrelated and therefore must be consistent with each other. Taken together, they provide the guidance as a comprehensive planning tool for the future.

CLOVIS FIRE DEPARTMENT STANDARDS OF COVER

Description of Community Served

AGENDA ITEM NO. 21.



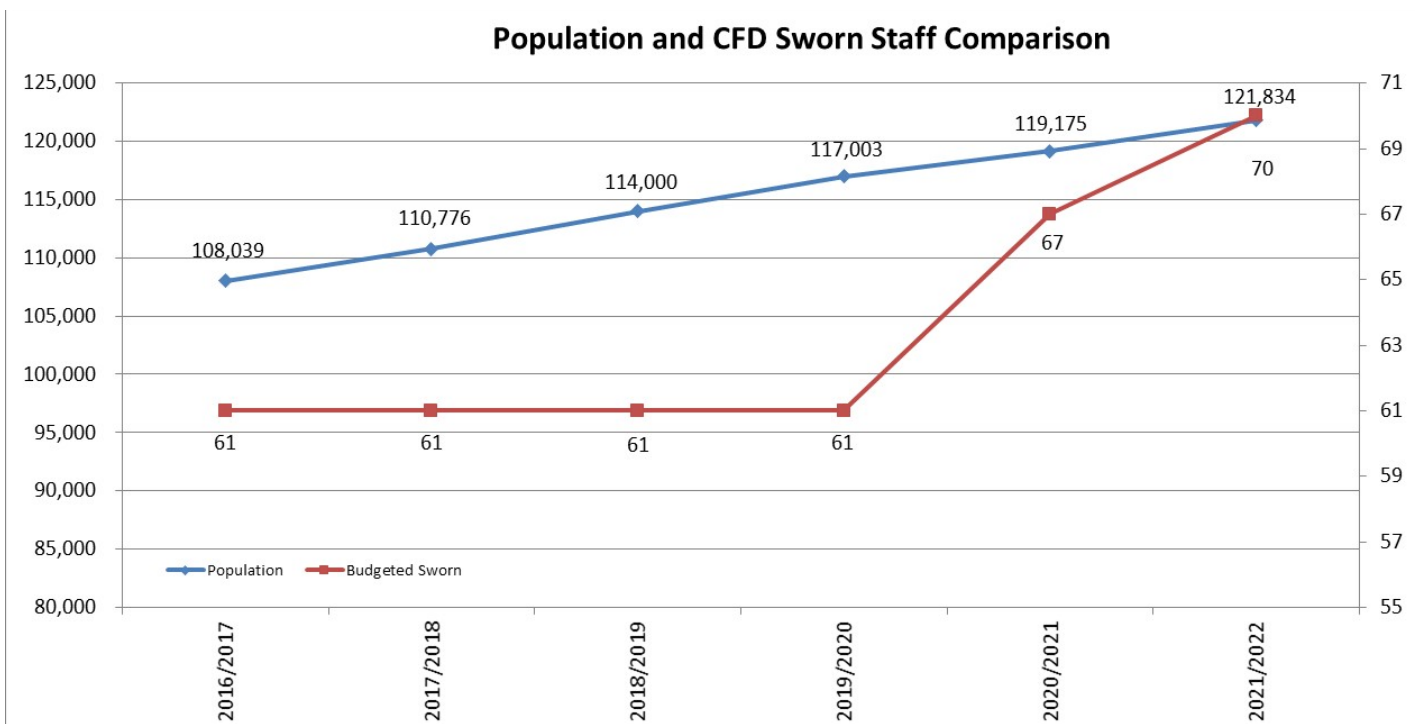
LEGEND

- | | | | |
|--|---|--|---|
| <ul style="list-style-type: none"> R-R (Rural Residential) (1 DU/2 AC) R-A (Single Family Residential - 24,000 Sq Ft) R-1 (Single Family Residential - 6,000 Sq Ft) R-1-A (Single Family Residential - 18,000 Sq Ft) R-1-AH (Single Family Residential - 18,000 Sq Ft) R-1-B (Single Family Residential - 12,000 Sq Ft) R-1-C (Single Family Residential - 9,000 Sq Ft) R-1-7500 (Single Family Residential - 7,500 Sq Ft) R-1-8500 (Single Family Residential - 8,500 Sq Ft) R-1-9500 (Single Family Residential - 9,500 Sq Ft) R-1-24000 (Single Family Residential - 24,000 Sq Ft) R-1-MD (Single Family Medium Density) R-1-PRD (Single Family Planned Residential Development) | <ul style="list-style-type: none"> R-1-PUD (Planned Unit Development) R-2 (Low Density Multiple Family Residential) (1 Unit/3,000 Sq Ft) R-2-A (Low Density Multiple Family Residential) (1 Unit/3,000 Sq Ft) (One Story) R-3 (Medium Density Multiple Family Residential) (1 Unit/2,000 Sq Ft) R-3-A (Medium Density Multiple Family Residential) (1 Unit/1,000 Sq Ft) (One Story) R-4 (High Density Multiple Family Residential) (1 Unit/1,000 Sq Ft) M-H-P (Mobile Home Park) M-U (Mixed Use) C-P (Professional Office) | <ul style="list-style-type: none"> C-1 (Neighborhood Commercial) C-2 (Community Commercial) C-3 (Central Trading District) P-C-C (Planned Commercial Center) C-M (Commercial - Light Manufacturi R-T (Research & Technology Park) M-1 (Light Manufacturing) | <ul style="list-style-type: none"> M-2 (General Industrial) M-P (Industrial Park) C-R (Commercial - Recreation) O (Open Space) P-F (Public Facilities) P (Off-Street Parking) City Limits |
|--|---|--|---|

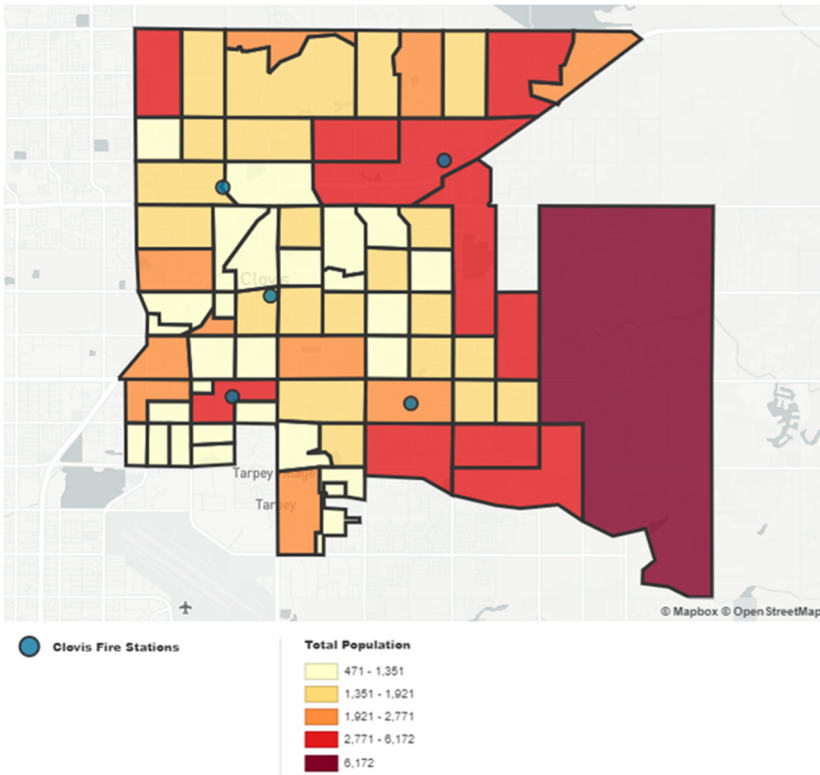
Projected Growth

The City of Clovis is within the Top 10 Fastest Growing Cities in California. Over the last 20 years, the City averaged over 750-1,200 residential permits. A majority of the permits were for single family detached residential occupancies. Clovis boundaries are expected to change substantially through continued annexation within the sphere of influence over the next 20 years. From this perspective, increases in population density will require a greater concentration and distribution of resources to meet the demand, particularly in the southeast and northwest areas.

Five years of historical call volume were utilized to identify general trends in community demands for service. In coordination with dispatch, CFD has managed call volume through greater use of auto/mutual aid agreements and eliminating non-emergency (low-priority) calls for service. With the addition of new personnel to staff Station 6 in 2022, CFD is able to meet the established response time benchmarks in the southeast area. The chart below shows population growth and fire department staffing since 2016.



Demographics



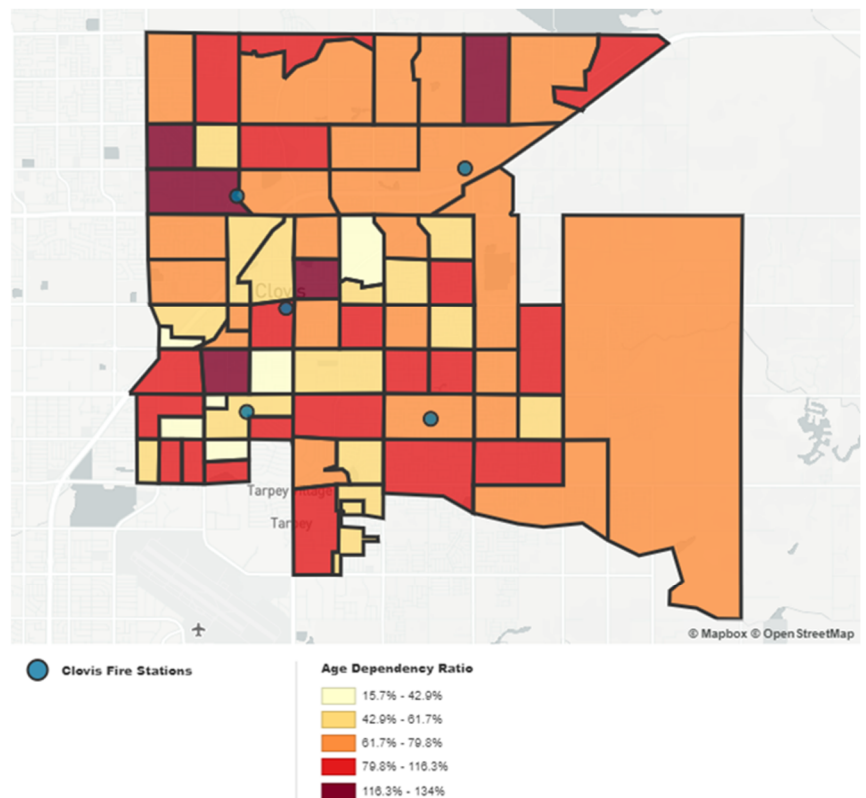
Population

To help anticipate service demand needs, local resident demographics must be understood. This section provides information about the demographics of the Clovis community. With continued growth in geography and changing state requirements for housing, Clovis is seeing greater density in population to the northwest and southeast, as these areas represent newer development with more units per acre.

Sources: US Census Bureau ACS 5-year 2016-2020

Age

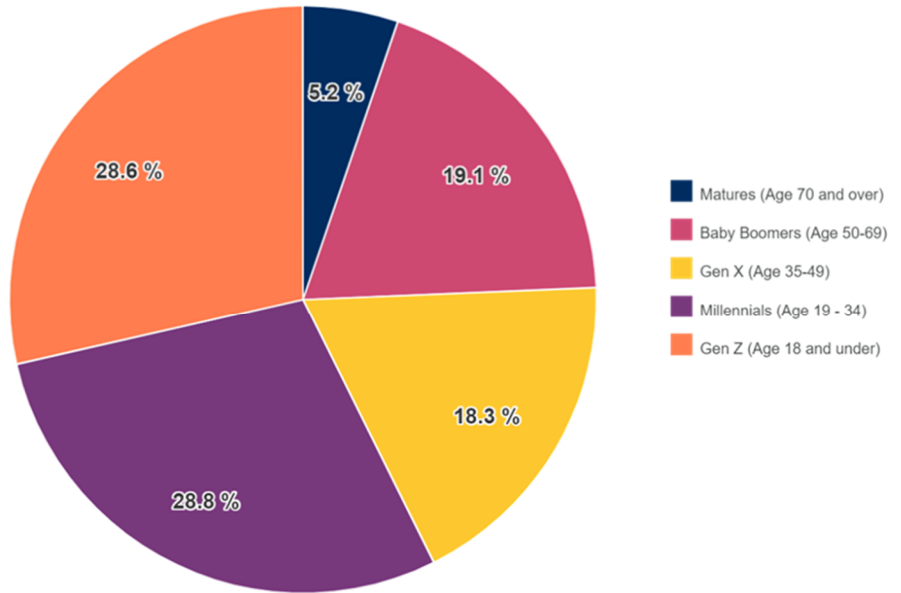
Clovis’s median age (36) has grown older and is only slightly less than the median Californian age (37). Another attribute, which separates Clovis from California is age dependency. Age dependency compares the number of dependents (younger than 18 or older than 64) with the total workforce population. In the case of Clovis, that ratio is 74% when compared to the state percentage of 59%. This variance is largely due to the number of children ages 0 – 19. The larger population in Clovis, age 18 and over by sex, are females at 51% compared to males at 49%. These numbers are close enough to be considered statistical equals.



Sources: US Census Bureau ACS 5-year 2016-2020

Generations

The consideration of groups of people by generation is also helpful when analyzing the community. Generational groups tend to have characteristics, which differ from others. Clovis’s generational population is comprised of Matures, Baby Boomers, Gen X, Millennials and Gen Z. In Clovis, Millennials, and Gen Z account for over half of the populace.



Family Households
75%
 Clovis Fire Department

69%
 California

65%
 United States of America

Nonfamily Households
25%
 Clovis Fire Department

31%
 California

35%
 United States of America

Households and Families

This data demonstrates key indicators to understanding the community. In Clovis, 75% of households have family units (1 or more people) that are related by birth, marriage, or adoption. Non-family households with one person or two non-related individuals compose the remaining 25%.

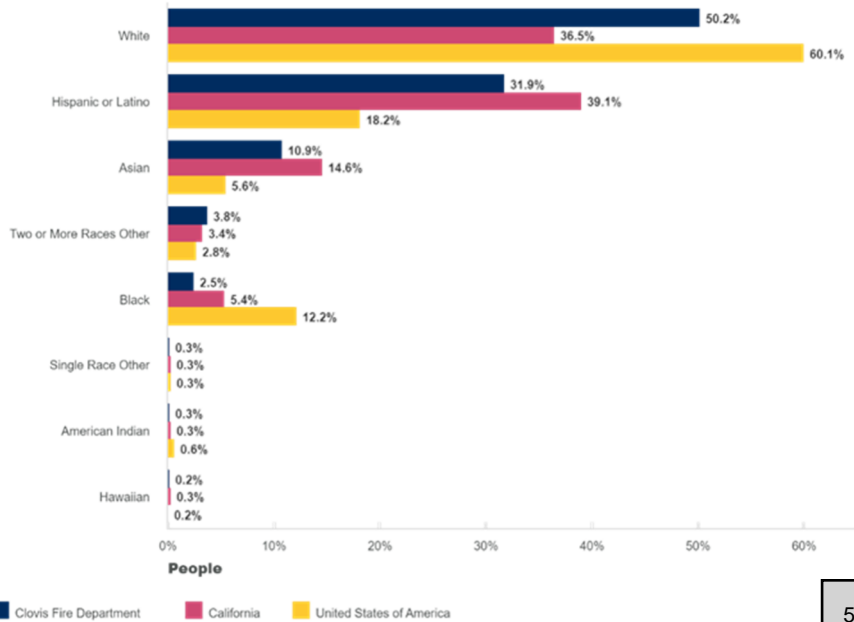
Race

Clovis continues to grow in diversity. The top three racial groups are White, Hispanic or Latino, and Asian.

Language

The most common languages spoken at home in Clovis are English and Spanish. For this reason, public education provides safety information and materials in both English and Spanish. Additionally, many other languages are present within the community.

Race/Ethnicity Totals



mySidewalk.com - Values for Black, Hawaiian, White, Asian, American Indian, Single Race Other, and Two or More Races are all not Hispanic.

CLOVIS FIRE DEPARTMENT STANDARDS OF COVER

Description of Community Served

AGENDA ITEM NO. 21.

Income and Employment

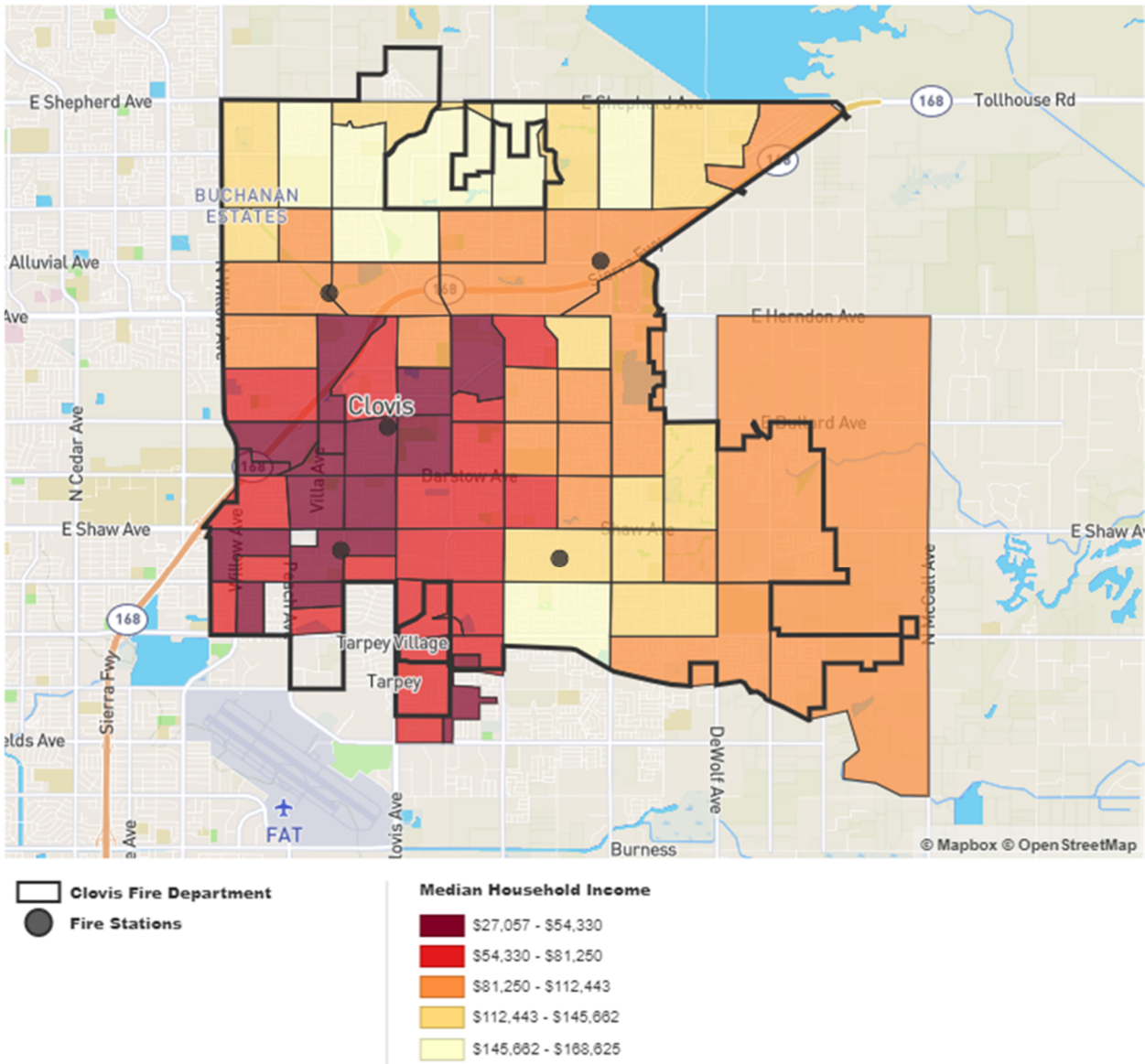
The median household income in Clovis is \$84,119, which is slightly higher than neighboring communities. Clovis also has poverty levels lower than both California and the US.



Sources: US Census Bureau 2010; US Census Bureau ACS 5-year 2016-2020

Sources: US Census Bureau ACS 5-year 2016-2020

Median Household Income



Sources: US Census Bureau ACS 5-year 2016-2020

Housing Conditions

By understanding where and how our citizens live, we can better plan for emergencies and find programs to help our citizens address their needs.

Older homes can pose several challenges. They can lack structural integrity, have unsafe wiring, and often don't comply with the most up-to-date building codes. Older homes can also pose hazards to the health of residents. As with other risks, the southwest portion of Clovis shows a heightened risk for building age when compared to the rest of the City. Coupled with a greater ratio of overcrowded housing units, allocating both prevention and response resources are essential strategies to help reduce life/property loss.

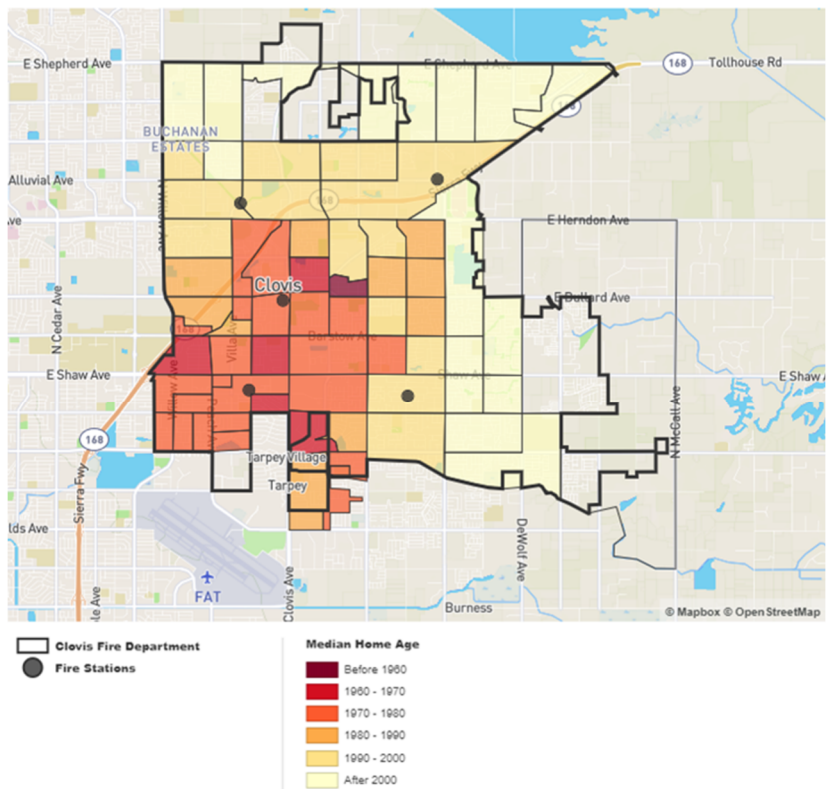
People who live in rented housing units are often prevented from making significant updates to wiring or implementing other major safety precautions. Renters have to rely on the property owner to ensure proper safety measures are taken. At the same time, property owners have little control over their tenants' potential risky behaviors.

In addition, there may be more than one housing unit in a single building, whether rented or owned, adding even more uncontrollable factors to a home and any necessary emergency response. In Clovis, the percentage of renter occupied units is less when compared to California as a whole.

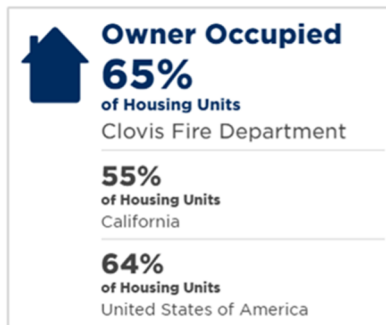


Sources: US Census Bureau ACS 5-year 2016-2020

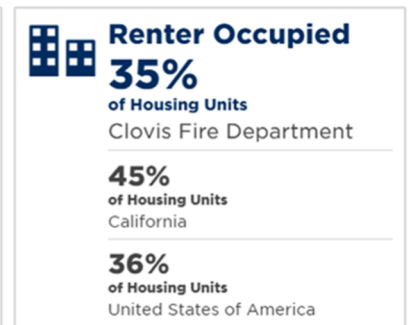
Median Home Age



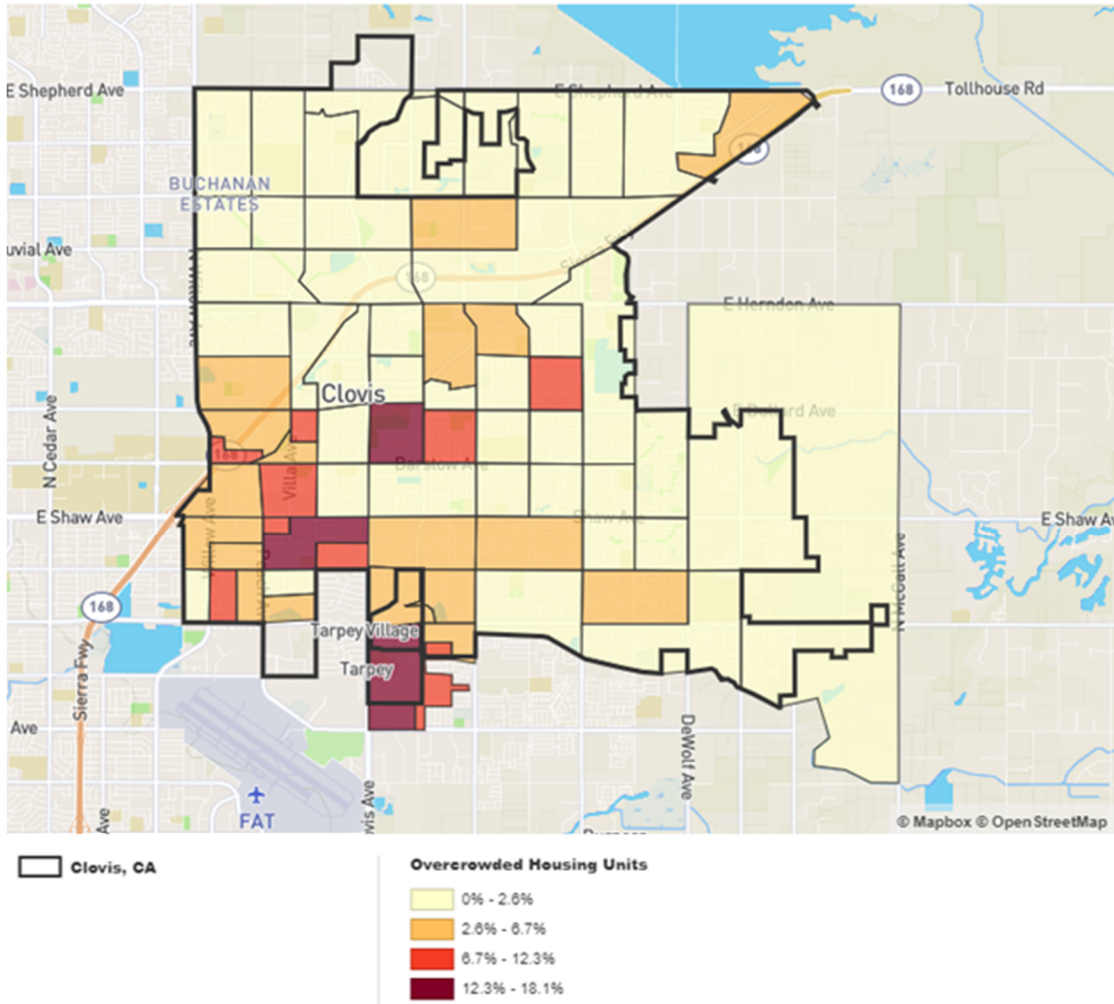
Sources: US Census Bureau ACS 5-year 2016-2020



Sources: US Census Bureau ACS 5-year 2016-2020



Overcrowded Housing Units

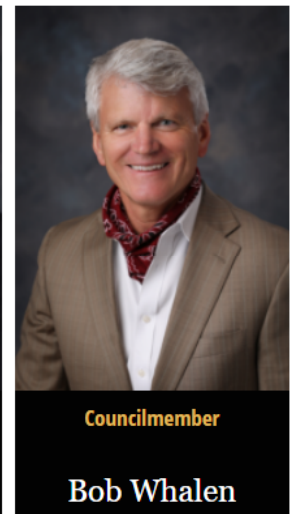


Sources: US Census Bureau ACS 5-year 2016-2020

Overcrowded housing units are occupied housing units that contain more than one person per room.

Governance

The City of Clovis has adopted a “council-manager” form of government. The governing board of the Clovis Fire Department is made up of the five (5) member Clovis City Council (Council) that are responsible for the appointment of the City Manager based upon an individual’s executive and administrative qualifications. The City Manager is the administrative head of the City government under the direction and control of the City Council. The City Council may not give direction to or have control of any subordinates of the City Manager. The members of the City Council elect, among themselves, one member to serve as Mayor for a two year term, who performs strictly ceremonial duties and acts as a member and presiding officer of the Council.



The positions of City Manager and City Council are governed by the Clovis Municipal Code that also defines the auspices of the City Manager and the City Council. The Clovis Municipal Code provides general policies that guide the City of Clovis, approved programs and services, and appropriated financial resources.



John Holt
City Manager

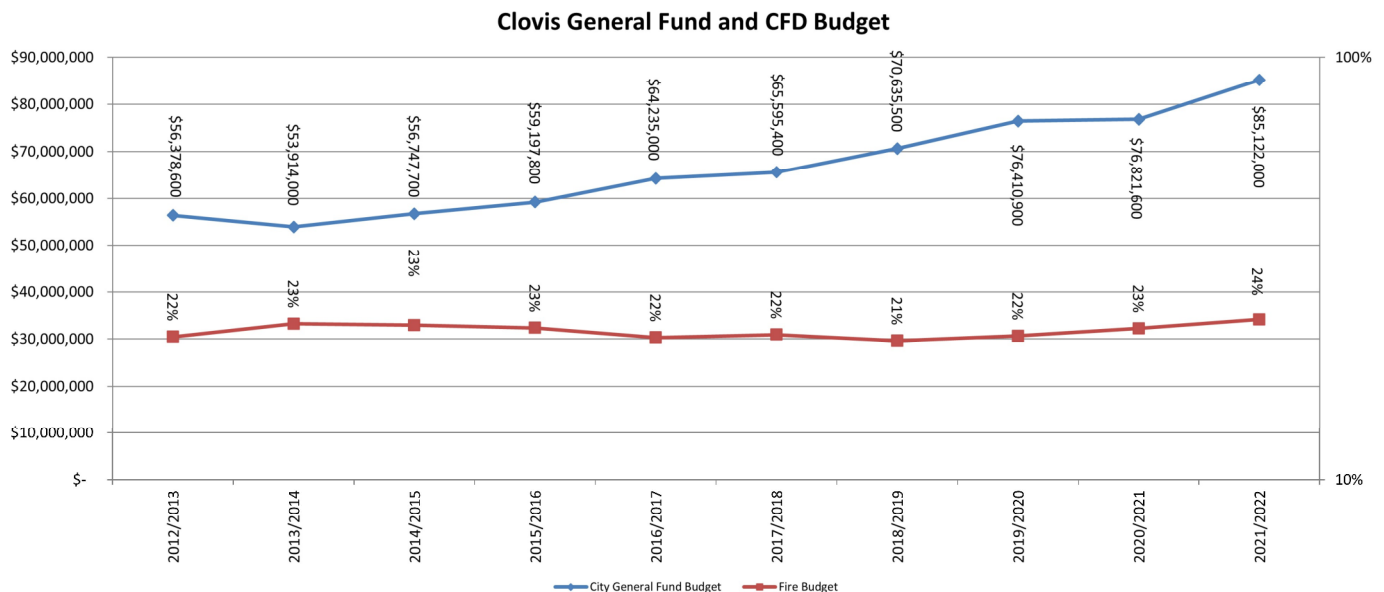


Andrew Haussler
Assistant City
Manager

Finance

The City Council for the City of Clovis provides the direction to the City Manager to develop an annual budget that is reviewed and adopted by the City Council. The City Manager delegates the responsibility and authority to the Fire Chief to plan for and budget for the funds to provide fire protection and other emergency services to the citizens of Clovis. The City Municipal Code outlines the budget process. The annual City Budget document provides a plan and the needed funding for the Clovis Fire Department to carry out its mission.

The financial resources that are used to fund Fire Department operations come from the City's General Fund. There is a distinction between the two types of revenue that make up the General Fund, discretionary and non-discretionary revenues. Non-discretionary revenue has restrictions on its use and the City must use it on the programs for which it was intended. An example would be gas taxes that must be used on street repairs. Discretionary revenues are those that the City can determine, without restriction, how they want to expend those funds. Examples of these revenues include property taxes and most sales taxes. The City provides a detailed summary of discretionary and non-discretionary revenues in the budget document. The Fire Department is primarily funded by discretionary revenue. A Use of Discretionary Revenue summary report is also provided in the budget document. An analysis of Fire Department funding demonstrates allocation of 20% - 24% of the general fund over a 10-year period.



CLOVIS FIRE DEPARTMENT STANDARDS OF COVER

Description of Community Served

AGENDA ITEM NO. 21.

The budget document provides specific budget detail for each Fire Department division including Emergency Operations, Community Risk Reduction, and Administration. This detail includes the previous fiscal year's actual expenditures, the revised estimate of expenditures for the current fiscal year and the requested budget amount.

The City also charges a one-time development fee for all new units, equal to \$1,568 per residential unit. This fee is specifically established to construct, equip, and furnish fire stations and is a source of non-discretionary revenue. The City also collects an annual Community Facilities District fee for new areas of development that is used to fund police and fire deployment. The current rate for 2022 is \$265 per residential unit. This fee is divided between fire (35%) and police (65%).

The City's Finance Department has projected revenue for fiscal year 2022-2023 to increase 4% over 2021-2022. The City has assumed an industry-wide assumption of 13% for revenue growth between 2021 and 2025. For the same timeframe, total expenditures are projected to increase by 10%.

CITY OF CLOVIS

General Fund Financial Forecast - Summary

(dollars in thousands)

	ACTUALS			ESTIMATED	PROJECTED				
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Beginning Available Fund Balance	420	3,630	4,430	4,110	4,820	2,410	1,310	1,080	720
Reappropriation/Encumbrances	(230)	10	(190)	(740)					
REVENUES									
Discretionary	53,510	55,640	57,710	60,360	63,250	66,240	69,060	71,970	75,000
Non-Discretionary	16,450	17,590	17,550	22,340	19,580	19,790	19,890	19,340	19,790
Total Revenues	69,960	73,230	75,260	82,700	82,830	86,030	88,950	91,310	94,790
EXPENDITURES									
Public Safety	49,730	52,030	54,420	60,060	63,070	64,400	66,180	68,040	69,880
Public Utilities	8,990	9,990	10,050	10,680	11,160	11,270	11,460	11,700	11,910
General Government	7,450	8,330	8,360	9,210	9,400	9,590	9,670	10,060	10,140
Total Expenditures	66,170	70,350	72,830	79,950	83,630	85,260	87,310	89,800	91,930
Resources Above/(Below) Operating Expenditures	3,790	2,880	2,430	2,750	(800)	770	1,640	1,510	2,860
ADDITIONAL ITEMS									
Transfers In from Successor Agency	0	0	450	0	0	0	0	0	0
Transfers Out to General Government Facilities Fund	0	0	0	(950)	(1,060)	(1,320)	(1,320)	(1,320)	(1,320)
Transfers Out to PDS/Projects	(300)	(990)	(300)	(300)	(300)	(300)	(300)	(300)	(300)
Transfers Out to Fleet Fund	0	0	(2,660)	0	0	0	0	0	0
Total Additional Items	(300)	(990)	(2,510)	(1,250)	(1,360)	(1,620)	(1,620)	(1,620)	(1,620)
Net Increase/(Decrease) to Fund Balance	3,490	1,890	(80)	1,500	(2,160)	(850)	20	(110)	1,240
OTHER ITEMS									
(Use of)/Addition to Emergency Reserve	50	1,100	50	50	250	250	250	250	250
Total Other Items	50	1,100	50	50	250	250	250	250	250
Ending Available Fund Balance	3,630	4,430	4,110	4,820	2,410	1,310	1,080	720	1,710
Emergency Reserve-(Dollars)	11,660	12,760	12,810	12,860	13,110	13,360	13,610	13,860	14,110
Emergency Reserve as a % of Expenditures	17.60%	18.10%	17.60%	16.10%	15.70%	15.70%	15.60%	15.50%	15.40%

COMMUNITY EXPECTATIONS

Stakeholder Input Process

Clovis Fire updated its Strategic Plan in 2022 to help develop this document. This update included input from individuals both inside and outside of the organization and a summary of the results of the stakeholder input process for the Strategic Plan.

Community Expectations

Community expectations were evaluated through structured interviews and interaction with chief officers, City Staff, key community stakeholders, and sworn personnel. Beginning in 2014 an external stakeholder group participated in a multi-day process that included review and analysis of services offered by Clovis Fire along with the fiscal resources available to support operations.

At the conclusion, stakeholders provided input that assisted in establishing response goals, prioritization of services provided, and general feedback. Community stakeholders have been brought back with each



- Maintain the Community Emergency Response Team (CERT) as a valuable asset to the department and community.
- Continue to hire who are well-trained, professional, and courteous. Provide continued education and training to department members to enhance service levels.



update including the Fall of 2021 to revisit the original results and confirm if they are still valid today.

Feedback and goals identified by the community stakeholders in our 2021 session included:

- Maintain current service delivery levels.
- Future development should not adversely affect the current level of service for the existing areas of the community.

GUIDING PRINCIPLES

Our Mission

Provide for the fire and life safety of the community in the most professional, courteous, and efficient manner possible.

Our Vision

The Clovis Fire Department is dedicated to serving the people of our community and we will work to continue to exceed community expectations. We will provide leadership locally, regionally, and nationally. We will establish and strengthen partnerships and cooperate with allied agencies to enhance our service. We will provide the best service possible within the fiscal opportunities available. We will exercise foresight in planning, preparing and auditing for the safety and well-being of the community. We will promote confidence, trust and self-reliance through personal and professional growth. We will support our workforce to maintain a healthy lifestyle and perform duties in a safe and responsible manner.



Our Values

We Value the Clovis Way of Life Through...

Teamwork	Empowerment of our personnel to provide quality customer service
Traditions	Remembering the past
Innovation	Always seeking to acquire knowledge and skill
Integrity	Adherence to moral and ethical principles
Honor	Integrity in one's beliefs and actions
Respect	Deference to the rights or opinions of others
Creativity	Transcending traditional ideas or patterns to create meaningful change
Courage	Facing difficulty without fear

Our Slogan

Prevent Harm, Be Professional, Use Resources Wisely

Our Motto

Service with Pride

COMMUNITY RISK ASSESSMENT

Risk Assessment Methodology

The risk assessment process utilized a systematic methodology to evaluate the unique risks that are specific to the Clovis Fire Department. This process evaluated risk from two broad perspectives.

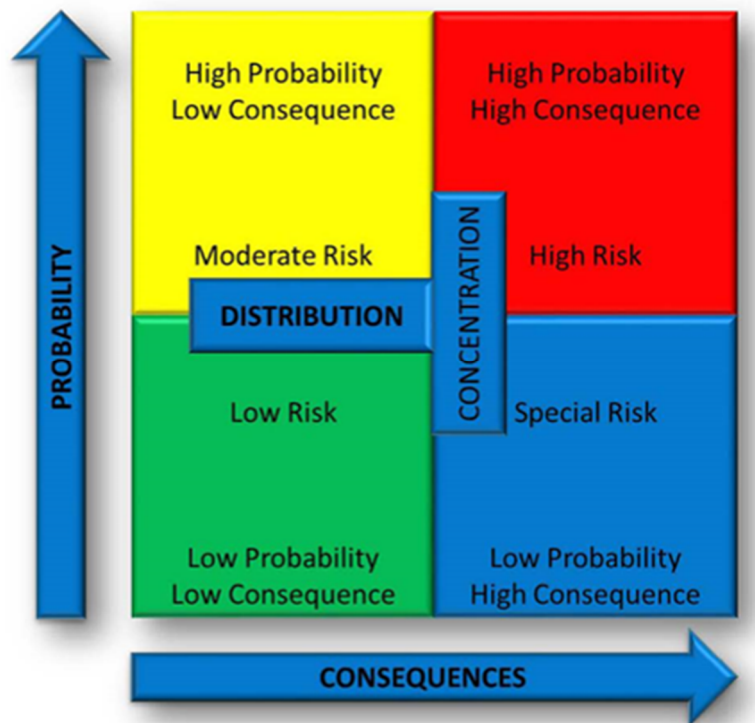


First, risk is identified through retrospective analyses of historical data. Second, risk is evaluated prospectively providing the necessary structure to appropriately allocate personnel, apparatus, and fire stations that afford sufficient distribution and concentration of resources to mitigate those risks. This methodology also provides information to consider alternative solutions to assist in the mitigation of risks.

Service areas that had little quantitative data, or did not require that level of analysis, were evaluated through retrospective analysis.

Risk Levels

Community service demands were analyzed by the incident history, type, locations, and incident frequencies. Within this process, a temporal analysis was completed for each major program area and evaluated by station demand zone and the frequency of incidents. Community risks were evaluated by each program area and risks were identified in each demand zone. This methodology not only provides for sufficient allocation of resources to manage the readiness or preparedness aspects of the deployment strategy, but also balances the costs of readiness with an in-depth understanding of the probability of events through historical analyses. The combined results of this process were utilized to classify risk by severity utilizing a probability and consequence matrix for each program/risk area. Finally, the critical tasks required for each level of risk were identified. An example of the overall probability and consequence matrix is provided.



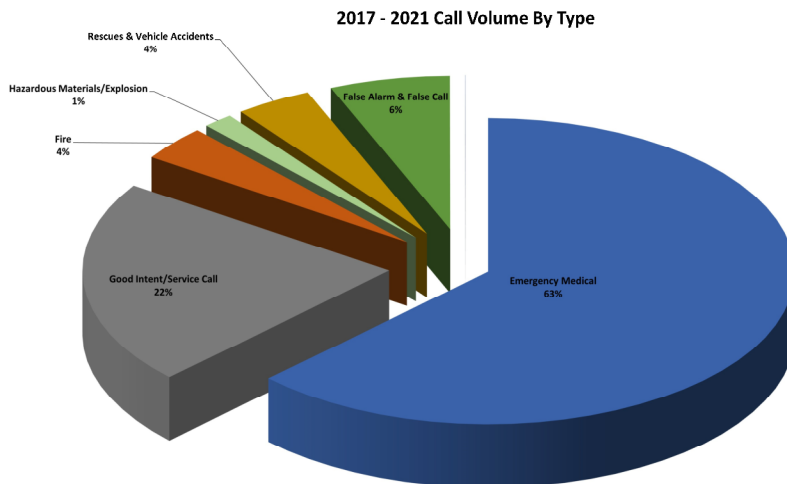
COMMUNITY RESPONSE HISTORY

Methodology

We collected data directly from CAD and NFIRS and processed that information through two software packages to develop a comprehensive profile unique to the hazards and call types present in the City of Clovis. In this report, we primarily focused our analysis on the five-year period of 2017-2021. We utilized the two distinct measures of call volume and workload. First, is the number of requests for service that are defined as either “dispatches” or “calls”. Dispatches/calls are the number of times a distinct incident was created involving Clovis Fire Department units deployed within the city limits or one of the two neighboring auto/mutual aid partners. Conversely, “responses” are the number of times that an individual unit (or units) responded to a call. Responses will be utilized on all unit and station level analyses, which account for all elements of workload and performance. Calls have been categorized as Fire, EMS, Rescue/MVA, Hazardous Condition, Good Intent/Service Call and False Alarm respectively.

Overview of Community Response Performance

The following illustration demonstrates workload by call type. When accounting for call types over the past five years, EMS service requests accounted for 64% of the total number of incidents. Fire-related calls represented 4% and the remaining balance falling into the four remaining categories.



Call Volume by Call Type, 2017-2021						
Incident Type	2017	2018	2019	2020	2021	3-Year Average
Emergency Medical	5,954	6,142	6,599	6,566	7,134	6,479
Good Intent/Service Call	2,268	2,469	2,253	2,097	2,082	2,234
Fire	447	336	351	386	386	381
Hazardous Materials/Explosion	147	177	193	178	130	165
Rescues & Vehicle Accidents	412	375	467	397	427	416
False Alarm & False Call	603	621	799	647	613	657
TOTAL	9,831	10,120	10,662	10,274	10,772	10,332

The City of Clovis consists of a variety of risks that CFD is routinely called upon to respond to. The service area encompasses nearly 25 square miles, not including areas served through automatic and mutual aid agreements. These areas include both a structural and non-structural risk in this evaluation. Non-structural risks include emergency medical, hazardous materials, technical rescue, water rescue, wildland/urban interface, and natural disasters. Structural risks evaluated included all structures within the service area, major highways and roadways that transverse the area, water, power, communications and other critical infrastructure, as well as items of historical and cultural significance. In order to determine the extent of various risk factors, CFD analyzed the demographics in the area protected, the building stock, historical call volume, and the existing deployment of resources.

Fire Department Services

The Department provides services for the suppression of fires using a minimum of six fire stations, five fire engines fully equipped with water supply, hoses, portable ladders, and various tools such as axes. In addition, a dedicated ladder truck is deployed for operating at incidents where elevated fire streams and rescuing trapped victims from upper floors is needed. There is one Battalion Chief assigned each day that provides command and control activities at significant fires. Finally, CFD provides response capabilities and personnel for wildland fire risks in cooperation with the California Office of Emergency Services.

A reliable and accurate measure of performance is the fractal or percentile. This measure is an industry best practice and is more robust, or less influenced by outliers, than measures of central tendency such as the mean or average. Best practice is to measure at the 90th percentile. In other words, 90% of all performance is captured expecting that 10% of the time the department may experience abnormal conditions that would typically be considered an outlier. For example, if the department were to report an average



response time of six minutes, then in a normally distributed set of data, half of the responses would be longer than six minutes and half of the responses would be less than six minutes. The 90th percentile communicates that 9 out of 10 times the fire department's performance is predictable and, thus, more clearly articulated to policy makers and the community.

Community Service Demands

Over the five-year period of 2019-2021, the Clovis Fire Department responded to a total of 31,735 requests for service, or dispatches, including auto and mutual aid requests. The number of fire-related calls were 1,122, which accounted for 3.54% of the dispatched incidents. The number of individual unit responses will be more reflective of total department workload since 28% of the responses include more than one unit. Below is a summary of the responses for the period of 2019-2021.

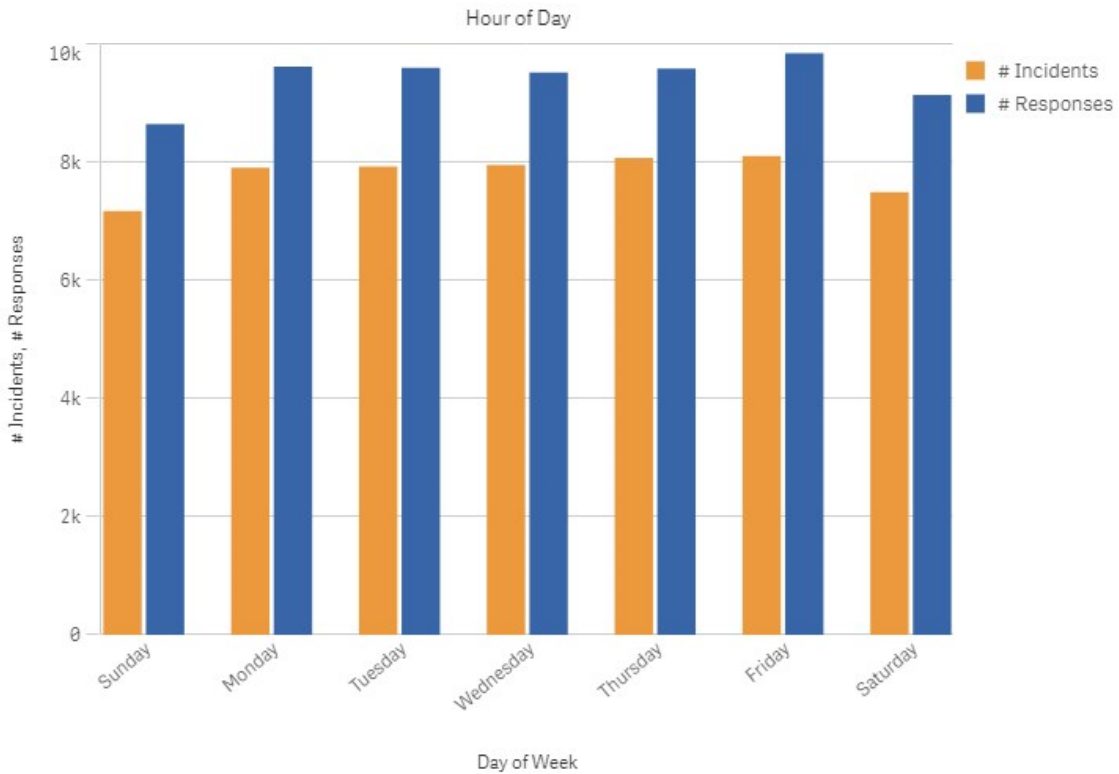
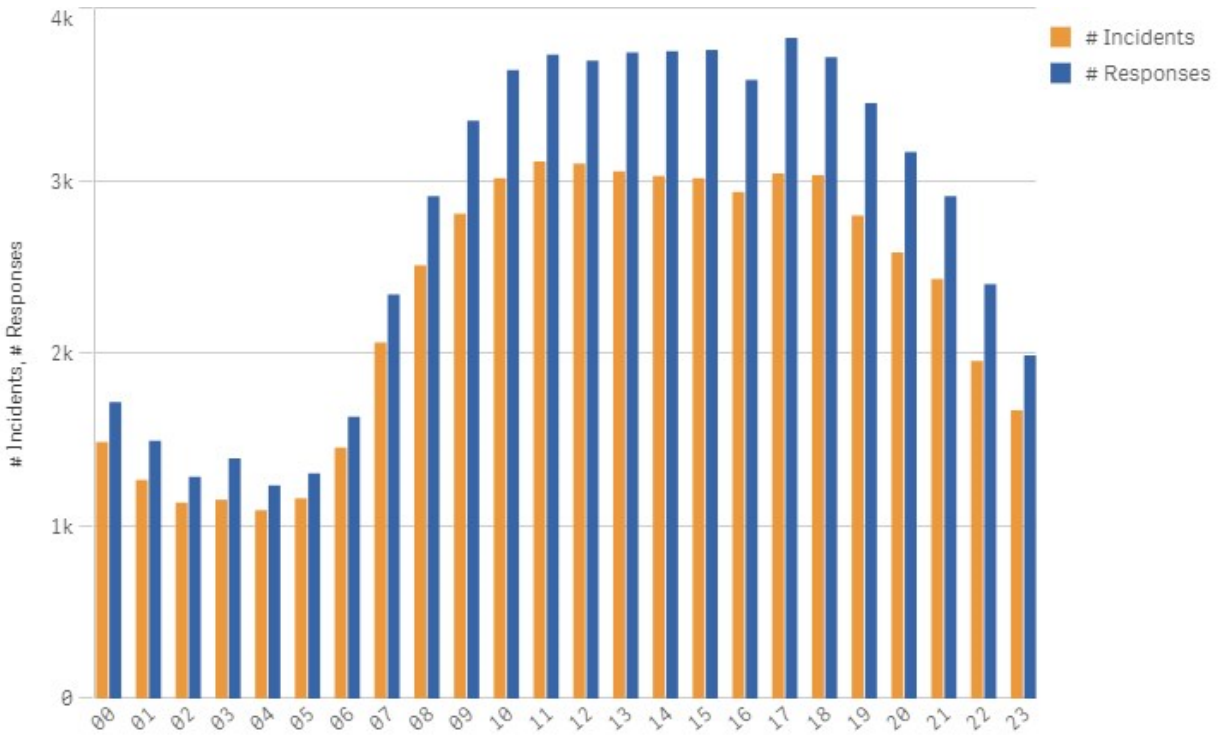
The number of individual unit responses will be more reflective of the total department workload since 12% of the calls resulted in multiple units dispatched. As summarized below, all CFD units combined made 64,714 responses inclusive of auto/mutual aid support over a five-year period.

Incident Category	All Incidents	All Incidents Percent	First-In Units	First-In Units Percent	Unit Responses	Unit Responses Percent
FIRE, EXPLOSION	1,869	3.57%	1,649	3.77%	6,717	10.38%
OVERPRESSURE, RUPTURE, EXPLOSION,	10	0.02%	10	0.02%	18	0.03%
RESCUE, EMS	34,967	66.87%	34,906	79.85%	37,392	57.78%
HAZARDOUS CONDITION	913	1.75%	885	2.02%	1,670	2.58%
SERVICE CALL	1,503	2.87%	1,475	3.37%	1,738	2.69%
GOOD INTENT CALL	9,674	18.50%	1,468	3.36%	13,003	20.09%
FALSE ALARM, FALSE CALL	3,293	6.30%	3,270	7.48%	4,103	6.34%
SEVERE WEATHER, NATURAL DISASTER	1	0.00%	1	0.00%	1	0.00%
SPECIAL OR OTHER INCIDENT TYPE	63	0.12%	48	0.11%	72	0.11%
Report Totals	52,293	100.00%	43,712	100.00%	64,714	100.00%

Responses within the City of Clovis totaled 54,371 over the same five-year period and reflect assignments made to Clovis units along with any calls assigned to auto/mutual partners necessary to fulfill a first alarm assignment or first due if that unit were closer than a Clovis unit.

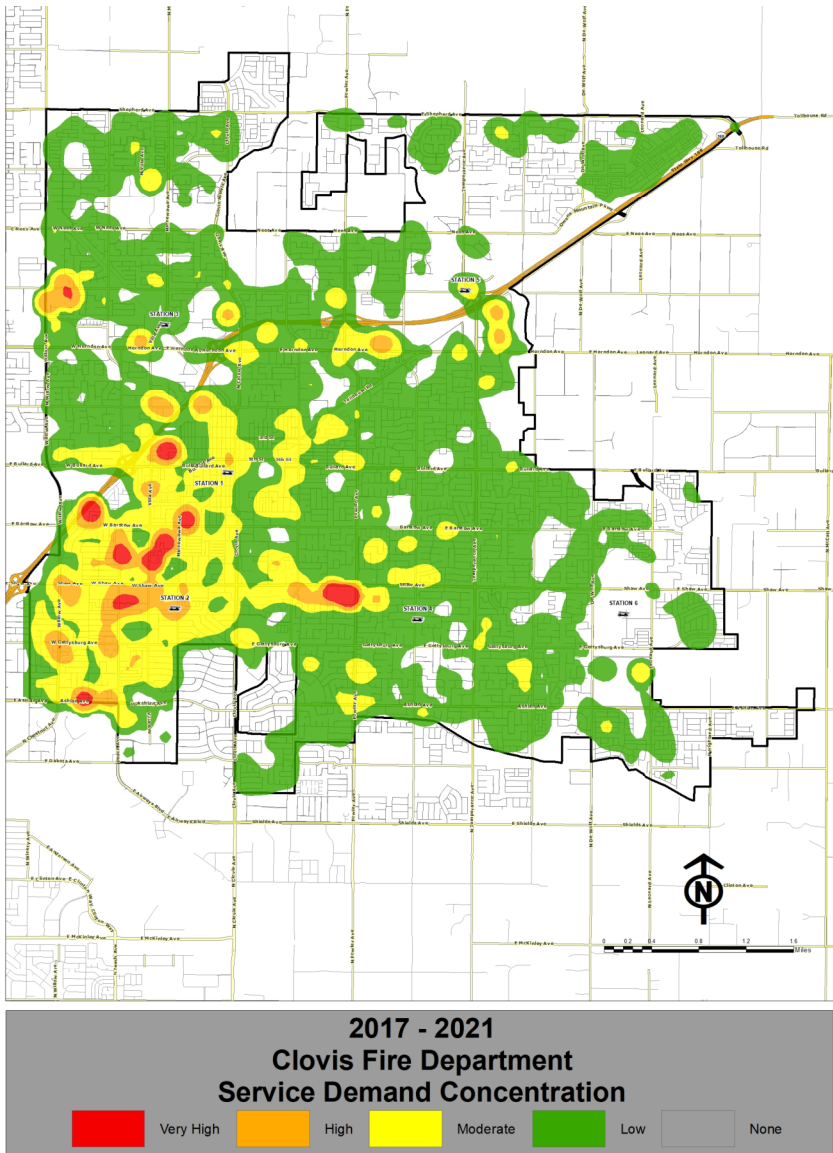
Incident Category	All Incidents	All Incidents Percent	First-In Units	First-In Units Percent	Unit Responses	Unit Responses Percent
FIRE, EXPLOSION	1,023	2.17%	973	2.45%	3,360	6.18%
OVERPRESSURE, RUPTURE, EXPLOSION,	9	0.02%	9	0.02%	15	0.03%
RESCUE, EMS	32,282	68.57%	32,239	81.25%	34,317	63.12%
HAZARDOUS CONDITION	810	1.72%	784	1.98%	1,392	2.56%
SERVICE CALL	1,450	3.08%	1,427	3.60%	1,653	3.04%
GOOD INTENT CALL	8,208	17.43%	980	2.47%	9,581	17.62%
FALSE ALARM, FALSE CALL	3,241	6.88%	3,221	8.12%	3,990	7.34%
SPECIAL OR OTHER INCIDENT TYPE	59	0.13%	46	0.12%	63	0.12%
Report Totals	47,082	100.00%	39,679	100.00%	54,371	100.00%

Temporal analyses were conducted to evaluate patterns in community demands for fire-related services. These measures examined the frequency of requests for service from 2019-2021 by day of week and hour of day. Results below show that peak demand for fire calls occurs between 8am – 9pm with a greater call volume on Fridays.



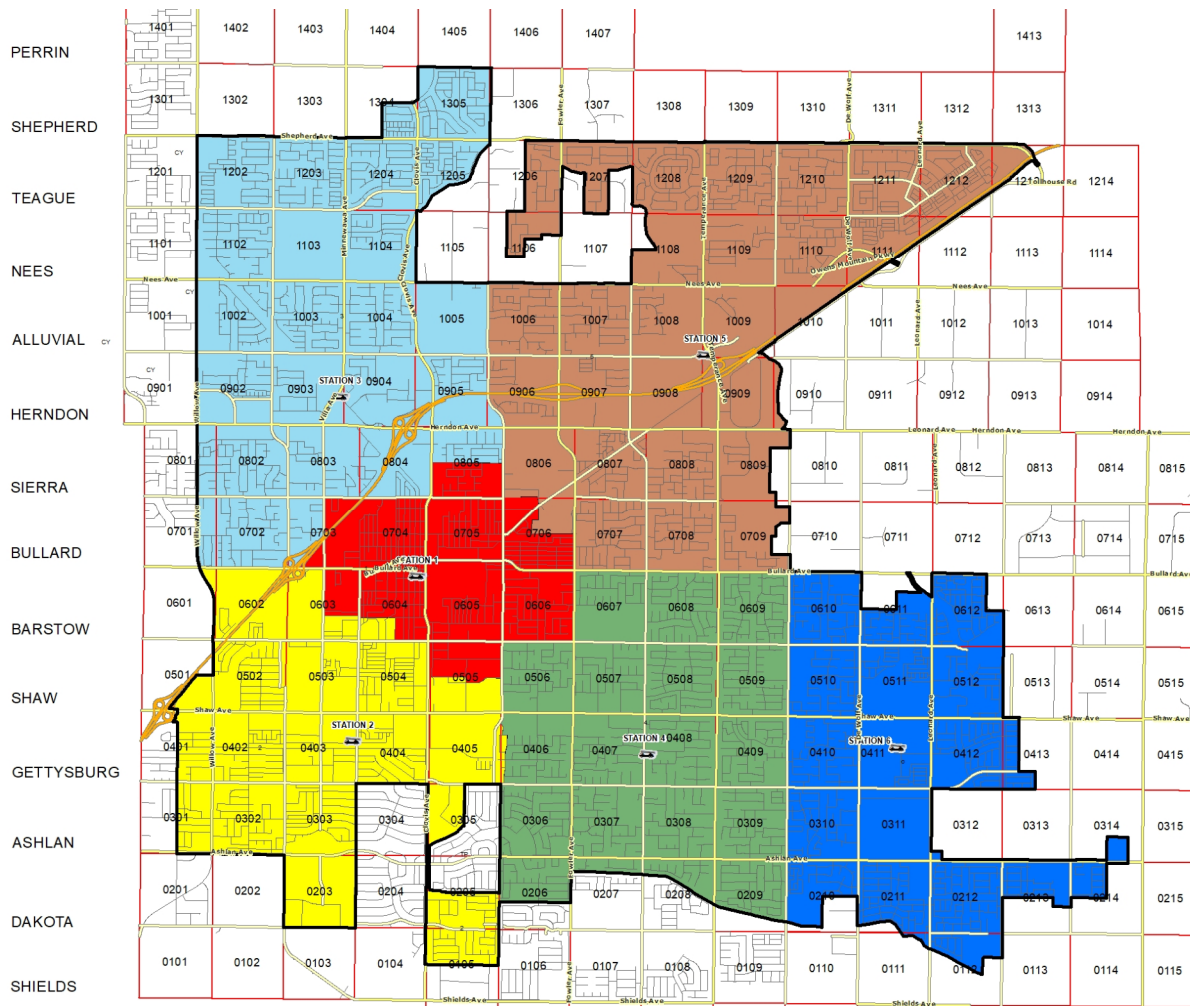
For these analyses, “Fire-Related” incidents are an aggregated category of the various fire incident types available in the NFIRS databases. EMS/Rescue was the most frequent community demand (averaging 17 requests per day), followed by Good Intent (averaging at 5.4 requests per day). Responses to structure, outside, and vehicle fires totaled 1,194 (averaging about 1.09 per day).

A geospatial analysis was conducted utilizing the community’s historical service demand for fire-related incidents from 2019-2021 and can be found on the next page. These are for all fire-related incidents and not specifically any sub-determinant of fire risk. It is evident that CFD’s fire-related historical risks are concentrated most heavily in the southwest area of the City, and in the Old Town area, served primarily by Stations 1 and 2. Two other hotspots, one in the southeast and one in the northwest are near assisted living facilities. The remaining fire-related incidents are generally distributed throughout the center core of the City with the least frequent events at the perimeter.



Planning Zones and Districts

The County of Fresno and the City of Clovis use the National Grid System for our overall Geographical Information System (GIS) base layer. This layer is in one-mile by one-mile squares. The Fire Department felt this was too large of an area to effectively monitor, so the department uses quarter-mile by quarter-mile and this makes up our response districts. The department then plots call locations, call types, call count, response data, census tract information, and more within each district. This then enables the department to review past performance, identify trends and look for areas of overall system improvement.



2022
Clovis Fire Department
1st Due 2022

Station 1
 Station 2
 Station 3
 Station 4
 Station 5
 Station 6

Comprehensive, data-based, quantitative, and geospatial analyses were utilized to objectively evaluate the historical community demand for services by type and severity. Occupancy level data was obtained from inspection results, call history, and Building Department information systems to assess occupancy level risk within the community.

Significance

Low

Minimal potential impact. The occurrence and potential of extensive damage to property and the risk of life loss is minimal.

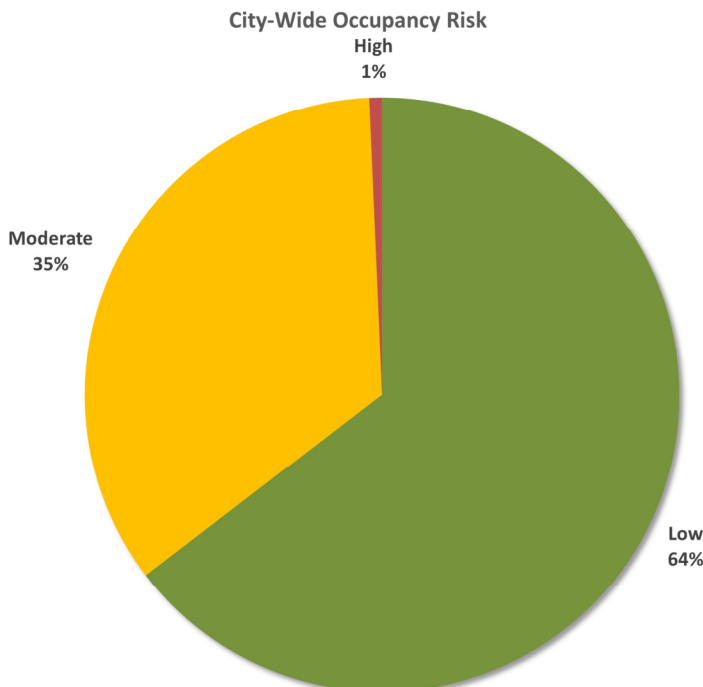
Medium

Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is isolated to the primary structure and there is a risk of life loss.

High

Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage to property is large and possibly beyond the building of origin. The option for life loss is higher and can be multiple victims.

Percentage of Risk Level Citywide

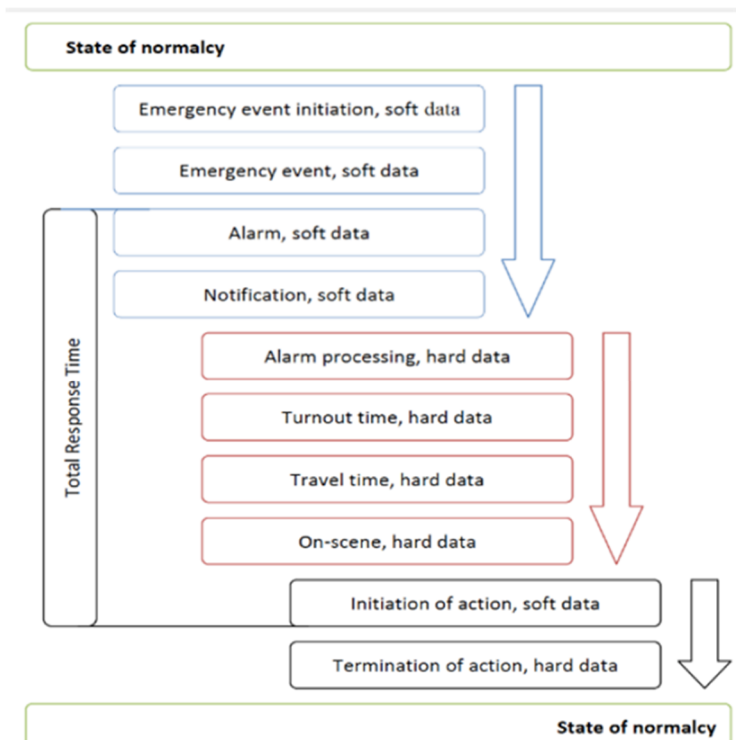


REVIEW OF SYSTEM PERFORMANCE

The first step in determining the current state of the Clovis Fire Department's deployment model is to establish baseline measures of performance. This analysis is crucial to the ability to discuss alternatives to the status quo and in identifying opportunities for improvement. This portion of the analysis will focus efforts on elements of response time and the cascade of events that lead to timely response with the appropriate apparatus and personnel to mitigate the event. Response time goals should be looked at in terms of total response time, which includes the dispatch or call processing time, turnout time, and travel time, respectively.

Cascade of Events

The cascade of events is the sum of the individual elements of time beginning with a state of normalcy and continuing until normalcy is once again returned through the mitigation of the event. The elements of time that are important to the ultimate outcome of a structure fire or critical medical emergency begin with the initiation of the event. For example, the on-set of chest pain begins the biological and scientific time clock for heart damage irrespective of when 911 is notified. Similarly, a fire may begin and burn undetected for a period of time before the fire department is notified. The emergency response system does not have control over the time interval for manual recognition or the choice to request assistance. Therefore, the Clovis Fire Department utilizes quantifiable "hard" data points to measure and manage system performance. These elements include call processing time, turnout time, travel time, and the time spent on-scene. An example of the cascade of events and the elements of performance utilized is provided in the figure below.



Detection

Detection is the element of time between the time an event occurs and someone detects it and the emergency response system has been notified. This is typically accomplished by calling the 911 Public Safety Answering Point (PSAP). The City of Clovis primary PSAP is the Clovis Police Department, with calls being transferred to the Fresno County EMS Communications Center for call processing and unit alerting. Clovis still has a significant number of structures that are either not monitored by automatic alarm systems or are unprotected by sprinkler systems. A greater opportunity for success would be achieved with nearly immediate detection and notification (alarm) and/or mitigation (sprinkler systems).

Call Processing

This is the element of time between when the EMS Communication Center answers the 911 call, processes the information, and subsequently dispatches CFD resources. As previously discussed, CFD does not capture 100% of all call time intervals from the pick up of the phone line to the time the call is created in CAD. The reason for this is only 76% of all calls are received by the City of Clovis primary PSAP. The remainder are transferred from other PSAP locations such as California Highway Patrol, Cal Fire, or Fresno Country Sheriffs.

Turnout Time

This is the measured element of time between the time CFD resources are dispatched or alerted to the emergency incident and the time when the fire apparatus is en-route or traveling to the call. Depending upon the call type, the crew may be required to put on additional protective clothing prior to leaving the station. This is why fire calls have longer turnout times when compared to medical aids.

Travel Time

The travel time is the element of time between when the unit went en-route, or began to travel to the incident, and their arrival on-scene.

Total Response Time

The total response time is the total time required to arrive on-scene beginning with the call coming into the EMS Communication Center and the time that the first to last units arrive on scene.

911 Alarm Handling Time Discussion

While the 911 dispatch processing time target is 1 minute and 30 seconds 90% of the time, the actual processing time may be greater than this depending on how the call is received. Currently, when a 911 call is received from a cell phone, the address information may not be captured or the geo-coding may be incorrect. When you compare this to the past when someone dialed 911 from a hard line, the address was automatically displayed in the PSAP. Therefore, when a passerby reports a fire, an accident, or some type of emergency on a cell phone, the dispatcher is often required to ask a series of questions to determine the correct location to dispatch the appropriate equipment.



The measurement for all 911 calls that are received into the Fresno County EMS Communications Center (secondary PSAP) is highly accurate and is measured at the 90th percentile. Call processing times from the Clovis Police Department (primary PSAP) are only measuring emergency calls that they receive, which is still a majority of all calls for service received by CFD. However, because of the difficulty in tracking all calls for service through the many primary PSAP dispatch centers which are then transferred to the Fresno County EMS Communications center, determining total call processing time for all calls is nearly impossible. CFD was able to analyze some of the data and determine an average processing time of 39 seconds for all calls originating in Clovis PD Dispatch. Therefore, all baseline performance measurements for call processing performance are using a plus 39 seconds (mean) of call processing time.



Previously the Clovis Fire Department responded to every call with lights and sirens whether it was an actual emergency or not. The process was rather simplified as compared to today but not very efficient or safe. Today, the Clovis Fire Department responds to only high priority (1 and 2) medical calls. Statistically it has been determined for minor medical emergencies, the risk/benefit of responding to an emergency vehicle Code 3 is not warranted, nor does it have any impact on the patient's outcome. Therefore, more screening is required to determine whether a call should be dispatched as an emergency or not.

Turnout Time Discussion

The NFPA 1710 standard for Turnout Time to structure fires was modified from 60 seconds to 90 seconds in 2010 after extensive industry internal review and testing. Many years ago, firefighters had much less gear to put on (don) before they left the station and they rode in seats that we would consider outside the enclosed portion of the vehicle. In addition, many firefighters did not wear their seatbelts so they could still be putting on protective gear while responding. The modern fire service has taken a more balanced approach between rapid response and the safety of the firefighters. Today's firefighters have a greater array of personal protective equipment (turnouts) that must be donned before they enter fully enclosed cabs, are seated, then fasten their seatbelts prior to leaving the station. These extra steps have been quantified into the 90-second Turnout Time standard. Response to EMS calls does not require the same amount of protective equipment which allows a slightly shorter Turnout Time standard of 60 seconds.

Travel Time Discussion

Travel time within the City of Clovis is fairly consistent. Streets are laid out in a uniform manner, well maintained, with most signal lights incorporating the use of traffic signal preemption technology. The topography is essentially flat and weather is usually not a factor in response times.

The primary constraints for travel time are traffic patterns, barriers to access and the growing distance between fire stations and the location demanding service. Traffic preemption helps but with areas of congestion due to activities around school



sites, during peak commute times and after special events, response speeds are negatively impacted. Access is of concern as more developments utilize gates, fencing, and other security measures. Also, high-density development creates narrower streets, which adds more people and less available parking. This often results in people parking in unauthorized areas, impacting response times for large fire apparatus. As the service area grows to the north and east, travel times from existing fire stations will get longer until new fire stations can be built and staffed.

NATURAL HAZARDS RISK ASSESSMENT

The natural hazards risk assessment consists of a vulnerability assessment to describe the impact that each priority hazard identified would have upon the City of Clovis Planning Area. This assessment is an attempt to quantify assets at risk, by jurisdiction where possible, to further define populations, buildings, and infrastructure at risk of natural hazards.

Data to support the vulnerability assessment was collected and compiled from the following sources:

- County/City GIS data (hazards, base layers, and Assessor’s data);
- Statewide GIS datasets compiled by CalEMA-OES to support mitigation planning;
- FEMA’s HAZUS-MH MR 2 GIS-based inventory data (January 2019); and
- Existing plans and studies.

City of Clovis—Natural Risk Profiles

Hazard	Frequency of Occurrence	Spatial Extent	Potential Magnitude	Significance
Agricultural Hazards	Unlikely	Limited	Limited	Low
Avalanche	N/A	N/A	N/A	N/A
Dam Failure	Unlikely	Extensive	Critical	Low
Drought	Occasional	Extensive	Critical	High
Earthquake	Occasional	Extensive	Critical	Medium
Flood	Occasional	Significant	Critical	High
Landslide	Unlikely	Limited	Negligible	Low
Severe Weather:				
Extreme Cold/Freeze	Occasional	Extensive	Negligible	Low
Extreme Heat	Highly Likely	Extensive	Negligible	Medium
Fog	Highly Likely	Extensive	Negligible	Low
Snow	Unlikely	Extensive	Limited	Low
Tornado	Occasional	Limited	Critical	Low
Heavy Rain/Thunderstorm/Hail/Lightning/Wind	Highly Likely	Extensive	Limited	Medium
Soil Hazards:				
Erosion	Unlikely	Limited	Negligible	Low
Expansive Soils	Occasional	Limited	Negligible	Low
Land Subsidence	Occasional	Extensive	Negligible	Low
Volcano	Unlikely	Extensive	Critical	Low
Wildfire	Occasional	Limited	Limited	Low

Guidelines for Natural Risk Rankings

Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential.

Frequency of Occurrence:

1. **Highly Likely:** Near 100% probability in next year.
2. **Likely:** Between 10 and 100% probability in next year or at least one chance in ten years.
3. **Occasional:** Between 1 and 10% probability in next year or at least one chance in next 100 years.
4. **Unlikely:** Less than 1% probability in next 100 years.

Spatial Extent:

1. **Limited** - Less than 10% of planning area.
2. **Significant** - 10-50% of planning area.
3. **Extensive** - 50-100% of planning area.

Potential Magnitude:

1. **Catastrophic** - More than 50% of the area affected.
2. **Critical** - 25 to 50%.
3. **Limited** - 10 to 25%.
4. **Negligible** - Less than 10%.

Significance:

1. **Low** - Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
2. **Medium** - Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
3. **High** - Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have already occurred in the past.

Summary of Natural Disaster Risk***Geologic/Seismic***

The Clovis area is subject to relatively low seismic hazards compared to many other parts of California. The primary seismic hazard is ground shaking produced by earthquakes generated on regional faults lying outside the immediate vicinity of Clovis. The northwest-trending Clovis Fault is believed to be located approximately five to six miles east of the City of Clovis, extending from an area just south of the San Joaquin River to a few miles south of Fancher Creek. The Clovis Fault is considered a pre-Quaternary fault, or a fault without recognized Quaternary displacement. The most probable sources of earthquakes that might have a potential for causing damage in Clovis are: the Owens Valley Fault Group located about 68 miles to the northeast, the Foothills Suture Fault Zone located approximately 75 miles to the north, the San Andreas Fault located approximately 80 miles to the southwest, and the White Wolf Fault located about 120 miles to the south. A maximum probable earthquake on any of the four major faults closest to the Clovis Area would produce maximum ground acceleration of approximately 0.1g, as ground deceleration generally decreases with increasing distance from the earthquake source.

Soil Erosion

Slope stability is not a concern in the Clovis area. Clovis has a natural mild gradient from northeast to southwest. The highest elevation coincides with the Friant/Kern Canal north of Tollhouse Road at 460 feet, with the lowest elevation of 335 feet near the intersection of Winery and Ashlan Avenues. These flat slope characteristics, which exhibit natural slopes of less than .001 feet per foot, can make the control of drainage runoff difficult. Many natural depressions within the flat topography naturally collect and pond storm water runoff.

Extreme Heat

In a normal year, about 175 Americans succumb to the demands of summer heat. In the forty-year period from 1936 through 1975, nearly 20,000 people were killed in the United States by the affects of heat and solar radiation. In the disastrous heat wave of 1980, more than 1,250 people died. During the summer months in Clovis, it is not uncommon to experience multiple consecutive days with temperatures exceeding 100 degrees Fahrenheit.

Heat kills by taxing the human body beyond its ability to regulate temperature, resulting in heat exhaustion and heat stroke. Without immediate treatment, these conditions can result in death. During an extreme heat event, human safety, agricultural crops, and livestock are impacted. The City will continue to provide cooling centers during heat events and provide transportation to the cooling centers.

Cities pose special hazards during periods of extreme heat. Stagnant atmospheric conditions of a heat wave trap pollutants in urban areas and add the stresses of severe pollution to the already dangerous conditions of hot weather. The City of Clovis' air quality is exacerbated even more since it is located on the floor of the San Joaquin Valley. This topographic condition increases the stagnant atmospheric conditions and trapping of pollutants. Air conditioning can provide relief. However, many individuals and families choose not to use air conditioning due to rising energy costs, placing themselves at risk for heat-related illnesses.

Extreme summer heat has the greatest impact during the day from Noon – 8pm. During the summer months, a greater percentage of the population is potentially exposed to this type of extreme weather due to schools being out of session, potential loss of cooling due to limited electrical capacity, the physiological impact extreme heat has on the body, and the regional specific conditions that negatively influence the air quality. In response to extreme heat events of 2007, the City Implemented Phase II of the Heat Emergency Plan, opening facilities and using volunteer staff from Noon – 10pm to provide cooling for individuals impacted by the heat.

Drought

Drought is a condition of climatic dryness that is severe enough to reduce soil moisture levels and water levels below the minimum necessary for sustaining plant, animal and human life systems. Drought is a gradual phenomenon. One dry year does not normally constitute a drought in California, but rather serves as a reminder of the need to plan for droughts. California's extensive system of water supply infrastructure – reservoirs, groundwater basins, and interregional conveyance systems – generally mitigate the effects of short-term dry periods for most users.



Since 1976, Clovis has experienced one State declaration for drought within Fresno County and one USDA declaration for crop losses. Extended periods of drought will continue throughout the region. Since drought conditions are predicted to continue, the City of Clovis participated in the development of an Urban Water Management Plan in collaboration with the City of Fresno, County of Fresno, the Fresno Irrigation District, and the Fresno Metropolitan Flood Control District. As a regional partner in this plan, Clovis proactively manages water supplies and has policies in place to effectively deliver water to local residents.

Extreme Cold/Freeze

The potential for severe cold or freezing temperatures exists annually. Severe cold/freeze declarations occurred in 1990, 1998, 2001, and 2007. December and January have the greatest potential for extreme cold/freeze with an average minimum temperature of 37.5 degrees. In Clovis, it is not uncommon to have consecutive days with a minimum overnight low temperature of 32 degrees.



Extreme freeze/cold occurs primarily during the late evening and early morning hours. During these periods, most people are indoors utilizing gas furnaces, fireplaces, and blankets to regulate their temperature. Populations at greatest risk during extreme cold/freezes are homeless individuals who cannot find indoor shelter. Public Safety personnel continually monitored calls for service related to vulnerable populations such as the homeless and seniors who might have needed

these services. In addition, Fire Prevention staff performs a wellness check on our mobile home residents during their normal smoke alarm check/installs.

Flooding

Clovis is traversed by three natural stream systems. Each of these systems is comprised of sub-streams, or creeks, that collect together to discharge to a centralized natural drainage channel. These systems include the Red Bank, Fancher and Dog Creek system, the Dry and Dog Creek system, and the Pup Creek/Alluvial drain system. The latter is a tributary of the original Dry Creek Channel. These stream systems collect storm runoff from the foothills east of Clovis and convey the runoff through the Clovis/Fresno metropolitan areas to the Fresno Slough, which is located westerly of the City of Fresno.

Many of these channels have been modified over time and have become dual use storm water conveyance channels and irrigation water conveyance channels. Those streams that have not been used for irrigation purposes have essentially remained in their natural state and have historically flowed uncontrolled during storm runoff events. These stream channels have limited flow capacity. In some cases, the historical uncontrolled grading of land has obliterated or severely modified the natural channels to the extent that their flow capacity has been seriously limited. Flooding has been a serious problem in the Clovis/Fresno metropolitan area when these channel capacities are exceeded.

Portions of the City of Clovis, the existing Sphere of Influence areas and the unincorporated Fresno County area have been subject to historical flooding. Such flooding has been documented by the Federal Emergency Management Agency (FEMA) in their Flood Insurance Study (FIS) and Flood Insurance Rate Map(s) (FIRM) as published in 2005 for the City of Clovis and County of Fresno, respectively. The FIS and FIRM show the flooding in Clovis that could occur from a 1% (return frequency equals 100 years) rainfall event.

Other areas of flooding are related to the Alluvial Drain area and the Dry Creek Reservoir with its possible overflow areas. The major inundation areas from potential overflows from the Dry Creek Reservoir affect a majority of the northwesterly portion of Clovis, as well as the northwesterly portions of the current City Sphere of Influence and City boundaries.

The Big Dry Creek Dam impounds storm-water runoff from Big Dry Creek in the Big Dry Creek Reservoir. Big Dry Creek Reservoir is owned and operated by the Fresno County Metropolitan Flood Control District, and is intended primarily for flood control of winter runoff from the Dry Creek and Dog Creek watersheds. The Reservoir has a storage capacity of approximately 30,000 acre feet and a surface area of approximately 3,500 acres. The Reservoir was designed for a 200-year standard project flood, which is a design specification used by the Corps for reservoirs. The maximum height of the inundation pool is 432.7 feet above mean sea level.

Other areas of flooding occur along the Dog Creek Channel alignment and in low depressed areas along the easterly sides of the Enterprise Canal. The City of Clovis actively uses GIS and FEMA FIRM products to assess flood risk and infrastructure mitigation.

Essential Facilities and Infrastructure

A critical facility may be defined as one that is essential to providing utility or direction either during the response to an emergency or during the recovery operation. FEMA’s HAZUS-MH loss estimation software uses three categories of critical assets: 1) Essential Facilities - those that if damaged would have devastating impacts on disaster response and recovery; 2) High Potential Loss Facilities - those that would have a high loss or impact on the community; and 3) Transportation and Lifeline. Examples are provided in Table 10.

Essential Facilities	High Potential Loss Facilities	Transportation and Lifeline
<ul style="list-style-type: none"> ▪ Hospitals and other medical facilities ▪ Police stations ▪ Fire station ▪ Emergency Operations Centers ▪ City Administration ▪ Federal Facilities ▪ County Facilities 	<ul style="list-style-type: none"> ▪ Power plants ▪ Dams/levees ▪ Military installations ▪ Hazardous material sites ▪ Schools ▪ Shelters ▪ Day care centers ▪ Nursing homes ▪ Main government buildings 	<ul style="list-style-type: none"> ▪ Highways, bridges, and tunnels ▪ Railroads and facilities ▪ Bus facilities ▪ Airports ▪ Water treatment facilities ▪ Natural gas facilities and pipelines ▪ Oil facilities and pipelines ▪ Communications facilities

Clovis Essential Facilities

As identified by FEMA HAZUS-MH, are as follows:

- Clovis Fire/PD Headquarters – 1233 Fifth Street
- Clovis Fire Stations
 - o CFD 1 – 633 Pollasky
 - o CFD 2 - 2300 Minnewawa
 - o CFD 3 – 555 N. Villa
 - o CFD 4 – 2427 Armstrong
 - o CFD 5 – 790 N. Temperance
 - o CFD 6—2388 Encino
 - o CFD Logistics Center – 650 Fowler
- Clovis Community Medical Center – 2755 Herndon
- Kaiser Medical Offices – 2071 Herndon
- City Hall – 1033 Fifth Street
- Surface Water Treatment Plant - 5805 Leonard
- Sewage Treatment – Water Re-use Facility - Ashlan and McCall

High Potential Loss facilities as identified by FEMA HAZUS-MH are located throughout Clovis. Clovis works closely with Clovis Unified School District, Fresno Metropolitan Flood Control District and elder care property owners in monitoring and assessing non-city owned facilities that fall into this category.

Transportation and Lifeline facilities are located in the center and northeast portion of Clovis with State Route 168 being the major transportation corridor through Clovis. The Surface Water Treatment Plant converts raw water from the Enterprise Canal (originating from the Kings River) into a potable water source for the residents of Clovis. This additional water production from the Surface Water Treatment Plant enables the City to turn off a portion of its groundwater wells throughout the year, resulting in the replenishment of the water table. The Surface Water Treatment Plant is capable of treating and delivering up to 15 million gallons per day of potable water to the City's customers (expandable to 45 million gallons per day).

In addition to facilities necessary to deliver services and ensure public safety, Clovis is home to assets vital to our community's heritage and economic sustainability. The Natural, Cultural, and Historical Assets and the Economic Assets are key to defining the community, providing employment and maintaining commerce.

Natural, Cultural, and Historical Assets

Natural resource assets may include wetlands, threatened and endangered species, or other environmentally sensitive areas. Historical assets include State and Federally-listed historic sites. While the City of Clovis has no registered State or Federal historic sites, there are several assets within Clovis that define the community and represent our history. There are three locations that are recognized as Fresno County Historical Landmarks. Those locations are:

- First National Bank of Clovis/Clovis Museum – 401 Pollasky
- Carnegie Library Building – 325 Pollasky
- Gibson Home – 940 Third

Economic Assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster. The City's economic base consists of retail sales and services and light manufacturing. The breakdown of the Clovis residential employment sector is as follows:

- Agriculture, forestry, fishing and hunting, mining: 2%
- Construction: 7%
- Manufacturing: 8%
- Wholesale: 4%
- Retail: 13%
- Transportation and warehousing, utilities: 5%
- Information: 3%
- Finance, insurance, and real estate: 7%
- Professional, scientific, management, administration, waste management: 8%
- Education, health and social services: 23%
- Arts, entertainment, recreation, accommodation, food service: 7%
- Public administration: 8%
- Other services: 5%

FIRE EVENTS RISK ASSESSMENT

The response area for each fire station is identified as a station district. These districts are a collection of the multiple-fire demand zones that are mapped and split the district into smaller response zones. When a request for service is received through the 911 system, the EMS Communications Center verifies the call location and uses the computer-aided dispatch (CAD) system to identify the required resources to send. The CAD system takes into consideration the type of occupancy and associated risk. Once the call type has been identified, the correct type of predetermined response is dispatched. For example, a fire in a vehicle (low-risk) will receive one engine, with three firefighters. An apartment building (high-risk occupancy) will receive five engines, one truck and one battalion chief, for a minimum of nineteen firefighters.

The Clovis Fire Department has identified risk hazards for each type of occupancy within the City of Clovis. The assessment of each commercial facility was conducted by Fire personnel evaluating seven elements:

1. Premise – Evaluate data related to property use, occupancy type and assessed valuation.
2. Building – Evaluate building data considering exterior building characteristics including height and exposure separation.
3. Life Safety – Evaluate specific elements affecting life safety and the ability of the occupants to leave the building including occupant load, fire sprinklers, alarms and occupant mobility.
4. Risk – Evaluate the frequency/likelihood of an event and the consequence as it relates to regulatory oversight, experience and human activity within the structure.
5. Consequence – Evaluate the range between controlling a fire within the building of origin and a fire that is hazardous to fire fighting activities. Specific considerations included:
1) The ability to control, 2) Hazard index, and 3) Fire Load per NFPA 13.
6. Water Demand – Evaluated available water resources, fire sprinklers and flow availability.
7. Value – Evaluated economic impact or importance to the community.

Once compiled, each element was assigned a value within a range and then applied to a formula that produced a final rank. This calculation used weighting and valuation consistent with the Risk Hazard and Value Evaluation process recommended by the Commission on Fire Accreditation International. Numerical values associated with each rank are as follows:

- Low — (10-17)
- Moderate — (18-30)
- High — (31-42)

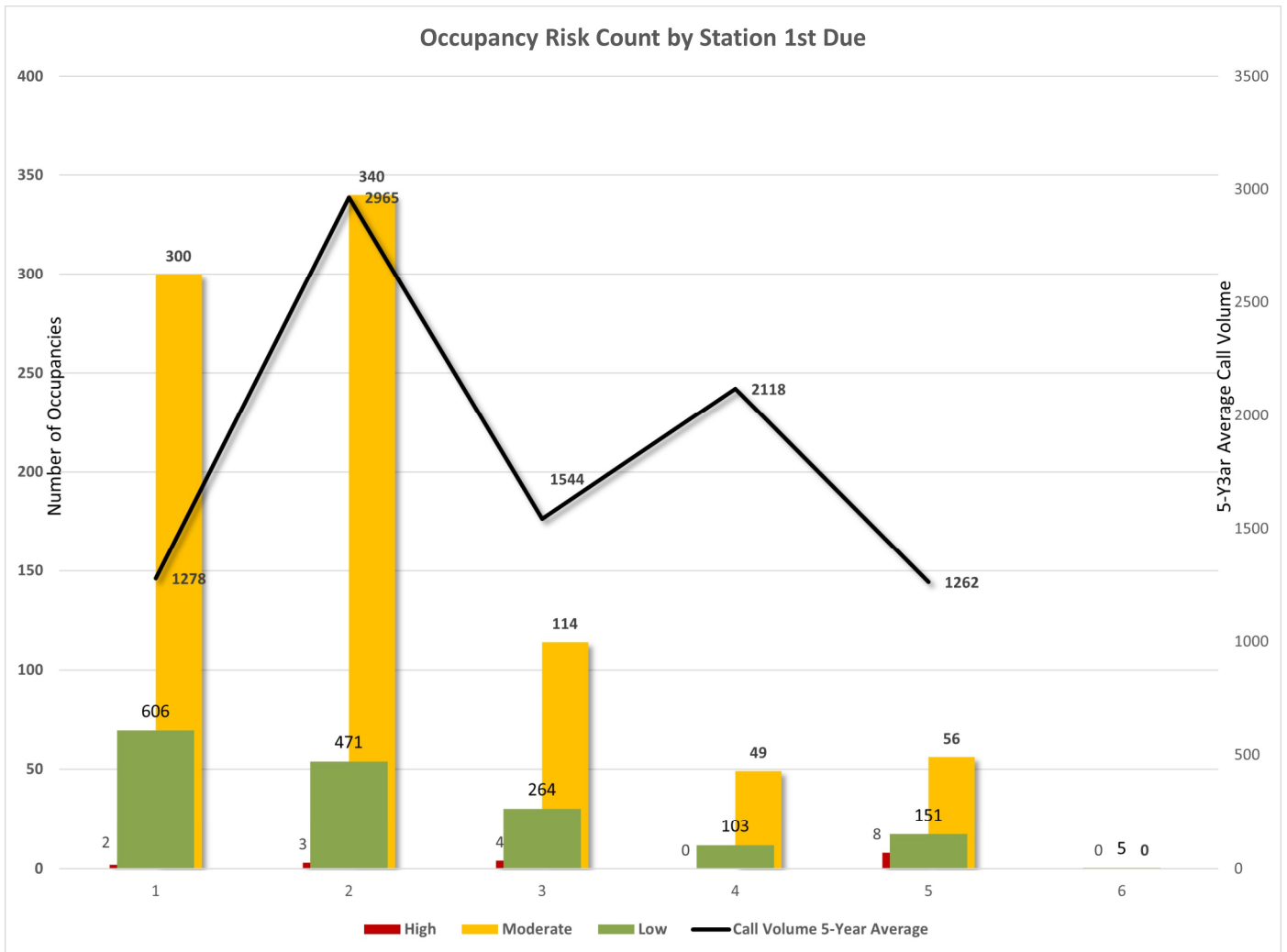
Once facilities were ranked, their information was then geo-coded into our GIS system. With this overview, Clovis has been able to look at concentration/density of our fire risk concurrent with data related to five years (2017-2021) of response data. In addition, we can plot these points and add call history data to see if there is correlation between concentration of occupancies and actual incident

Results from this analysis placed commercial occupancies into three categories:

High Risk Occupancies: Schools, apartments, hospitals, nursing homes, low-rise buildings, commercial structures, dwellings in water deficient areas, and other high-life hazard or large fire potential occupancies.

Medium: One-, two- or three family dwellings. Approximately 70% of the occupancies within the City of Clovis fall into the Moderate-Risk category.

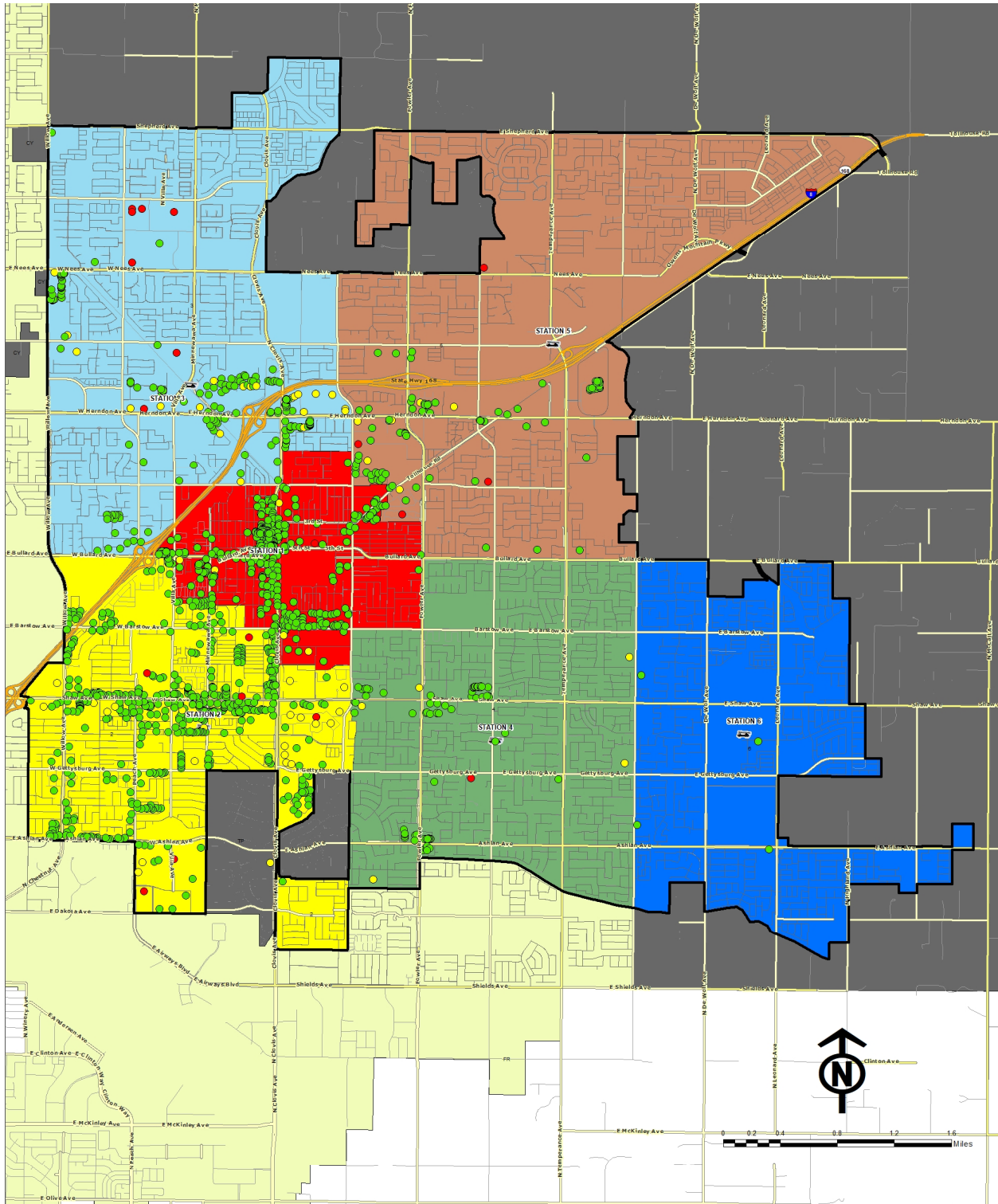
Low Risk Occupancies: Small outbuildings, park restrooms, sheds, very small drive-by/thru service structures. Fires in these structures are usually handled by a single fire company.



CLOVIS FIRE DEPARTMENT STANDARDS OF COVER

Fire Events Risk Assessment

AGENDA ITEM NO. 21.



**Fire Risk Profile
2017 - 2022**

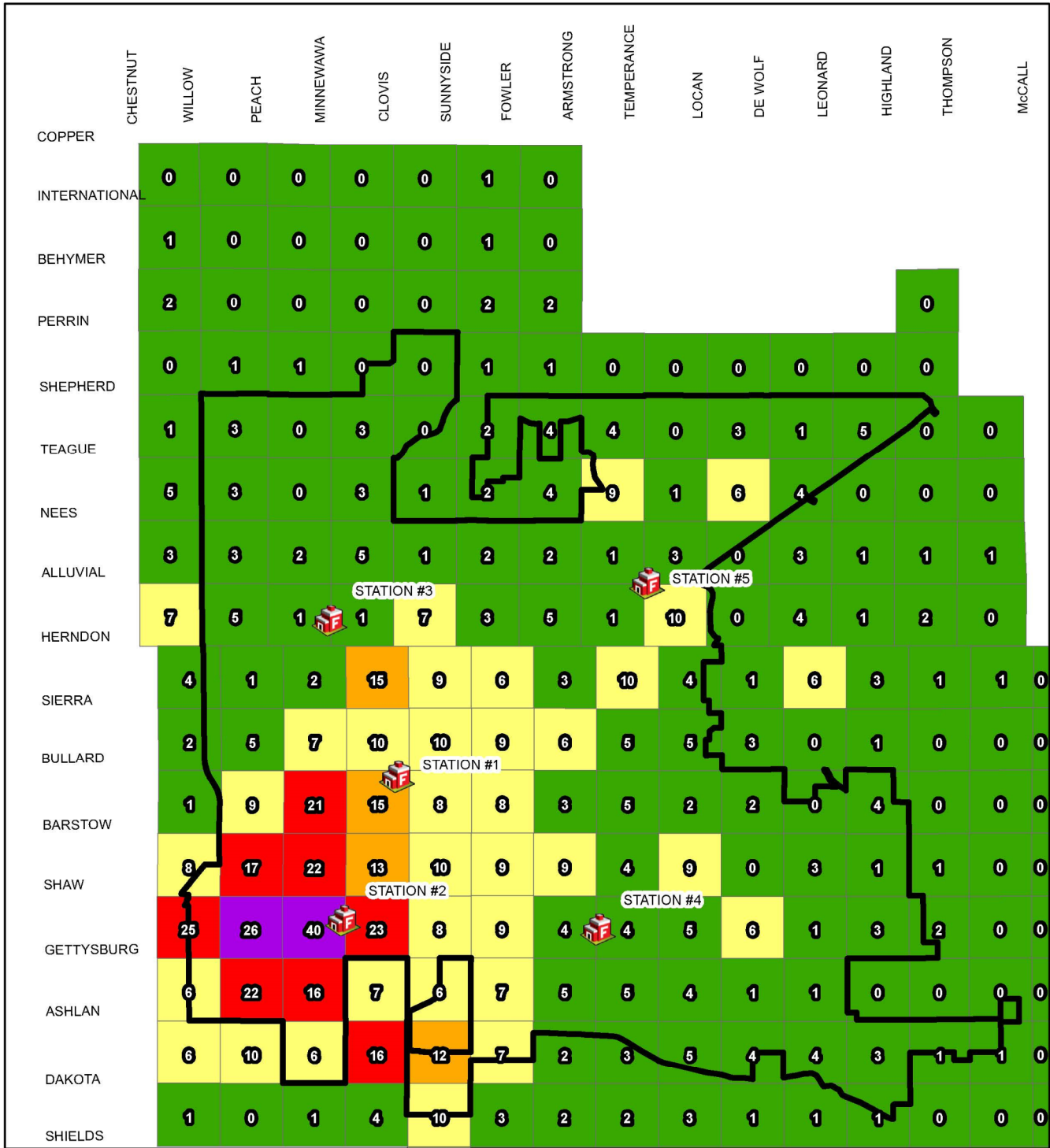
- High
- Medium
- Low

CLOVIS FIRE DEPARTMENT

STANDARDS OF COVER

Fire Events Risk Assessment

AGENDA ITEM NO. 21.



Fire Concentration By District 2019 - 2021



Fire Suppression Capabilities

Firefighters encounter a wide variety of conditions at each fire. Some fires will be at an early stage and others may have already spread throughout the building. This variation in conditions complicates attempts to compare fire department capability. A common reference point must be used so that the comparisons are made under equal conditions. In the area of fire suppression, service-level objectives are intended to prevent the flashover point, a particular point of a fire's growth that makes a significant shift in its threat to life and property. Fire suppression tasks required at a typical fire scene can vary a great deal. What fire companies must do, simultaneously and quickly if they are to save lives and limit property damage, is to arrive within a short period of time with adequate resources to do the job. Matching the arrival of resources within a specific time period is the objective of developing a comprehensive Standard of Cover.

The Four Stages of a Fire

Virtually all structure fires progress through a series of identifiable stages:

Stage 1: The Incipient Stage—This first stage begins when heat, oxygen and a fuel source combine and have a chemical reaction resulting in fire. This is also known as “ignition” and is usually represented by a very small fire that often goes out on its own, before the following stages are reached. Recognizing a fire in this stage provides your best chance at suppression or escape.

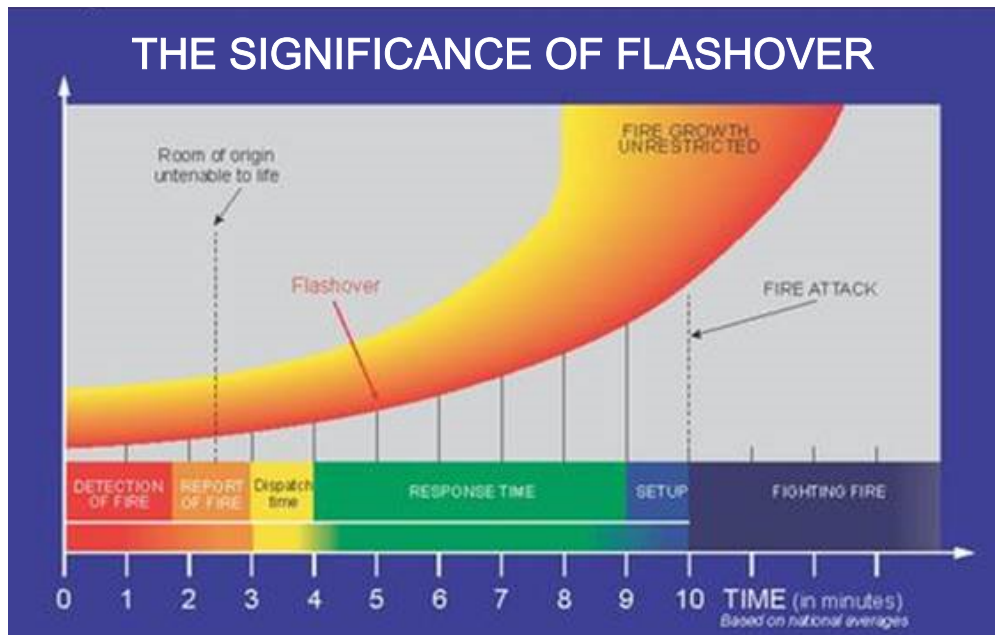
Stage 2: The Growth Stage—Where the structure's fire load and oxygen are used as fuel for the fire. There are numerous factors affecting the growth stage including where the fire started, what combustibles are near it, ceiling height, and the potential for “thermal layering”. It is during this shortest of the four stages when a deadly “flashover” can occur; potentially trapping, injuring or killing firefighters.

Stage 3: The Fully Developed Stage—When the growth stage has reached its max and all combustible materials have been ignited, a fire is considered fully developed. This is the hottest phase of a fire and the most dangerous for anybody trapped within.

Stage 4: The Decay Stage—Usually the longest of a fire, the decay stage is characterized by a significant decrease in oxygen or fuel, putting an end to the fire. Two common dangers during this stage are first—the existence of non-flaming combustibles that can potentially start a new fire if not fully extinguished. Second, there is the danger of a backdraft when oxygen is reintroduced to a volatile, confined space.

As suggested previously, the number of times that fires are controlled before flashover depends on the entire fire protection system and is not solely dependent on emergency response forces. Built-in fire protection, public education, extinguishment by citizens, and even the type of fuel on fire are all factors that affect flashover. Even when fires are not extinguished by firefighting forces, these personnel often provide other services, ranging from smoke removal to the restoration of built-in fire control systems. The objective is all components of the fire protection system, from public education to built-in fire protection to manual fire suppression, are maintained at a level to provide adequate service and the performance of each is periodically evaluated.

Flashover is a critical stage of fire growth, as it creates a quantum jump in the rate of combustion and a significantly greater amount of water is needed to reduce the burning material below its ignition temperature. A fire that has reached flashover often indicates it is too late to save anyone in the room of origin, and a greater number of firefighters are required to handle the larger hose streams needed to extinguish the fire. A post-flashover fire burns hotter and moves faster, compounding the search-and-rescue problems in the remainder of the structure and, at the same time, more firefighters are needed for fire combat operations.



PRE-FLASHOVER

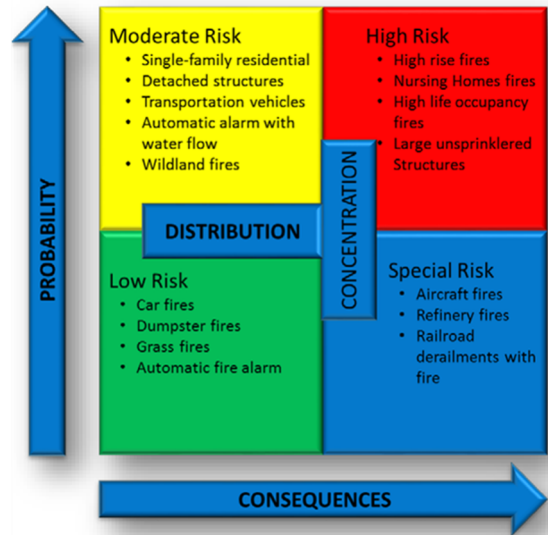
Limited to one room
Requires smaller attack line
Search and Rescue is easier
Initial assignment can handle

POST-FLASHOVER

May spread beyond one room
Requires more and larger attack lines
Compounds search and rescue
Requires additional companies

Probability/Consequence of Fire Event Risk

The relatively low frequency of fire related events experienced within Clovis required our analysis to rely more heavily on the consequences of the events than the probability of the event occurring. For example, according to the Department’s NFIRS final incident typing, the Department annually responded to 80 structure fires or fires in buildings involving cooking or chimneys. The resulting probability and consequence matrix is presented below.



Impact of Residential Fire Sprinklers

In January 2010, California became one of 46 states that adopted a residential sprinkler requirement for all new homes. This was, in part, a result of years of scientific study and lobbying efforts by the National Fire Service and Building Industry. The impact of the new requirement on the Clovis Fire Department will take many decades to fully realize but there are reasonable assumptions that can be made and used in the deployment analysis. There are also some assumptions made by the general public, media, elected officials, etc., that are incorrect and which make it imperative for CFD to continue to provide ongoing public information to keep the public informed on the facts.

- Residential fire sprinklers do not cover the entire structure like similar systems installed in commercial occupancies. In residential units there are no fire sprinklers in the attic space.
- Fire sprinkler systems are designed to keep fire contained long enough to allow occupants to exit, not fully extinguish the fire. A fire department response is still needed.
- Installing both smoke alarms and a fire sprinkler system reduces the risk of fire death by 82%.
- Sprinkler systems allow quicker control and extinguishment by the fire department and less time committed for overhaul.
- Fire sprinkler systems do not control fires originating outside the home.
- Over time, sprinkler systems will lower property loss (\$) due to fire, which will have a positive effect on residential fire insurance premiums citywide.
- Sprinkler systems do not lessen the need for fire stations (distribution), but will lessen the need for multiple units responding from the same stations (concentration).

Fire Event Service Level Goals

The Clovis Fire Department’s response and deployment standards are based upon urban population density and historical demand for services within the community and region. The targeted service level benchmark statements are based on industry standards, best practices and historical response data.

Fires

For 90% of all low, moderate, and high risk fires, total response time, from the receipt of the 911 call in the secondary PSAP to the arrival of the first-due unit, staffed with at least 3 firefighters, shall be: 7 minutes for all areas within the city limits (urban). The first-due unit for all risk levels shall be capable of: rescuing at-risk victims or initiating command, establishing an attack line flowing a minimum of 150 gallons per minute (gpm), and 500 gallons of water carried on the fire apparatus. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.

Effective Response Force Capabilities

The capability of an Effective Response Force (ERF) to assemble in a timely manner with the

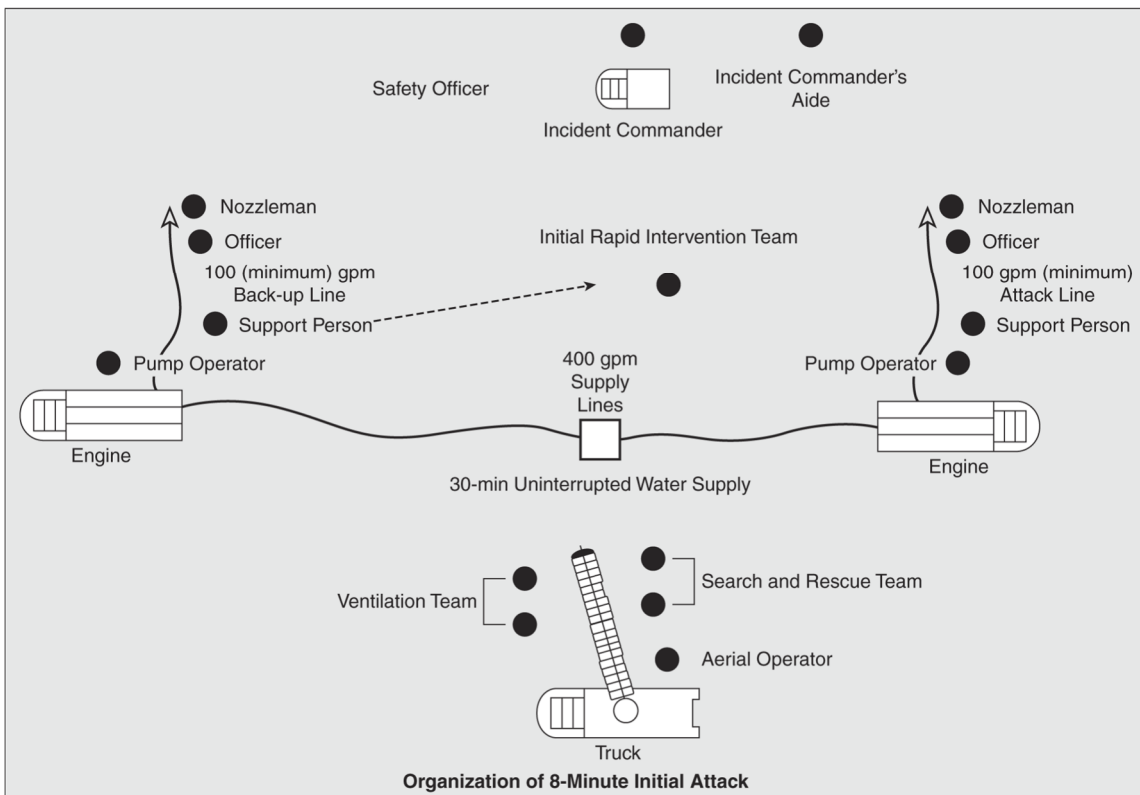
Structure Fire Calls, Code 3, in Clovis, First Unit at Scene Benchmarks at 90th Percentiles								
Time Interval	Benchmark	Metric	All	2021	2020	2019	2018	2017
Call Processing	01:30	Count 90th Percentile	105 01:45	15 02:08	39 01:30	20 01:29	16 01:57	15 01:15
Turnout	01:00	Count 90th Percentile	108 01:23	16 01:17	41 01:32	20 01:02	16 01:02	15 01:07
Travel	04:00	Count 90th Percentile	110 04:23	16 04:40	42 05:13	21 03:49	16 03:41	15 03:41
Total Response- 1st on Scene	06:30	Count 90th Percentile	109 07:01	16 07:26	42 07:16	20 06:14	16 06:48	15 06:00
Total Response- ERF	10:30	Count 90th Percentile	91 11:25	16 11:53	27 12:11	20 10:27	13 10:30	15 10:18

appropriate personnel, apparatus, and equipment is important to the success of a significant structural fire event. Therefore, it is important to measure the capabilities of assembling an ERF. In most fire departments, the distribution model performs satisfactorily, but it is not uncommon to be challenged to assemble an ERF in the recommended timeframes.

Several factors affect the capabilities to assemble an ERF such as the number of fire stations, number of units and number of personnel on each unit. Each of these policy decisions should be made in relation to the community’s specific risks and the willingness to assume risk.

For 90% of all moderate risk structure fires, the total response time, from the receipt of the 911 call in the secondary PSAP to the arrival of the effective response force (ERF), staffed with 16 firefighters and officers, shall be: 10 minutes and 30 seconds for all areas within the city limits (urban). The ERF for moderate risk fire incidents shall be capable of: establishing command, providing an uninterrupted water supply, advancing an attack line and a backup line for fire control, complying with the Occupational Safety and Health Administration (OSHA) requirements of two-in-two-out, completing forcible entry, searching and rescuing at-risk victims, ventilating the structure, and controlling utilities. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.

For 90% of all high-risk structure fires, the total response time, from the receipt of the 911 call in the secondary PSAP to the arrival of the effective response force (ERF), staffed with 19 firefighters and officers, shall be: 10 minutes and 30 seconds for all areas within the City limits (Urban). The ERF shall be capable of: establishing command, providing an uninterrupted water supply, advancing an attack line and a backup line for fire control, complying with the Occupational Safety and Health Administration (OSHA) requirements of two-in-two-out, and expanding to a 4-person Rapid Intervention Crew completing forcible entry, searching and rescuing at-risk victims, ventilating the structure, controlling utilities, and filling a safety officer position. The ERF for high risk structure fires shall also be capable of placing an elevated stream into service from an aerial ladder and supporting a sprinkler system. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.



CRITICAL TASK ANALYSIS

The combination of property and life risk determines the fire ground tasks that must be accomplished in an emergency to minimize loss. These factors, although interrelated, can be separated into two basic types: fire flow and life safety. Fire flow tasks are related to getting water on the fire; life safety tasks are related to finding injured/ill persons and providing definitive emergency medical care, or finding trapped victims and removing them from the building. The required fire flow is based on a building's size, structural material, distance from other buildings, horizontal and vertical openness (lack of partitions), contents, type, density, and potential energy (BTUs per pound).

Life-safety tasks are based upon the number of patients in an emergency medical incident or occupants in a fire situation: their location (e.g., a low rise versus high rise), their status (awake versus asleep), and their ability to take self-preservation action. For example, ambulatory adults need less assistance than non-ambulatory. The elderly and small children always require more assistance. The key to the fire department's success at an emergency incident is coordinated teamwork, regardless of whether the tasks are all fire-flow related or a combination of fire-flow, rescue, and life safety. A fire in an occupied residential single- or multi-family structure requires a minimum of eight tasks to be simultaneously conducted in order to stop the loss of civilian lives, stop further property loss, and minimize the risks to the firefighter. The number and type of tasks needing simultaneous action will dictate the minimum number of firefighters needed at different types of emergencies.

The key to any fire department's success at a fire includes a rapid response and efficient fire scene deployment, as well as adequate staffing and coordinated teamwork. Critical tasks are tasks that must be conducted in a timely coordinated manner by firefighters at structure fires, in order to control the fire prior to flashover or to extinguish a larger fire beyond the room of origin. A fire department is responsible for assuring that responding companies are capable of performing all of the critical tasks in a prompt and proficient manner.

When identifying critical tasks, we are assuming interior firefighting operations are necessary and require the use of protective equipment, which includes personal protective clothing, self-contained breathing apparatus (SCBA), and a minimum of a 1¾" hose line. Additional personnel must be staged to perform rescue functions for interior firefighting personnel, and a command structure needs to be established.

Below are definitions of critical tasks that are to be performed at the scene of a structure fire:

Fire Attack: A medium-sized hose that produces 100+ gpm and is handled by a minimum of two firefighters or a larger hose that produces 200+ gpm and is handled by three or more firefighters.

Search and Rescue: A minimum of two firefighters assigned to search for living victims and remove them from danger while the fire attack crew moves between the victims and the fire to stop the fire from advancing towards them. A two-person crew is normally sufficient for most small- to medium-sized structures, but more crews are required in multi-story buildings or high risk structures with people who are not capable of self preservation.

Ventilation: A minimum of three firefighters to open a horizontal or vertical channel. Vertical ventilation, or ventilation of a multi-story building, can require more than three firefighters depending on the size and complexity of the structure involved. Ventilation removes superheated gases and obscuring smoke, preventing flashover, and allowing attack crews to see and work closer to the seat of the fire.

Back-up Line/2-Out: A back-up hose line is used to protect the fire attack crew in case the fire overwhelms them or a problem develops with the fire attack hose line. This function requires a minimum of two firefighters.

Rapid Intervention Crew (RIC): When the first four firefighters are on scene, the two outside firefighters are also known as the 2-Out. When the balance of the effective response force arrives and interior fire attack is continuing in hazardous atmospheres and conditions, a full company is assigned to be the rapid intervention team.

Exposure Line: Any sized attack line or master stream appliance staffed by two or more firefighters and taken above, below, or next to the fire in multi-story buildings or externally to protect nearby structures with the intent to prevent fire involvement from the radiant heat.

Pump Operator: One firefighter assigned to deliver water under the right pressure to the various hose lines in use (attack, backup and exposure lines), and monitor the pressure changes caused by the changing flows on each hose line. This firefighter also completes the hose hookups to the correct discharges and completes the water supply hookup to the correct intake. The pump operator can sometimes make the hydrant hookup alone if the pumper is near a hydrant (50 feet). However, more distant hydrant locations sometimes preclude this action.

Water Supply: A crew of one or more firefighters who must pull the large diameter hose between the fire engine pump and the nearest hydrant.

Command: An officer assigned to remain outside of the structure to coordinate the fire attack, evaluate results, request additional resources, and monitor fire conditions that might jeopardize firefighter safety.

Safety Officer: This is an officer assigned to ensure that fire department personnel on scene are following department policies and procedures to ensure their safety.

Evaluating critical tasks that need to be accomplished depending upon the risk involved determines the appropriate level of resources necessary to simultaneously handle the tasks of fire attack, search and rescue, ventilation, backup lines, pump operation, water supply and command, all within a goal of 10 minutes after arrival of the first-due unit.

CFD reviewed historical data, existing time standards, and completed several time-measured training exercises to determine which tasks can be accomplished when responding to various occupancies such as a single family residence, multi-family residence, and commercial. This data was then correlated with existing actual fire call tasks and time criteria to validate the Department’s capabilities for completing all critical tasks for a fire outlined below.

Critical Task Necessary at a Low-Risk Fire (Vehicle, Dumpster, Small Building)		
Task	Firefighters	Company
Attack Line	2	1st Fire Engine
Pump Operator	1	1st Fire Engine
Total	3 FFs	1 Fire Apparatus

Critical Task Necessary at a Moderate-Risk Fire (single-family residence)		
Task	Firefighters	Company
Attack Line	2	1st Fire Engine
Pump Operator	1	1st Fire Engine
Primary Search/Rescue	3	2nd Fire Engine
Water Supply/Sprinkler	1	2nd Fire Engine
Rapid Intervention/Utilities	2	3rd Fire Engine
Back Up Attack Line	2	4th Fire Engine
Ventilation/Forced Entry	3	1st Truck
Safety	1	4th Fire Engine
Command	1	Battalion Chief
Total	16 Firefighters	4 Engines, 1 Truck & 1 BC

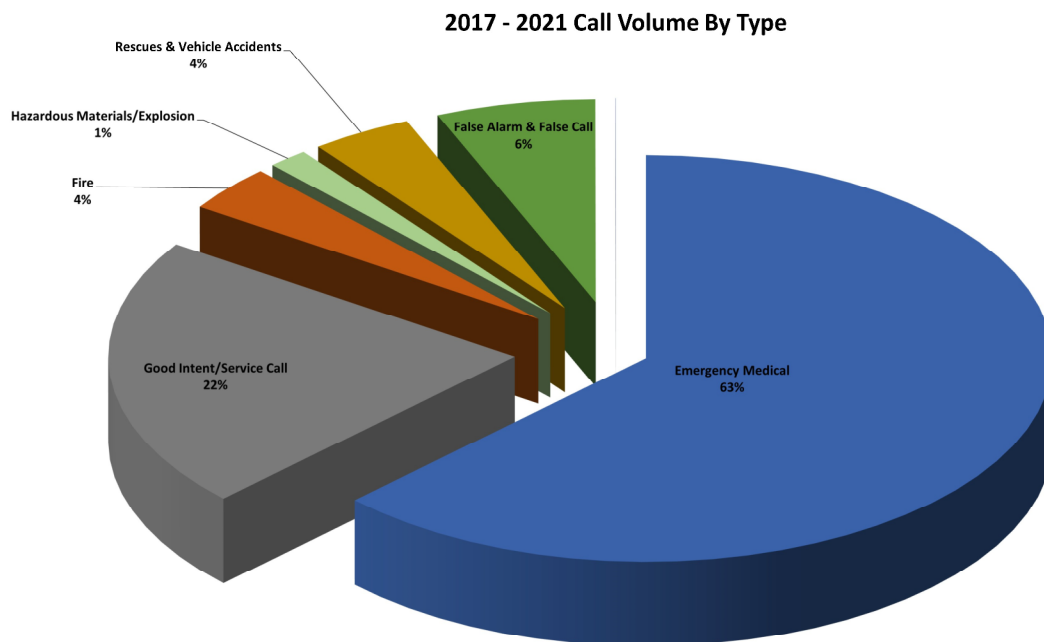
Critical Task Necessary at a High/Special-Risk Fire (multi-family residence or commercial)		
Task	Firefighters	Company
Attack Lines (2)	4	1st & 5th Fire Engine
Pump Operator	1	1st Fire Engine
Primary Search/Rescue	2	2nd Fire Engine
Water Supply/Sprinkler	1	2nd Fire Engine
Rapid Intervention/Utilities	4	3rd Fire Engine
Back Up Attack Line	2	4th Fire Engine
Ventilation/Forced Entry	3	1st Truck
Safety	1	4th Fire Engine
Command	1	Battalion Chief
Total	19 Firefighters	5 Engines, 1 Truck & 1 BC

EMS RISK ASSESSMENT

The Clovis Fire Department provides Basic Life Support (BLS) emergency medical services (EMS) with automated external defibrillator (AED) certification. All sworn operations personnel are Emergency Medical Technicians (EMTs) providing first responder service from four fire engines, and a ladder truck. Fresno County Emergency Medical Service provides BLS, Advanced Life Support (ALS), and ambulance transportation services through an exclusive contract with American Ambulance. The City's 911 primary Public Safety Answering Point (PSAP) obtains basic medical information and routes the call to the Fresno County EMS Communications Center for fire unit and ambulance dispatching. Requests for EMS are categorized as either BLS or ALS. All priority EMS requests receive one Fire first responder unit. Most BLS patients are either treated and released or treated and transported by American Ambulance. Most ALS patients are treated and transported by American Ambulance. In total, CFD wholly participates in the delivery of EMS and, at full staffing, has six (6) fire suppression units geographically deployed to meet the service demands and CFD's current performance goals.

Community Service Demands

The majority of the community's requests for services are for emergency medical services. In total, approximately 63% of requests for services are for EMS. A summary of all dispatched calls from 2017-2021 is provided below.



The Clovis Fire Department has identified medical risk hazards for occupancies within the City of Clovis. All emergency response units are outfitted with mobile data computers (MDC) that contain computer-aided dispatch premise information for identified occupancies. Premise information might also include annotations for medically fragile patients, high population concentrations, or frequent EMS events. The assessment of each facility was conducted by Fire personnel evaluating four distinct elements:

1. **Premise** – Evaluate data related to property use, occupancy type and assessed valuation.
2. **Building** – Evaluate building data considering exterior building characteristics including height and exposure separation.
3. **Life Safety** – Evaluate specific elements affecting life safety and the ability of the occupants to leave the building including occupant load, alarms and occupant mobility.
4. **Risk** – Evaluate the frequency/likelihood of an event and the consequence as it relates to regulatory oversight, experience and human activity within the structure.

From that evaluation, EMS risk was defined into three categories:

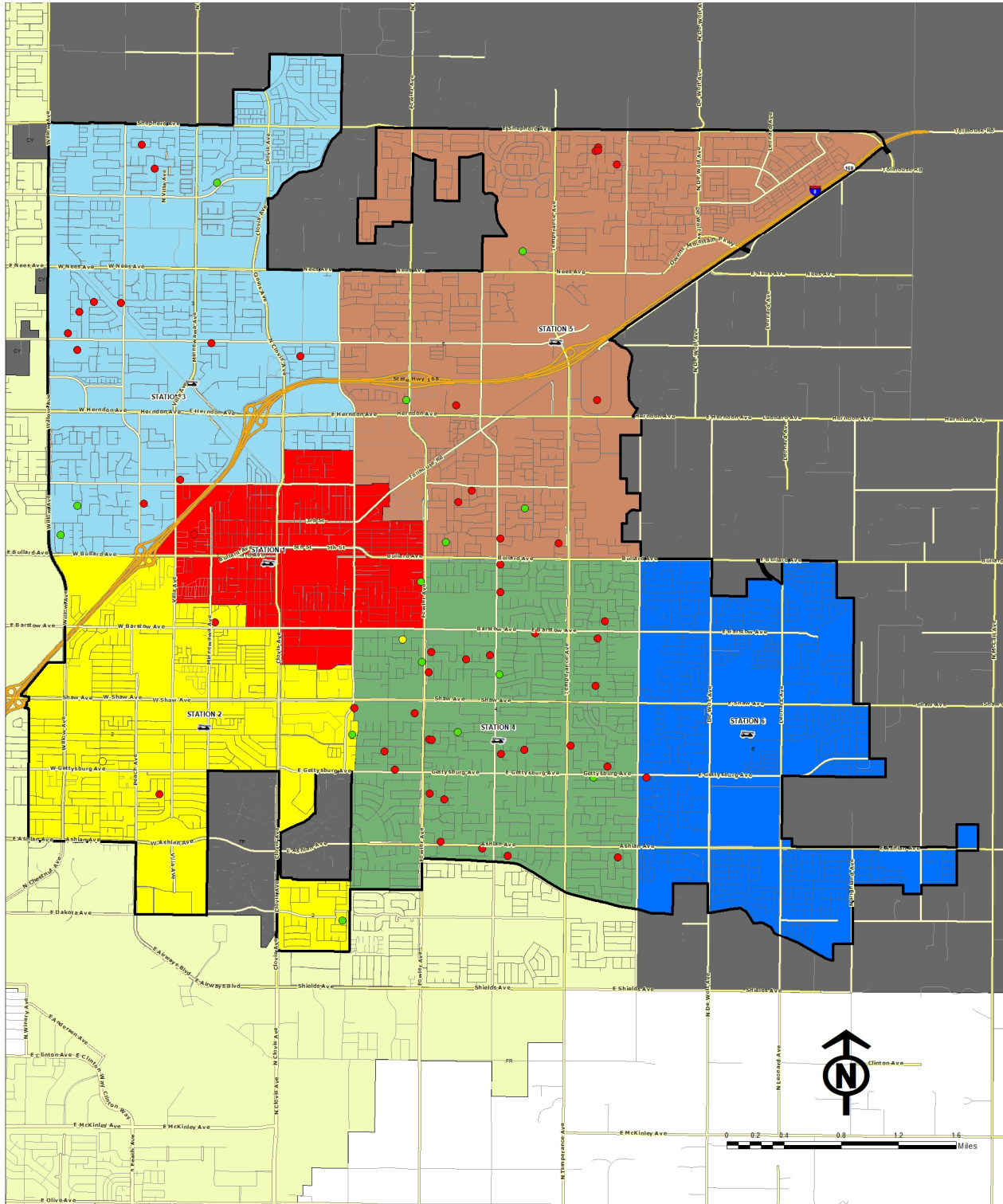
Low Risk: Non-life threatening (Code 2) medical events that can be handled by ambulance alone with time standards longer than required for life threatening emergencies. Clovis Fire Department suspended response to these types of calls for service in 2008.

Medium Risk: Medical responses that require the use of the following procedures: Traumatic injury, CPR with an AED application, rescue breathing with a bag-valve-mask, uncontrolled bleeding, severe allergic reactions, severe respiratory distress, non-cooperative patients, and altered mental status patients. The time performance standard for the ALS provider is 9 minutes or less at 90%.

High Risk: Response to an incident of substantial size that contains a heavy concentration of occupants presenting a high risk of life loss. While these structures contain built-in fire protection features, many occupants are not capable of self-preservation.

Once facilities were ranked, their information was then geocoded into our GIS system. With this overview, Clovis has been able to look at concentration/density of our EMS risk throughout Clovis. In addition, we can plot these points and add call history data to see if there is correlation between concentration of occupancies and actual incidents.

CLOVIS FIRE DEPARTMENT
STANDARDS OF COVER
 EMS Risk Assessment

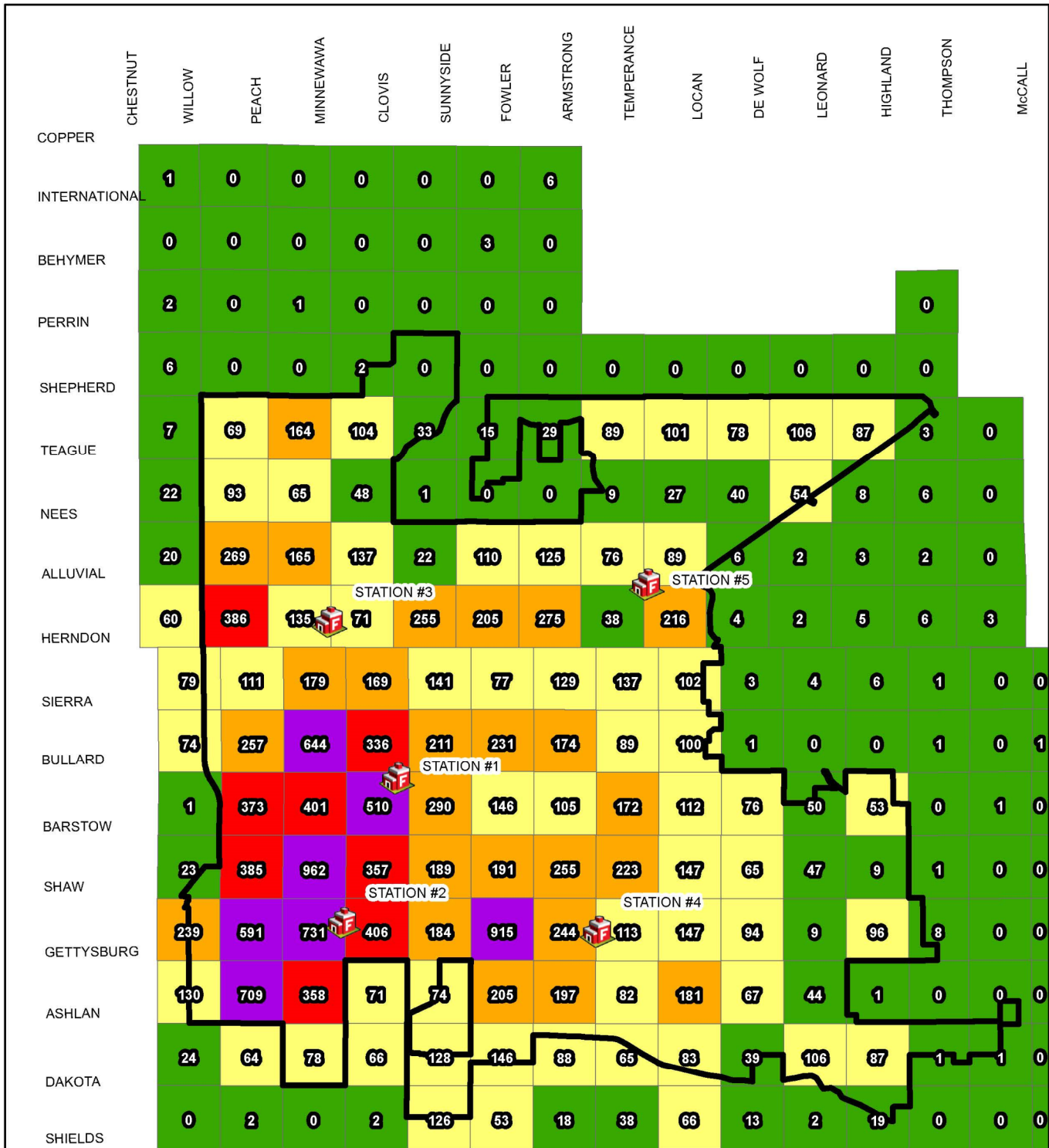


**EMS Risk Profile
 2017 - 2022**

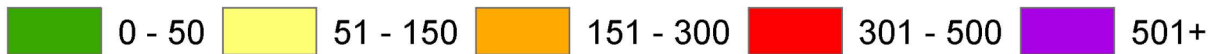
- High
- Medium
- Low

CLOVIS FIRE DEPARTMENT
STANDARDS OF COVER
 EMS Risk Assessment

AGENDA ITEM NO. 21.

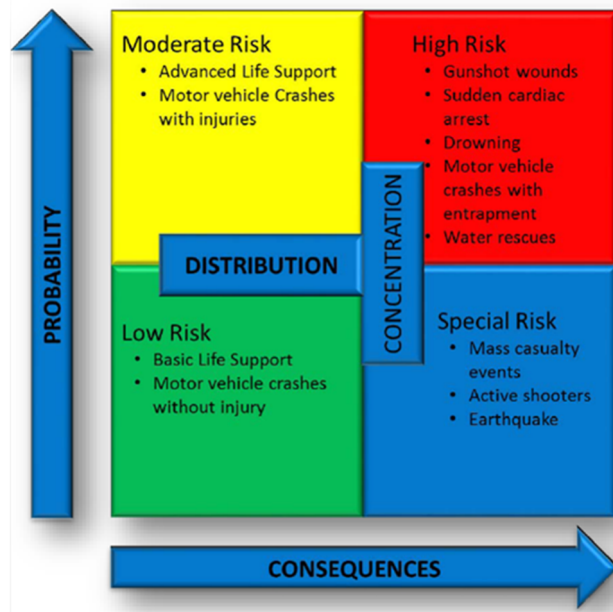


EMS Concentration By District 2019 - 2021



Probability/Consequence of EMS Risk

The probability and consequence process used for the EMS risk assessment is derived by the call taking process and call typing at the dispatch center. These call typing determinants are the framework for first responder and Fresno County EMS Ambulance responses. The analysis evaluates the probability and consequence of EMS incidents. The results are presented below.

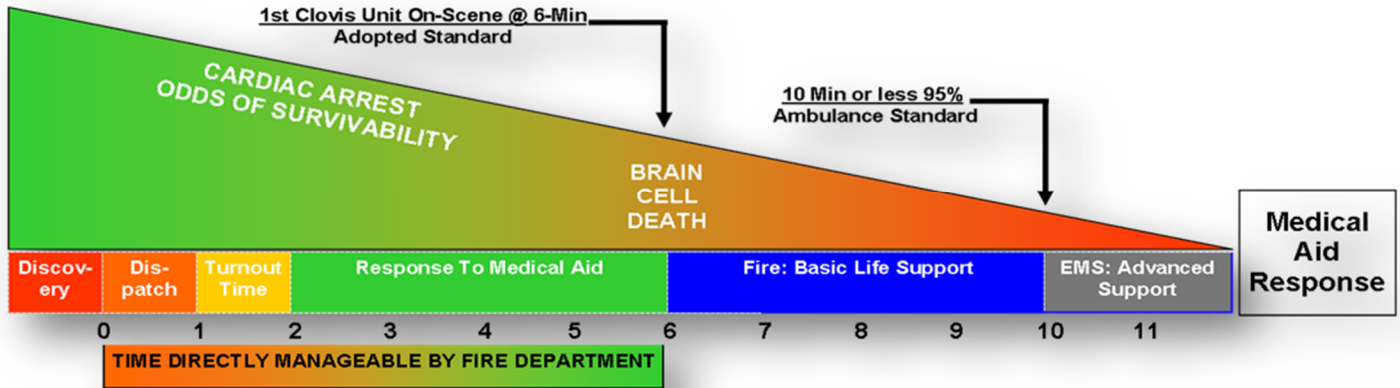


Similar to preventing flashover in a fire, survival from a cardiac emergency is time driven. The brain can only be without oxygen for a short period of time (four to six minutes) before irreparable cell damage begins to occur. Rapid intervention is necessary to prevent brain death from occurring.

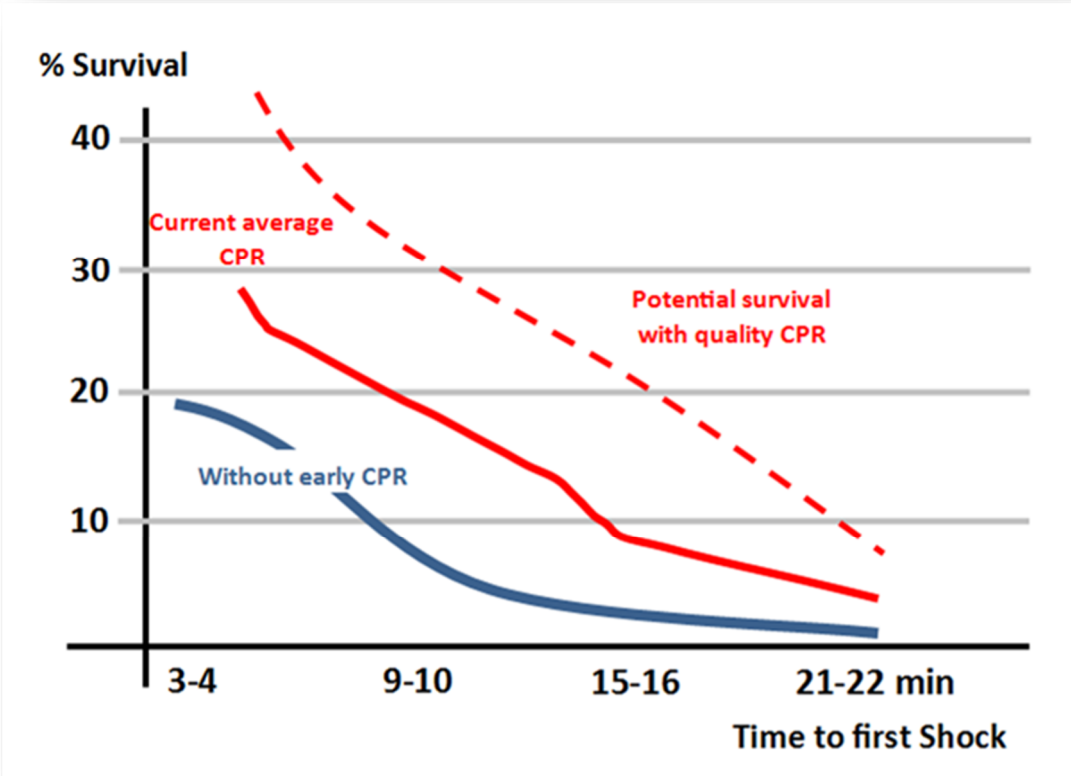
From an emergency medical perspective, the typical service-level objective typically is to provide medical intervention within a six-minute timeframe, as brain damage is very likely at six minutes without oxygen. However, in a cardiac arrest situation, survivability dramatically decreases beyond four minutes without appropriate intervention. Intervention includes early recognition and bystander CPR. The medical industry recommends using the Utstein reporting criteria to capture the following time stamps/points in the cascade of events in an EMS call that fortunately match many of the same time stamps used in tracking the cascade of events for fire calls.

Early defibrillation is often called the critical link in the chain of survival because it is the only way to successfully treat most sudden cardiac arrests. When cardiac arrest occurs, the heart starts to beat chaotically (fibrillation) and cannot pump blood efficiently. Time is critical. If a normal heart rhythm is not restored within minutes, the person will die. In fact, for every minute without defibrillation, the odds of survival drop seven to ten percent.

CLOVIS FIRE DEPARTMENT
STANDARDS OF COVER
 EMS Risk Assessment



The shortest possible response times create the highest probabilities of resuscitation. An important evaluation point lost on most agencies is the time crews reach the patient’s side. Often the clock stops when the vehicle arrives or stops at the address. The key to a successful outcome is the point the patient is actually contacted. Consideration of actual patient contact must be made when evaluating total response time for EMS calls; this time period can be substantial and can, most certainly, affect the outcome due to delayed intervention. The following illustration shows the importance of not just rapid response, but rapid response coupled with properly trained employees.



EMS Service Level Goals

The Clovis Fire Department’s EMS response and deployment standards are based upon urban population density and historical demand for services within community and region. The targeted service level benchmark statements are based on industry standards, best practices and historical response data.

Total Response Time benchmark service level objectives for 90% of all moderate EMS calls for service, from the receipt of the 911 call in the secondary PSAP to the arrival of the first-due unit, staffed with at least 3 firefighters, trained to the EMT-D level, shall be: 6 minutes and 30 seconds for all areas within the city limits (Urban). The first–due unit for all risk levels shall be capable of: assessing scene safety, establishment of incident command, conducting an initial patient assessment, obtaining vitals, patient’s medical history, and initiating mitigation efforts. CFD is also capable of providing first responder automatic external defibrillation (AED).

For 90 percent of all high risk EMS calls for service response incidents, the total response time for the arrival of the effective response force (ERF), staffed with 7 firefighters and officers, shall be: 10 minutes and 30 seconds for all areas within the city limits (urban). The ERF shall be capable of: providing incident command, completing patient assessment on multiple patients, providing appropriate treatment, initiating cardio-pulmonary resuscitation (CPR), performing AED, and assisting transport personnel with packaging the patient.

EMS Calls, Code 3, in Clovis, First Unit at Scene Benchmarks at 90th Percentiles								
Time Interval	Benchmark	Metric	All	2021	2020	2019	2018	2017
Call Processing	01:30	Count	25,106	5,079	5,309	5,285	4,779	4,654
		90th Percentile	01:53	02:12	01:58	01:42	01:40	01:43
Turnout	01:00	Count	25,719	5,378	5,434	5,361	4,838	4,708
		90th Percentile	01:27	01:29	01:28	01:25	01:25	01:27
Travel	04:00	Count	25,735	5,377	5,431	5,362	4,842	4,723
		90th Percentile	04:59	05:12	05:02	04:45	04:45	04:49
Total Response-1st on Scene	06:30	Count	25,790	5,388	5,445	5,371	4,849	4,737
		90th Percentile	07:29	08:00	07:32	07:12	07:02	07:17

CRITICAL TASK ANALYSIS

The occupancy risk assessment reviewed commercial and residential occupancies for EMS risk. While this is helpful for assessing concentration of the medically fragile, EMS incidents can occur just as readily in a home, or on the street and involve multiple patients. Critical tasks for low-risk EMS incidents that typically involve a single person receive a single ambulance response that could be an ALS or BLS ambulance based upon Pro QA processing by dispatch.

Critical Task Necessary at a Low-Risk EMS Incident		
Task	Firefighters	Company
ALS or BLS	2	1st Ambulance
Total	2 Other	1 Ambulance

Medium Risk: Medical responses including: Traumatic injury, CPR with an AED application, rescue breathing with a bag-valve-mask, uncontrolled bleeding, severe allergic reactions, severe respiratory distress, non-cooperative patients, and altered mental status patients.

Critical Task Necessary at a Medium-Risk EMS Incident		
Task	Firefighters	Company
Command	1	1st Engine or Truck
BLS	2	1st Engine or Truck
ALS	2	1st Ambulance
Total	3 FFs & 2 Other	1 Fire Apparatus & 1 Other

High Risk: Medical responses including: Multi-Casualty Incident (MCI), vehicle into buildings with multiple patients, vehicle accidents with pin-ins, bus accidents, trench rescues.

Critical Task Necessary at a High-Risk EMS Incident		
Task	Firefighters	Company
Command	1	Battalion Chief
Medical Supervisor	1	EMS Supervisor
Safety	1	1st Engine or Truck
Triage	2	1st Engine or Truck
Treatment	3	2nd Engine
Transport	4	1st and 2nd Ambulance
Total	7 FFs & 5 Other	1 Fire Apparatus & 1 Other

HAZARDOUS MATERIALS RISK ASSESSMENT

The fire department is required to formally define the types of special operations required or expected to be performed in an emergency or other incident. These types of special operations include, but are not limited to, hazardous materials response, confined-space response, technical rescue, high-angle rescue, and water rescue. Regardless of the fire department's defined special operation capability, all firefighters that provide emergency response must be trained to the first responder operations level for both hazardous materials and confined-space responses. Likewise, all fire departments must define their response capability to natural disasters, terrorism incidents, large-scale emergencies, and mass casualty events. The fire department must also determine the availability of resources outside the fire department through Federal, State, or Local assistance or private contractors who are deployed to emergencies and other incidents and the procedures for initiating such outside response. The fire department must also limit the level of response to special operation emergencies to the level for which it has staffed, trained, and equipped its personnel. Additionally, it must have the capacity to initiate a rapid intervention crew during any and all special operations responses.

Community Risks

Clovis and the Clovis Fire Department have existing hazardous materials risks between the fixed facilities and the transportation routes to move materials. Fresno County Department of Public Health is the administrator of the local Certified Unified Program Agency (CUPA). The CUPA inspects businesses or facilities that handle or store hazardous materials, generate and/or treat hazardous waste, own or operate underground storage tanks, store petroleum in aboveground tanks over State thresholds, or store Federal regulated hazardous materials over State thresholds. The inspections determine compliance with the California Health and Safety Code, California Code of Regulations, and the Code of Federal Regulations. The CUPA Program achieves compliance through education, community and industry outreach, inspections and enforcement. Once facilities are ranked, their information is then geocoded into our City's GIS system. With this overview, Clovis has been able to look at concentration/density of our special operations risk throughout Clovis. In addition, we can plot these points and add call history data to see if there is correlation between concentration of occupancies and actual incidents.

The most common hazardous materials reported in storage were diesel fuel, gasoline, and lube oil. The most prevalent extremely hazardous materials reported in storage are sulfuric acid, ammonia, and chlorine. Wawona Foods uses a variety of hazardous materials for daily produce packaging and storage operations. Wawona Foods maintains an active OSHA compliant storage and safety division that is responsible for ensuring compliance with the regulations applicable to the hazardous materials stored and utilized in production.

Hazardous Materials Risk Assessment

Clovis is in an area that has hazardous materials risk potential from fixed facilities and transportation of materials. CFD utilizes a three-tiered system to respond to and mitigate hazardous materials incidents. All personnel are trained to the HazMat First Responder Operational level for hazardous materials and decontamination, thus making the fire suppression force the first line of response for low-risk events. Low risk events receive a response for early size-up and hazard abatement within their level of training and resources. Moderate-risk events that require additional resources for identification of the hazard, entry, decontamination and medical monitoring are primarily handled by the Department's Hazardous Materials Team. However, for high-risk and large events that require considerable duration and relief, CFD participates and utilizes all Department personnel and Mutual/Auto-Aid compliment of HazMat resources including Specialists and Technicians to assemble the appropriate effective response force.

Hazardous material release emergencies can be broken into three categories (low, medium and high risk) within our dispatching matrix, with each category requiring a different number of resources. The risk levels are defined as follows.

High Risk: All large quantity releases of known or "unknown" hazardous materials, incidents where patient(s) requiring full body decontamination from exposure to hazardous materials, materials producing a vapor cloud or other airborne hazard, or damaged chemical pipelines.

Medium Risk: Confirmed spills or releases of "unknown" materials where there are no patients but contamination requires specialized equipment, personnel, testing and possibly evacuation depending on population density/proximity and type of materials identified.

Low-Risk: Low quantity spills that a person trained to the Haz Mat First Responder Operational level can mitigate with no assistance required of a Specialist. Examples include: Automotive fluids released at a traffic accident, identified abandoned chemicals with their original container, abandoned waste not posing an immediate release hazard, less than one gallon of spilled pool chlorine, etc.

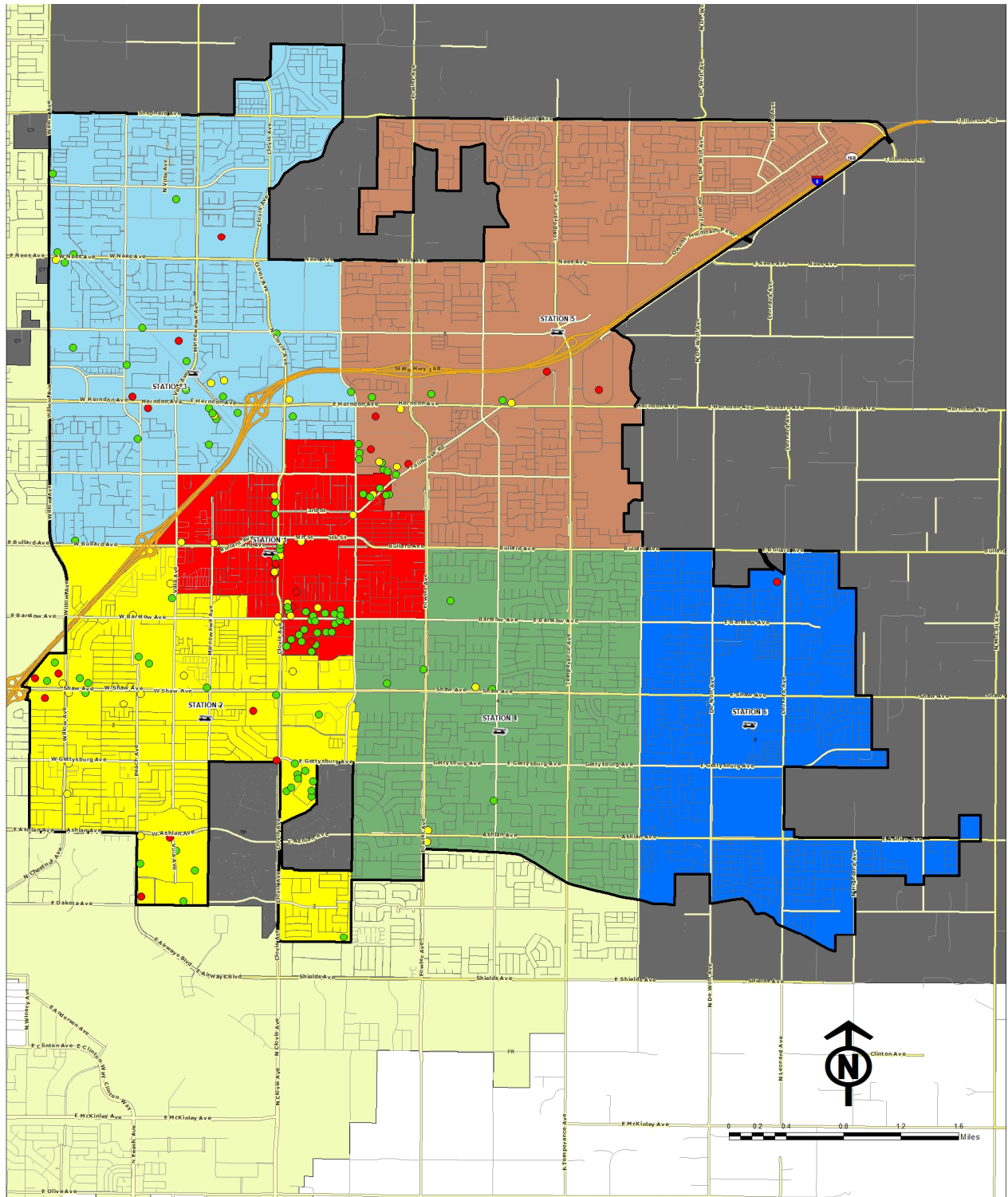
Community Service Demands

Fortunately, the demand for hazardous materials services in Clovis is limited. While there is a potential exposure to hazardous materials risk, the demand for responses is low. This category accounted for 568 unique dispatches from 2019—2021, or 2.14% of the total call volume. Hazardous materials responses are broken down by the following categories and data is reproduced below.

Incident Type	All Incidents	All Incidents Percent	First-In Units	First-In Units Percent	Unit Responses	Unit Responses Percent
400 - Hazardous condition, other	8	1.41%	7	1.30%	19	1.75%
410 - Flammable gas or liquid condition, other	7	1.23%	6	1.11%	20	1.85%
411 - Delayed detection of fire	1	0.18%	0	0.00%	4	0.37%
411 - Dental, medical, or other powered bed or chair	1	0.18%	4	0.74%	4	0.37%
411 - Gasoline or other flammable liquid spill	57	10.04%	53	9.81%	78	7.20%
411 - Newspaper, magazines	1	0.18%	0	0.00%	4	0.37%
412 - Books	3	0.53%	0	0.00%	12	1.11%
412 - Delayed reporting of fire	3	0.53%	12	2.22%	12	1.11%
412 - Dental equipment, other	3	0.53%	0	0.00%	12	1.11%
412 - Gas leak (natural gas or LPG)	225	39.61%	201	37.22%	315	29.09%
413 - Oil or other combustible liquid spill	6	1.06%	6	1.11%	10	0.92%
420 - Toxic condition, other	1	0.18%	1	0.19%	1	0.09%
421 - Chemical hazard (no spill or leak)	2	0.35%	2	0.37%	3	0.28%
422 - Chemical spill or leak	7	1.23%	7	1.30%	19	1.75%
423 - Refrigeration leak	4	0.70%	4	0.74%	12	1.11%
424 - Carbon monoxide incident	28	4.93%	26	4.81%	29	2.68%
424 - Studio type TV camera	1	0.18%	1	0.19%	1	0.09%
440 - Electrical wiring/equipment problem, other	61	10.74%	61	11.30%	131	12.10%
441 - Heat from short circuit (wiring), defective/worn	8	1.41%	7	1.30%	27	2.49%
442 - Overheated motor	15	2.64%	13	2.41%	68	6.28%
443 - Light ballast breakdown	1	0.18%	1	0.19%	1	0.09%
444 - Power line down	22	3.87%	19	3.52%	25	2.31%
445 - Arcing, shorted electrical equipment	93	16.37%	87	16.11%	201	18.56%
451 - Biological hazard, confirmed or suspected	2	0.35%	2	0.37%	7	0.65%
461 - Building or structure weakened or collapsed	2	0.35%	2	0.37%	4	0.37%
462 - Aircraft standby	7	1.23%	7	1.30%	48	4.43%
463 - Vehicle accident, general cleanup	8	1.41%	8	1.48%	13	1.20%
480 - Attempted burning, illegal action, other	3	0.53%	3	0.56%	3	0.28%
Report Totals	568	100.00%	540	100.00%	1,083	100.00%

CLOVIS FIRE DEPARTMENT
STANDARDS OF COVER
 Special Operations Risk Assessment

AGENDA ITEM NO. 21.



**HazMat Risk Profile
2017 - 2022**

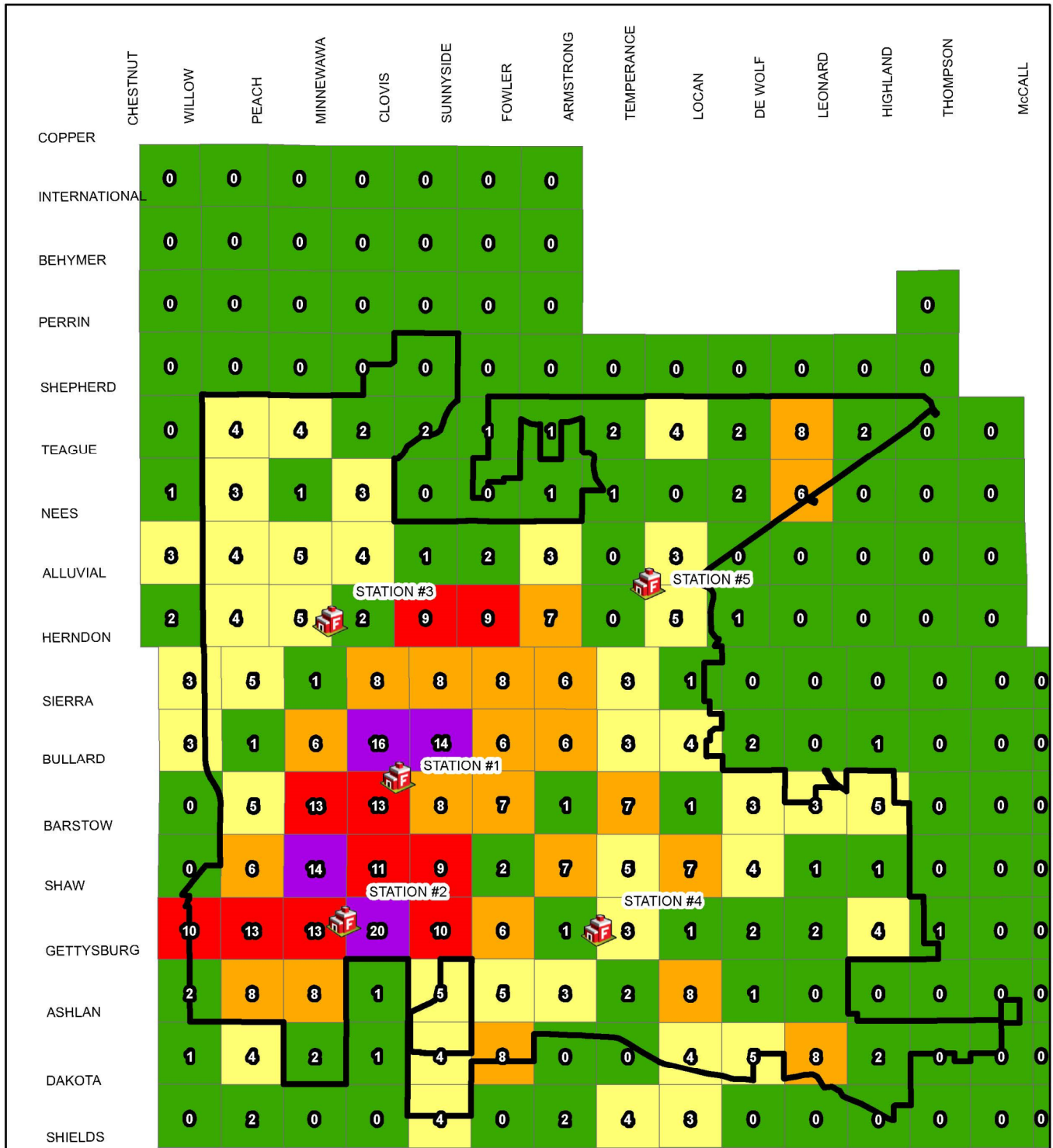
- High
- Medium
- Low

CLOVIS FIRE DEPARTMENT

STANDARDS OF COVER

Special Operations Risk Assessment

AGENDA ITEM NO. 21.



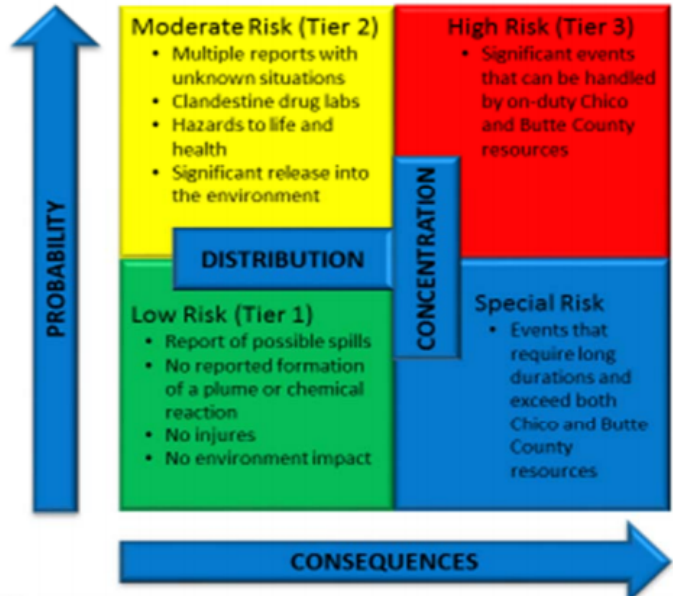
HazMat Concentration By District 2019 - 2021





Probability/Consequence of Hazardous Materials Risk

CFD staff completed analyses for the probability and consequence of hazardous materials events. In this case, the risks for hazardous materials are greater than the historical experience. Therefore, the consequence portion of the matrix had greater influence on the risk classification than the probability. All hazardous materials events are relatively low frequency as compared to other community service demands but the consequence of events could be significant. A probability and consequences risk matrix was developed and is presented below.



Hazardous Materials Service Level Goals

Total Response Time benchmark service level objectives are for 90% of all low- and high-risk Hazardous Material release calls for service, from the receipt of the 911 call in the secondary PSAP to the arrival of the first-due unit, staffed with at least 3 firefighters, trained to the First Responder Operational level, shall be: 7 minutes for all areas within the city limits (urban). The first-due unit for all risk levels shall be capable of: isolating the area, provide emergency medical care to any patients, provide initial identification of the type and hazard of materials involved, and establish incident command. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.

For 90% of all high risk Hazardous Material release calls for service, the total response time, from the receipt of the 911 call in the secondary PSAP to the arrival of the effective response force (ERF), staffed with 10 firefighters and officers, 4 or more of which are trained to the Hazardous Materials Specialist level shall be: 17 minutes and 30 seconds for all areas within the city limits (urban). The ERF for high risk shall be capable of: providing incident command, basic life support, isolate the area and deny entry, provide identification of type and hazard of materials involved, enter the hazard areas and mitigate risk or secure for clean-up employing the use of Level A or B protective ensembles. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.

Hazardous Material Calls, Code 3, in Clovis, First Unit at Scene Benchmarks at 90th Percentiles								
Time Interval	Benchmark	Metric	All	2021	2020	2019	2018	2017
Call Processing	01:30	Count	338	64	68	79	64	63
		90th Percentile	01:59	02:04	02:08	01:44	02:05	01:57
Turnout	01:30	Count	346	66	71	79	65	65
		90th Percentile	01:34	01:27	01:33	01:32	01:30	01:39
Travel	04:00	Count	343	66	71	78	64	64
		90th Percentile	05:37	05:54	05:42	05:07	05:10	05:46
Total Response	07:00	Count	344	66	71	79	65	63
		90th Percentile	07:56	08:38	08:05	07:29	07:39	08:22

CRITICAL TASK ANALYSIS

These tables show the breakdown of critical tasks that need to occur within the first 5 to 15 minutes after arriving at a hazardous materials release based on the hazard category:

Critical Task Necessary at a Low-Risk Hazardous Materials Incident		
Task	Firefighters	Company
Command	1	1st Engine or Truck
Mitigation	2	1st Engine or Truck
Total	3 Firefighters	1 Fire Apparatus

Critical Task Necessary at a High-Risk Hazardous Materials Incident		
Task	Firefighters	Company
Command	1	Battalion Chief
Entry Team Leader	1	1st Engine/HM Spec.
Entry Team	2	2nd Engine/HM Spec.
Back Up Team	2	3rd Engine/HM Spec.
Decon Team	3	1st Engine
Safety Officer/HazMat ASO	1	2nd Engine/HM Spec.
ALS	2	1st ALMBULANCE
Total	10 FFs & 2 Other	3 Fire Apparatus, 1 HazMat, 1BC & 1 ALS Unit

TECHNICAL RESCUE RISK ASSESSMENT

The CFD Urban Search and Rescue (USAR) Team has several members trained as technicians for the Technical Rescue Program and both rely on and participate with the Countywide Technical Rescue Team. Technical rescue is a relatively broad term and includes responses to a wide variety of incidents such as surface water rescue, confined space rescue, low- and high-angle rescues, and structural collapse. Due to the critical tasking elements necessary for technical rescue events, CFD utilizes a tiered response process that begins with fire resources, then escalates to a regional response. A Department response includes operations level personnel in addition to available technicians. A region-wide response includes additional staffing and resources commensurate with a high-risk fire structure fire response including on-duty CFD USAR technicians and team leaders as well as regional Rescue Team units.

Search and rescue emergencies can be broken into three general categories (low, medium and high risk) within our dispatching matrix, with each category requiring a different number of resources to effectively and safely manage each. The risk levels are as follows:

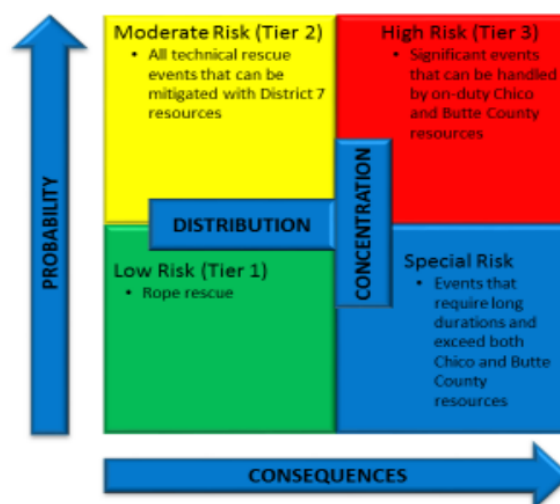
High Risk: Structure collapse, vehicle into buildings with patient(s), trench rescue, high- and low- angle rescue, and confined space rescue.

Medium Risk: Vehicle into buildings without patients, vehicle accidents with pin-ins, freeway accidents, person(s) caught in machinery, industrial accidents, water rescue.

Low-Risk: Elevator rescue, victim trapped in a car or room of building due to a lock failure.

Probability/Consequence of Technical Rescue Risk

CFD staff completed analyses for the probability and consequence of technical rescue events. In this case, the risks for technical rescue, and USAR technicians, are greater than the historical experience. Therefore, the consequence portion of the matrix has greater influence on the risk classification than the probability. All technical rescue events are relatively low frequency as compared to other community service demands. A probability risk matrix was developed and is presented below.



Community Service Demands

Similar to the analyses for hazardous materials, the demand for technical rescue services is low with the exception of motor vehicle accidents in relation to the primary service areas. From 2017-2021, there was a total of 3,095 search and rescue incidents. Of those, 98% involved a motor vehicle accident of some type. With the improved economy, Clovis is experiencing an upswing in construction, therefore a potential risk for high angle rescues, trench emergencies, and structural collapses. Search and Rescue responses are broken down by the following categories and data is provided below.

RMS Incident Type Call Group	Grand Total
300 - RESCUE, EMERGENCY MEDICAL CALL (EMS) CALL, OTHER	19
311 - MEDICAL ASSIST, ASSIST EMS CREW	4
320 - EMERGENCY MEDICAL SERVICE, OTHER	4
321 - EMS CALL, EXCLUDING VEHICLE ACCIDENT WITH INJURY	17
322 - VEHICLE ACCIDENT WITH INJURIES	7
323 - MOTOR VEHICLE/PEDESTRIAN ACCIDENT (MV PED)	49
324 - MOTOR VEHICLE ACCIDENT WITH NO INJURIES	382
331 - LOCK	13
331 - LOCK-IN (IF LOCK OUT , USE 511)	31
3221 - CODE 3 TRAVEL VEHICLE ACCIDENT WITH INJURIES	770
3221 - PRIORITY 1 VEHICLE ACCIDENT WITH INJURIES	642
3222 - CODE 3 TRAVEL VEHICLE ACCIDENT WITH INJURIES	402
3222 - PRIORITY 2 VEHICLE ACCIDENT WITH INJURIES	370
3223 - CODE 2 TRAVEL VEHICLE ACCIDENT WITH INJURIES	53
3223 - CODE 2 VEHICLE ACCIDENT WITH INJURIES	83
3231 - VEHICLE VS PEDESTRIAN, CODE 3	34
3231 - VEHICLE VS PEDESTRIAN, PRIOR 1	17
3232 - MOTOR VEHICLE/PEDESTRIAN ACCIDENT CODE 3	57
3232 - MOTOR VEHICLE/PEDESTRIAN ACCIDENT PRIORITY 2	58
3233 - MOTOR VEHICLE/PEDESTRIAN ACCIDENT CODE 2	20
350 - EXTRICATION, RESCUE, OTHER	3
351 - EXTRICATION OF VICTIM(S) FROM BUILDING/STRUCTURE	1
352 - EXTRICATION OF VICTIM(S) FROM VEHICLE	5
353 - REMOVAL OF VICTIM(S) FROM STALLED ELEVATOR	17
356 - HIGH ANGLE RESCUE	4
357 - EXTRICATION OF VICTIM(S) FROM MACHINERY	4
360 - WATER & ICE RELATED RESCUE, OTHER	15
363 - SWIFT WATER RESCUE	6
371 - ELECTROCUTION OR POTENTIAL ELECTROCUTION	1
381 - RESCUE OR EMS STANDBY	7
TOTAL	3,095

Technical Rescue Service Level Goals

CFD’s benchmark service level objectives for 90% of all low-, moderate-, and high-risk rescue calls, total response time, from the receipt of the 911 call in the secondary PSAP to the arrival of the first-due unit, staffed with at least 3 firefighters, shall be: 7 minutes for all areas within the city limits (urban). The first-due unit for all risk levels shall be capable of: providing incident command, basic life support and minor rescue services such as minor extrications of a patient from a vehicle, or removing victims trapped in a non-operational elevator. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.

For 90% of all moderate-risk rescue calls, the total response time, from the receipt of the 911 call in the secondary PSAP to the arrival of the effective response force (ERF), staffed with 5 firefighters and officers, shall be: 10 minutes and 30 seconds for all areas within the city limits (urban). The ERF for moderate risk shall be capable of: providing incident command, provide basic life support, perform most vehicle extrications, or extrication of patients from machinery, filling the position of safety officer. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.

For 90% of all high risk rescue calls, the total response time, from the receipt of the 911 call in the secondary PSAP to the arrival of the effective response force (ERF), staffed with 7 firefighters and officers, 3 or more of which are trained to the Rescue Systems I level shall be: 17 minutes and 30 seconds for all areas within the city limits (urban). The ERF for high risk shall be capable of: providing incident command, provide basic life support, perform complex vehicle extrication, shore up compromised structures, perform trench rescues, filling the position of safety officer. These operations shall be done in accordance with departmental standard operating procedures while providing for the safety of responders and the general public.

Technical Rescue Calls, Code 3, in Clovis, First Unit at Scene Benchmarks at 90th Percentiles								
Time Interval	Benchmark	Metric	All	2012	2013	2014	2015	2016
Call Processing	01:30	Count 90th Percentile	2,943 01:46	317 01:05	299 01:10	331 01:02	377 01:13	325 01:27
Turnout	01:00	Count 90th Percentile	3,011 01:31	300 01:31	287 01:37	325 01:30	369 01:35	317 01:37
Travel	04:00	Count 90th Percentile	3,008 04:28	309 04:24	297 04:34	333 04:30	369 04:30	319 04:22
Total Response-1st On Scene	06:30	Count 90th Percentile	1,627 06:29	308 06:20	296 06:31	330 06:19	372 06:40	321 06:37
Total Response-EFR	17:30	Count 90th Percentile	49 9:07	9 8:31	11 9:04	14 9:38	9 8:03	6 9:05

CRITICAL TASK ANALYSIS

These tables show the breakdown of critical tasks that need to occur within the first 5 to 15 minutes after arriving at a rescue emergency based on the hazard category.

Critical Task Necessary at a Low-Risk Technical Rescue Incident		
Task	Firefighters	Company
Command	1	1st Engine or Truck
Rescue	2	1st Engine or Truck
ALS	2	1st Ambulance
Total	3 FFs & 2 Other	1 Fire Apparatus & 1 ALS Unit

Critical Task Necessary at a Medium-Risk Technical Rescue Incident		
Task	Firefighters	Company
Command	1	Battalion Chief
Rescue Group Supervisor	1	1st Engine/Rescue Spec.
Rescue Team	2	1st Engine/Rescue Spec.
Safety Officer	1	1st Truck/Rescue Spec.
ALS	2	1st Ambulance
Total	5 FFs & 2 Other	1 Fire Engine, 1 Truck, 1 BC & 1 ALS Unit

Critical Task Necessary at a High-Risk Technical Rescue Incident		
Task	Firefighters	Company
Command	1	Battalion Chief
Rescue Group Supervisor	1	1st Engine/Rescue Spec.
Rescue Team	2	1st Engine/Rescue Spec.
Back Up Team	2	1st Truck/Rescue Spec.
Attendant	1	1st Truck/Rescue Spec.
Safety Officer	1	2nd Engine/Rescue Spec.
ALS	2	1st Ambulance
Total	8 FFs & 2 Other	1 Fire Engine, 1 Truck, 1 BC,

DISTRIBUTION FACTORS

Comparison of Demand Zones

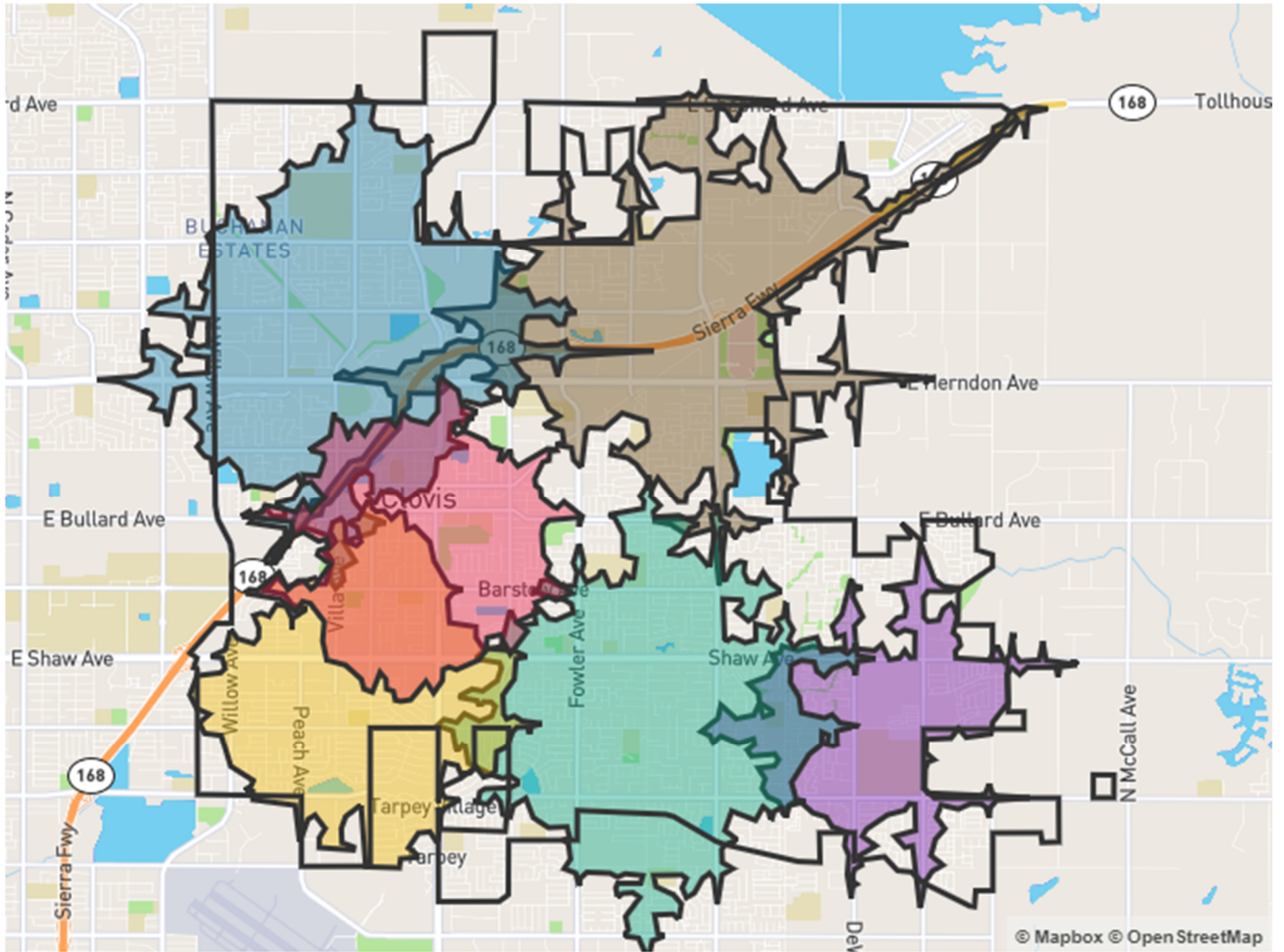
Each of the six fire demand zones within CFD's service area were compared for factors that would impact the distribution of resources. A geospatial analysis was completed regarding drive times that incorporated CFD's current performance and nationally recommended best practices. Drive times from each of the current fixed facility fire stations were created utilizing existing road miles and past performance for first unit arrival at 4 minutes. This analysis suggests that the majority of the jurisdiction should be able to be responded to within 4 minutes for where the majority of the risk is located. Each individual stations 4-minute service area is noted from the existing road networks on the map on the following page. While the geographic analysis is a quality surrogate measure, there are times that the complexity of the roadway system or time of day may provide additional challenges.



CLOVIS FIRE DEPARTMENT STANDARDS OF COVER

Distribution Factors

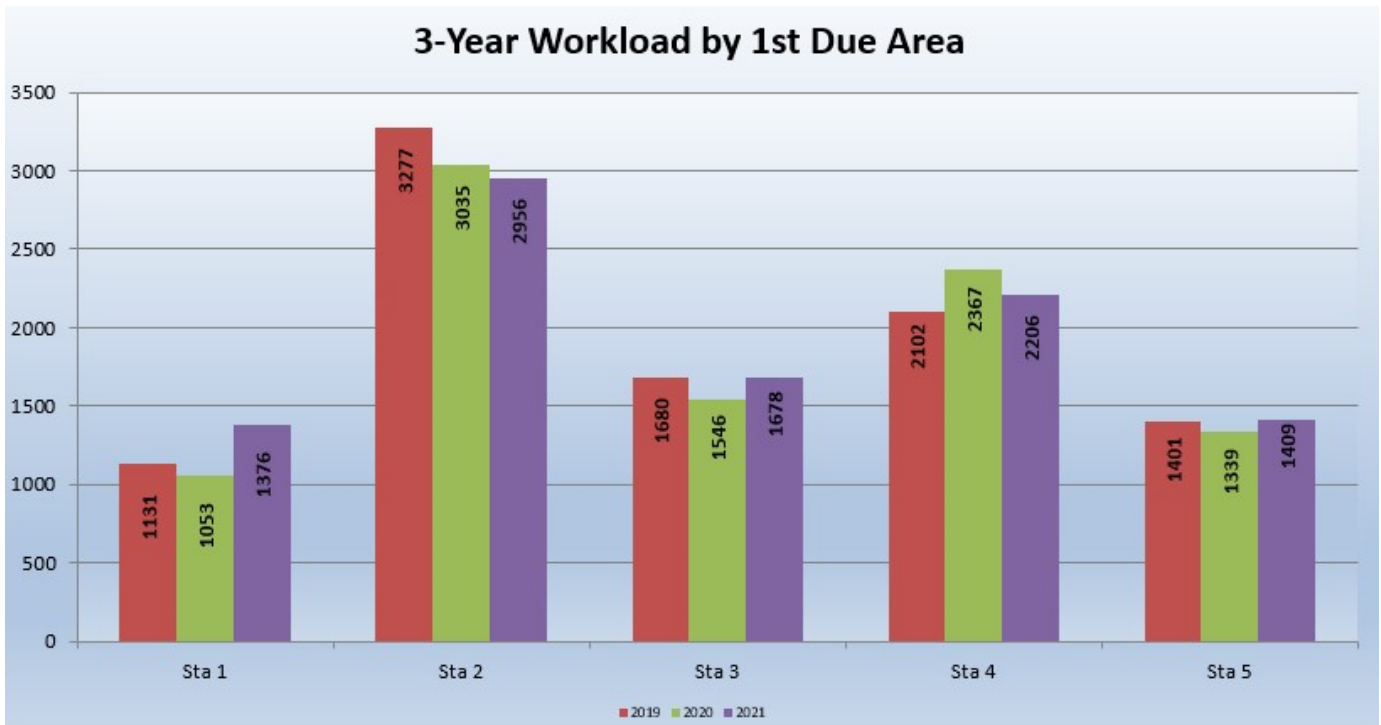
AGENDA ITEM NO. 21.



- Clovis, CA
- Station 1 4-Minute Travel
- Station 2 4-Minute Travel
- Station 3 4-Minute Travel
- Station 4 4-Minute Travel
- Station 5 4-Minute Travel
- Station 6 4-Minute Travel

Comparison of Workloads by Demand Zone

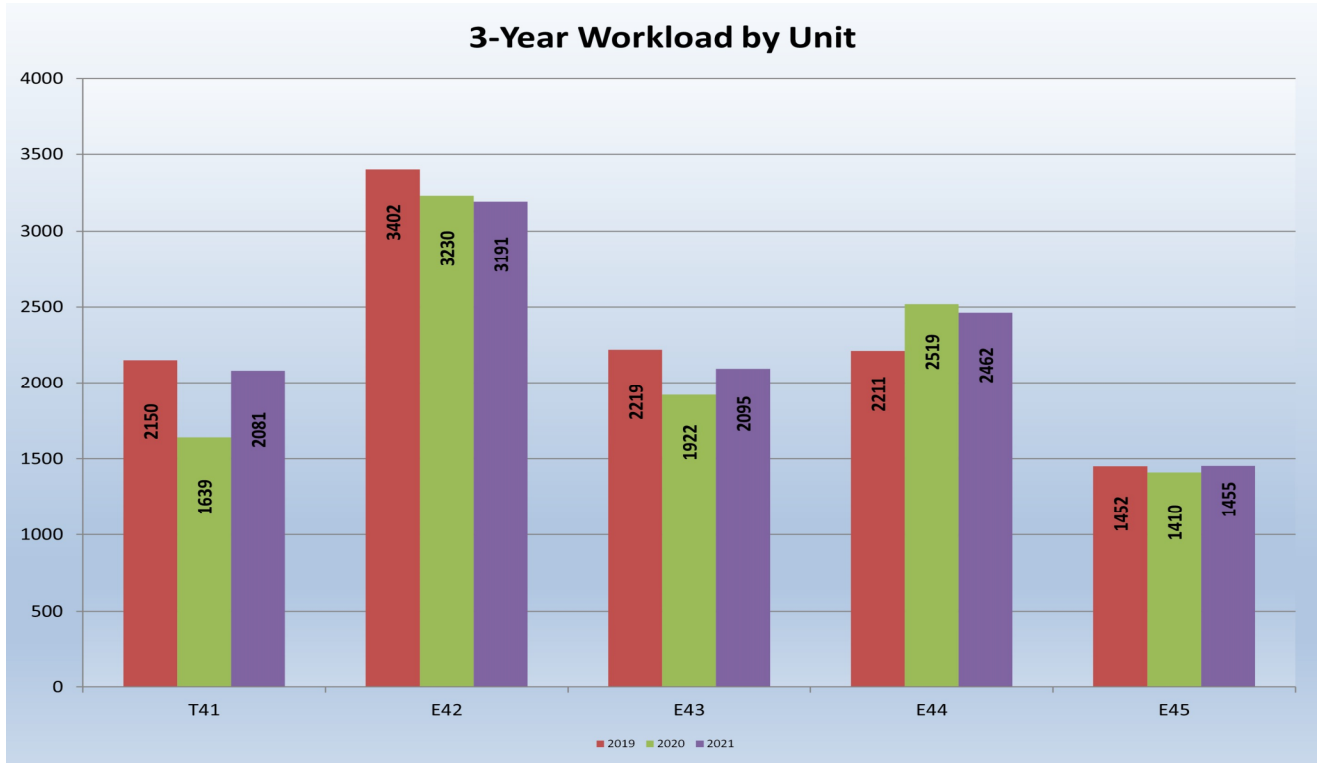
Another method of assessing the effectiveness of the distribution model is to analyze the demand for services across the distribution model. Workload is assessed at the station demand zone level and at the individual unit level. Analyses illustrate that Stations 2 and 4 were the top demand zones, and each answered 32.46% and 23.38% of the total responses for services. Collectively these two demand zones accounted for 55.84% of the total workload.



Station	2019	2020	2021	3-Year Average
Station 1	1,131	1,053	1,376	1,187
Station 2	3,277	3,035	2,956	3,089
Station 3	1,680	1,546	1,678	1,635
Station 4	2,102	2,367	2,206	2,225
Station 5	1,401	1,339	1,409	1,383
TOTAL	9,591	9,340	9,625	9,519

Comparison of Workloads by Unit

Finally, unit workload analyses were completed for both comparative purposes as well as for introspection into potential system failures. First, this analysis utilized the summation of individual unit workload from dispatch to the clearing of a call. E42 was dispatched to the most accounting for 33.21% of the runs, followed by E44.



Unit	2019	2020	2021	3-Year Average
T41	2,150	1,639	2,081	1,957
E42	3,402	3,230	3,191	3,274
E43	2,219	1,922	2,095	2,079
E44	2,211	2,519	2,462	2,397
E45	1,452	1,410	1,455	1,439
TOTAL	11,434	10,720	11,284	11,077

Comparison of Workloads by Unit Hour Utilization (UHU)

Another measure, time on task, is necessary to evaluate best practices in efficient system delivery and consider the impact workload has on personnel. Unit Hour Utilization (UHU) determinants were developed by mathematical model. This model includes both the proportion of calls handled in each major service area (Fire, EMS, Special Operations, and Service) and total unit time on task for these service categories from 2019—2021. The resulting UHU's represent the percentage of the work period (24 hours) that is utilized responding to requests for service.



Historically, the International Association of Fire Fighters (IAFF) and *International City Managers Association (ICMA)* have recommended that 24-hour units utilize 0.25, or 25% workload as an upper threshold. In other words, this recommendation would have personnel spend no more than six hours per day on emergency incidents. These thresholds take into consideration the necessity to accomplish non-emergency activities such as training, health and wellness, public education, and fire and community risk reduction inspections.



Analysis showed the most utilized Clovis Fire Department units were E42 and E44. The least utilized unit was E45. All unit utilizations were below 20%. This can be partly contributed to the relatively short average time on task of 22 minutes. Emergency related workload is a factor of community demands for service and is not a reflection of internal policies or non-emergency duties. Any changes to the current system would require workload to be redistributed across the deployed units. This analysis demonstrates that considerable capacity exists to absorb additional work.

Resiliency

A reliable and consistent response system is key to providing equitable service to customers in their time of need. To ensure adopted response time goals are consistent regardless of location, CFD took into consideration that the response systems will be stressed from time to time. For example, a significant event – like an MCI or multi-family unit fire – will temporarily overwhelm the system. But, it is important for the system to quickly recover to a state of normalcy. To help ensure a dependable system, the CFD considered five factors:

1. Reliability
2. Availability
3. Capabilities (knowledge, skills, training, etc.)
4. Capacity (resources)
5. Resiliency (resistance, absorption, restoration)

To measure availability, this table identifies, expressed as a percentage, the total amount of time committed by each Clovis resource by year divided by the total amount of time in the year.

These tables identify the average duration of committed times by each Clovis resource by year.

Unit	2017	2018	2019	2020	2021	Total
E41					2.6%	2.7%
E42	7.5%	6.9%	8.4%	7.8%	8.4%	7.8%
E43	4.3%	3.6%	4.8%	4.4%	5.2%	4.4%
E44	5.7%	4.8%	5.5%	6.0%	6.2%	5.7%
E45	3.5%	3.0%	3.9%	3.7%	4.0%	3.6%
T41	4.1%	3.9%	4.5%	4.0%	2.6%	3.8%
Total	5.0%	4.4%	5.4%	4.3%	5.8%	5.0%

Unit	2017	2018	2019	2020	2021	Total
E41					0:13:21	0:13:13
E42	0:12:30	0:11:22	0:13:08	0:13:09	0:13:57	0:12:49
E43	0:12:28	0:10:54	0:11:58	0:12:05	0:13:02	0:12:08
E44	0:14:44	0:12:51	0:13:31	0:13:45	0:14:45	0:13:56
E45	0:14:53	0:12:39	0:14:19	0:14:11	0:14:27	0:14:07
T41	0:12:22	0:12:17	0:12:28	0:13:04	0:13:00	0:12:36
Total	0:13:13	0:11:54	0:13:01	0:13:13	0:13:51	0:13:04

Capacity

Once capacity is exceeded, the need for automatic or mutual aid from neighboring jurisdictions is required. At no time should auto or mutual aid be a primary means to service Clovis. This table identifies the frequency with which Clovis units are drawn down by year at each level of drawdown. Note that there are instances where a unit is dispatched to a new incident while still committed, then cleared shortly thereafter. This explains the commitment of six resources simultaneously and tends to occur disproportionately during busy times.

Drawdown Status	2017	2018	2019	2020	2021	Total
0	7,280	7,305	7,727	7,525	7,638	37,475
1	9,286	9,209	10,147	9,614	10,135	48,391
2	2,423	2,295	2,912	2,552	3,057	13,239
3	587	531	676	631	754	3,179
4	247	216	297	287	303	1,350
5	77	78	118	119	135	527
6	-	2	5	-	26	33
Total	19,900	19,636	21,882	20,728	22,048	104,194

Description of First-Arriving Unit Reliability

The size of the area that a station covers, the number of calls, the types of calls, and the population density all affect response reliability. The more densely populated, the more likely a second-due call will occur. An analysis of current response data can reveal variations in the response reliability among stations. The chart below tracks response reliability by analyzing the total call volume for a particular fire first-due area and then tracks the number of additional calls occurring within that area while that first-due unit is still on a call.

This table identifies the sum of all times that Clovis units are drawn down by year at each level of drawdown.

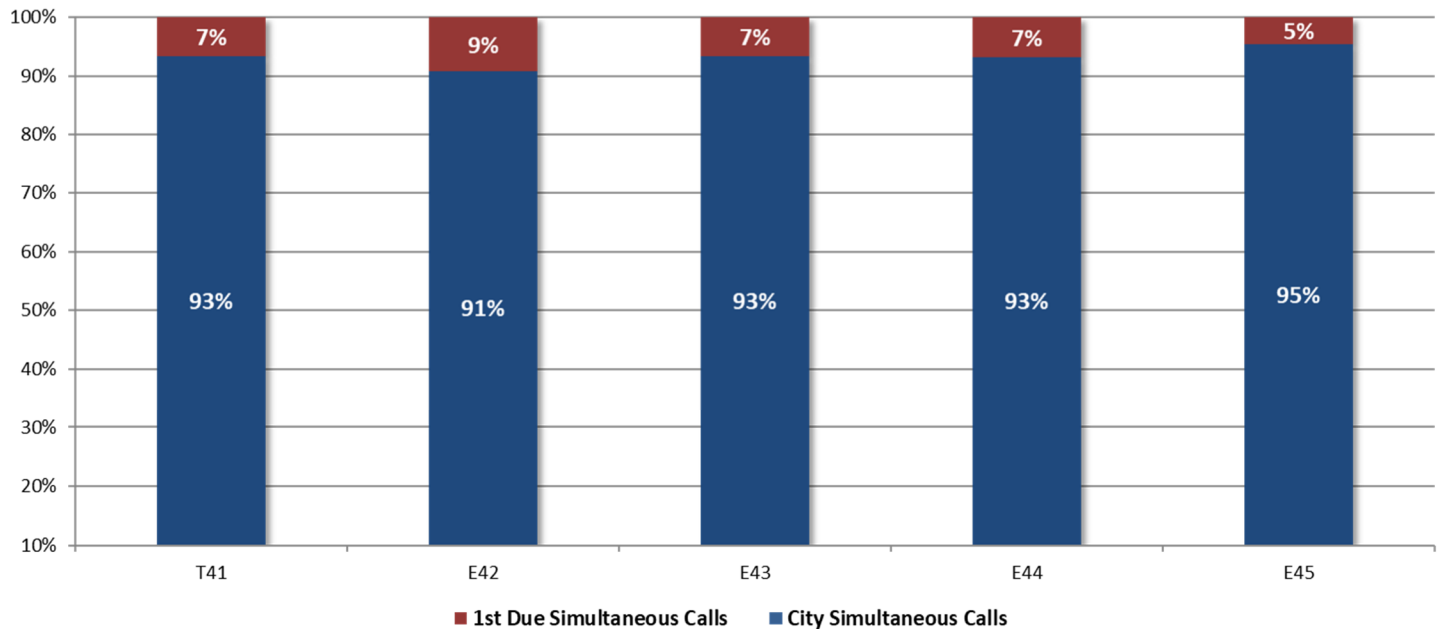
Drawdown	2017	2018	2019	2020	2021	Total
1	0:04:23	0:04:18	0:04:25	0:04:28	0:04:35	0:04:26
2	0:04:27	0:04:27	0:04:29	0:04:34	0:04:43	0:04:32
3	0:04:37	0:04:31	0:04:34	0:04:50	0:04:46	0:04:41
4	0:05:10	0:04:29	0:04:05	0:04:46	0:05:25	0:04:51
5	0:05:04	0:03:51	0:04:52	0:05:54	0:04:33	0:05:03
6	0:00:00	0:05:07	0:08:49	0:00:00	0:04:43	0:05:17
Total	0:04:24	0:04:20	0:04:26	0:04:30	0:04:37	0:04:28

Description of First Arriving Unit Reliability

Response reliability is defined as the probability that the required amount of staffing and apparatus will be available when a fire or emergency call is received. The response reliability of the fire department would be 100 percent if every piece of its apparatus were available every time an emergency call was received, there was no traffic, no bad weather, access was not obstructed, etc. In reality, there are times when a call is received for a particular company, but that company is already on another call. This requires a substitute (second-due) Company to be assigned from another station. As the number of emergency calls per day increases, so does the probability that a needed piece of apparatus will already be busy when a call is received. Consequently, the response reliability of the fire department for that Company decreases, which will impact on department travel times to emergencies.

As seen, Clovis Fire Department units are reliable for calls within the their first-due response areas over 90% of the time.

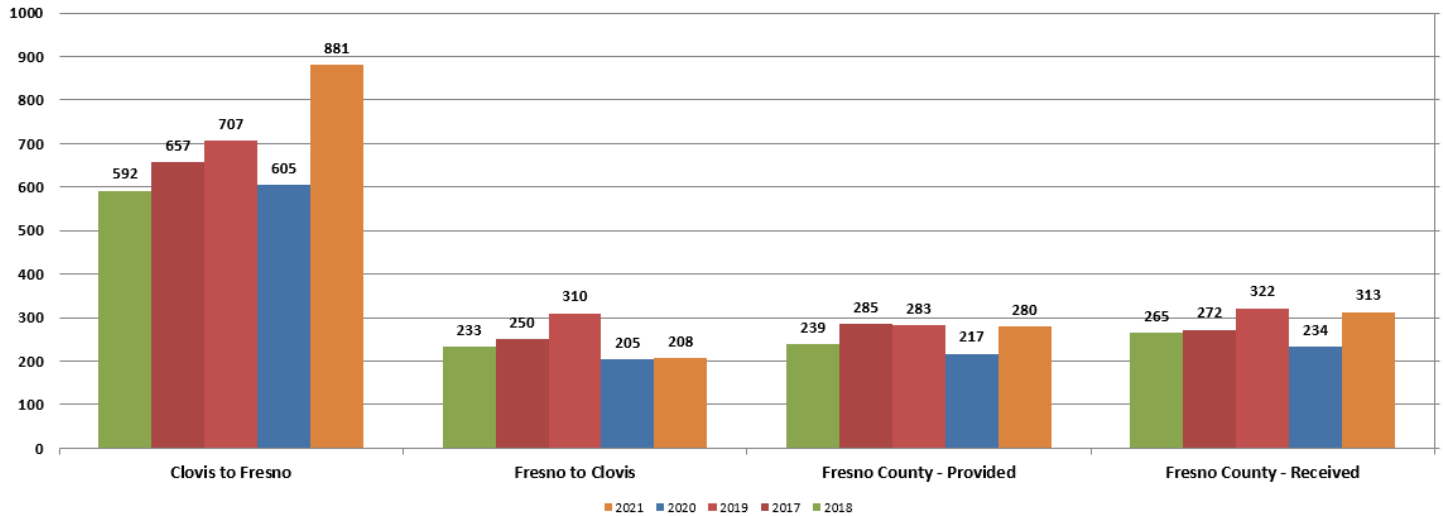
Unit Reliability



Additional Unit Demands

Within California, the Master Mutual Aid System operates to provide firefighting and support capabilities for a variety of events including wildfires, landslides, earthquakes, and other major events. In addition, the system supports regional, county, and inter-agency agreements to ensure lives and property are protected. As a fire agency within Fresno County, Clovis provides automatic aid within a one-mile service area outside of the Clovis boundaries. Most often, those calls support Fresno City Fire Department or Fresno County Fire Protection District. Our partner agencies also provide coverage within the City of Clovis boundaries when our resources may be deployed on other calls. Requests outside of the automatic aid area are handled through mutual aid agreements that define the scope of services and process by which those calls will be handled. To ensure mutual and automatic aid calls don't create service gaps in either jurisdiction, regular monitoring of aid received or given is conducted. The chart below demonstrates the ratio and distribution of auto/mutual aid support with our partner agencies from 2017-2021.

Auto/Mutual Aid Reciprocity
OES Calls Excluded

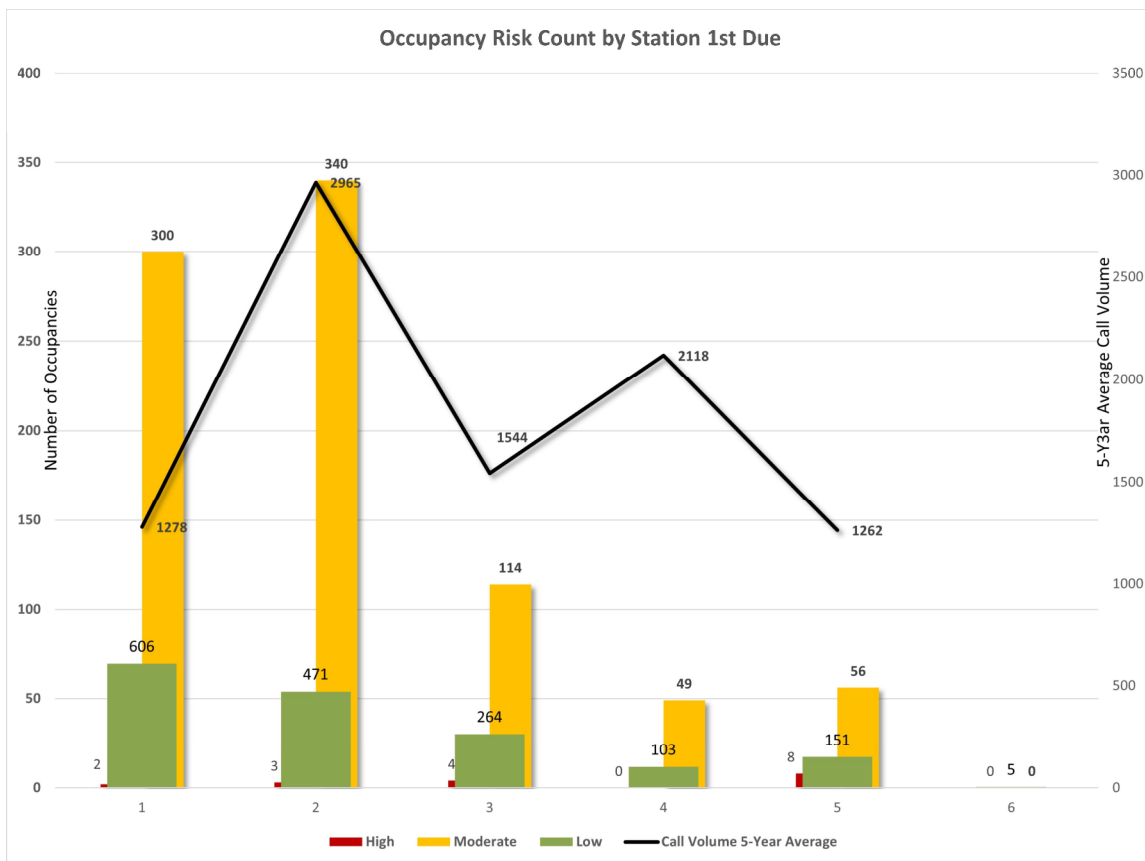


	2017	2018	2019	2020	2021	5-Year
Fresno County - Received	272	265	322	234	313	281
Fresno County - Provided	285	239	283	217	280	261
Fresno City - Received	250	233	310	205	208	241
Fresno City - Provided	650	592	707	605	881	687
OES - Provided	74	49	34	65	44	53

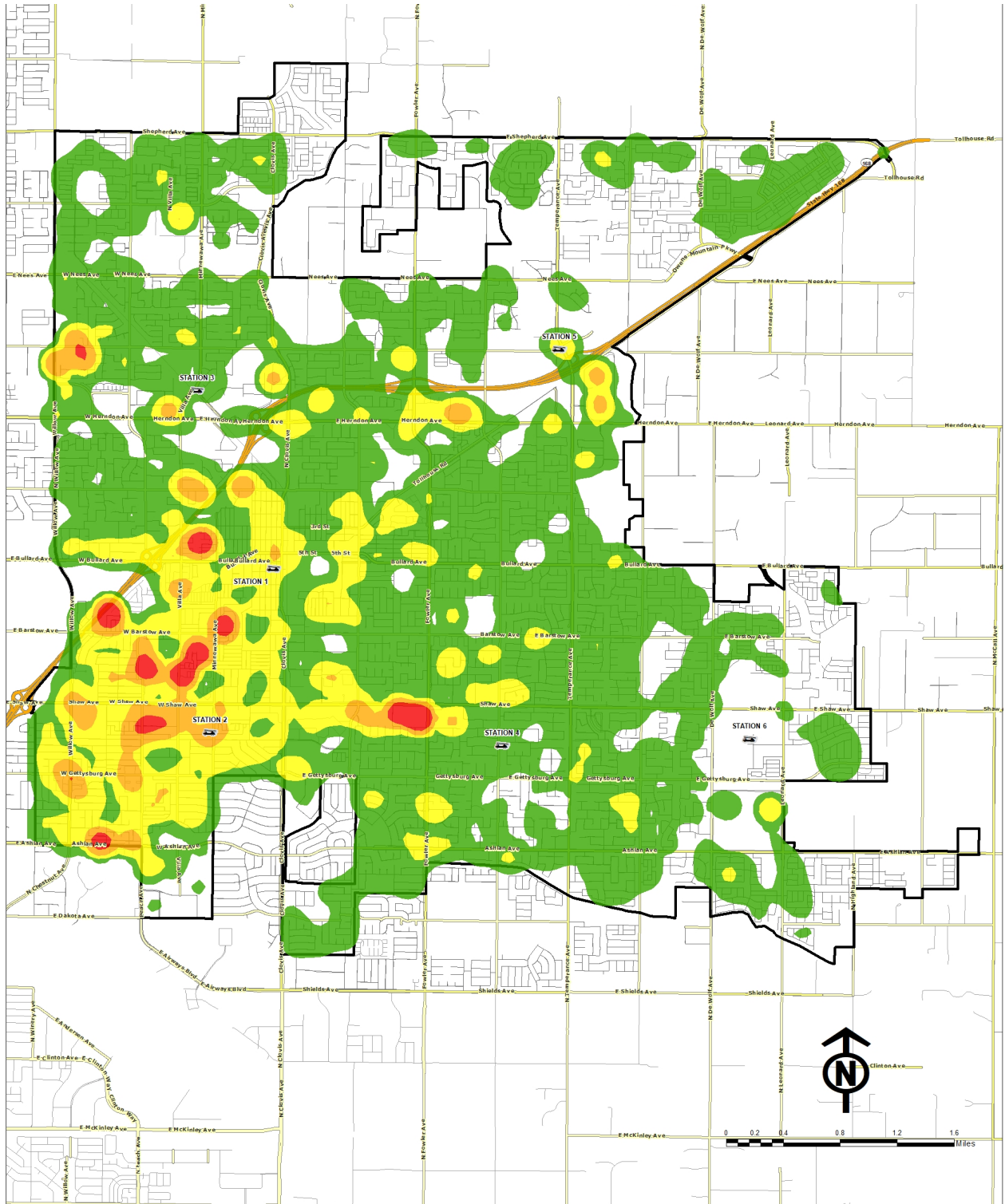
CONCENTRATION FACTORS

Concentration of Risks by Demand Zone

Analyses were conducted to describe and measure the relative concentration of risks in each of the fire station demand zones. Therefore, a station demand zone risk matrix was developed to quantitatively evaluate the relative risk by including measures for the frequency of moderate and high risk occupancies in each fire demand zone that are directly correlated to the necessity of higher concentrations of resources. In addition, several measures that both serves the distribution aspect of the risk evaluation, but also contributes to the need for higher concentrations of resources. For example, a higher call volume may serve to drive the need for additional resources to cover the community's demand. The variables included in the risk matrix were assessment of occupancy type, patient ambulatory status, fire protection system, occupancy load and economic impact. All measures were weighted equally.



CLOVIS FIRE DEPARTMENT
STANDARDS OF COVER
 Distribution Factors



2017 - 2021
Clovis Fire Department
Service Demand Concentration

	Very High		High		Moderate		Low		None
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INDUSTRY STANDARDS ON MEASURING PERFORMANCE

Insurance Services Office (ISO) Grading Schedule



For a broad spectrum of commercial and personal lines of insurance, ISO provides statistical, actuarial, underwriting, claims information and analyses; consulting and technical services; policy language; information about specific locations and communities; fraud-identification tools; and data processing. In the United States and around the world, ISO serves insurers, reinsurers, agents, brokers, self-insurers, risk managers, insurance regulators, and other government agencies.

Fire remains one of the leading causes of property loss. A community's efforts to mitigate those losses before, during, or after a fire are of great importance to insurers. For more than 30 years, ISO has used the Fire Suppression Rating Schedule (FSRS) to review the firefighting capabilities of individual communities helping to provide the insurance industry with information on a community's ability to suppress and limit fire losses. The FSRS develops a numerical grading, ISO's Public Protection Classification (PPC), to help insurers differentiate the varying levels of fire protection. Class 1 represents the best public protection and Class 10 indicates no recognized protection.

The Fire Suppression Rating Schedule

In December 2012, ISO developed a Revised Fire Suppression Rating Schedule with changes that focus on areas that have a proven effect on fire suppression and prevention, as well as revisions that align the schedule's requirements with those of nationally accepted standards. The schedule now recognizes proactive efforts to reduce fire risk and frequency.

The revised FSRS makes increased reference to the national consensus standards of the National Fire Protection Association (NFPA), American Water Works Association (AWWA), and Association of Public-Safety Communications Officials International (APCO). Using feedback from these organizations and many other industry associations, ISO revised the PPC evaluation to make it more accurately reflect modern fire prevention and suppression capabilities. By incorporating more direct references to national consensus standards, ISO shows that it doesn't just write standards independently, but uses recognized fire suppression and prevention practices as the basis for their PPC evaluations.

The new schedule continues to evaluate three major categories of fire suppression: fire department, emergency communications, and water supply. In addition, it includes a new Community Risk Reduction section that recognizes community efforts to reduce losses through fire prevention, public fire safety education, and fire investigation.

The addition of the new risk reduction section represents a major shift in emphasis in the FSRs, giving incentives to communities that strive to reduce fire severity proactively through a structured program of fire prevention activities. Examples of fire prevention programs include fire prevention public education, certificate of occupancy inspections, and inspections of fire prevention equipment.

The total credit points for the existing three major categories remain unchanged at a total of 100 points, but ISO has increased or decreased the point weights for some sections. The total credit points are:

Fire Department: 50+ points

Emergency Communications (formerly "Fire Alarm"): 10 points

Water Supply: 40 points

The Community Risk Reduction section has a weight of 5.5 points, resulting in a revised 105.5+ available points out of 100. The inclusion of the new section with its extra points allows recognition of communities that include effective fire prevention practices without applying undue penalty for those that haven't yet adopted such measures.

There's been growing involvement in community efforts to limit losses before they happen, led largely by fire departments and their personnel. It's not easy to quantify the efforts made toward fire prevention and fire safety education, but there is enough anecdotal evidence to indicate that the more done to prevent a fire, the less likely a fire will happen or that it will be a major event.

Summary of ISO Schedule

All of these categories are processed through a formula that summarizes a city's fire protection capabilities into a numerical Class:

Class	Percentage Credited
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0 to 9.99

The City of Clovis was last evaluated in December 2019 and received an overall score of 88.12, maintaining our rating at Class 2. The City has experienced a steady improvement in its fire protection rating over the past 25 years.

FIRE STATION NEEDS ANALYSIS

As development within Clovis continues to expand, demand for service in the new areas of development will eventually grow to the level that a new fire station will be needed. It is important to develop a set of objective criteria in advance of the need for the station so that expectations of the fire department, City Council, the community, and other stakeholders are all aligned and pre-established. In the absence of consensus on a plan, one high profile fire or medical emergency could create political strife that may cause the stakeholders to make decisions based on emotions and not an objective risk management model.

The following matrix outlines the measurable benchmarks that will drive the decision making process for future fire stations:

Step 1: New Fire Station Location Identification

The location (or possible locations) for the proposed station will be made after each update to the General Plan. Note: This step was completed in Fall 2014 with the adoption of the updated General Plan.

Step 2: Acquisition of Land for New Fire Station

When the area that will be serviced by the proposed fire station reaches 100 calls for service, the City will begin the land acquisition process.

Step 3: Design New Fire Station

When two or more of the following benchmarks are reached, the design phase for the new fire station will begin:

- Area served by the proposed fire station receives 300 or more calls for service per year (rolling 365).
- The First-In performance of adjacent existing fire stations drops below 80%.
- Development with the proposed service area exceeds 45%. (percentage of development is based on a total build out of 9,000 residences, plus commercial occupancies).

Step 4: Build and Staff New Fire Station

When two or more of the following benchmarks are reached, the build and staff phase for the new fire station will begin:

- Area served by the proposed fire station receives 500 or more calls for service per year (rolling 365).
- The First-In total response time performance of adjacent existing fire stations drops below 75%.
- Development with the proposed service area exceeds 55%.

FIRE STATION COVERAGE

A critical factor in developing these Standards of Cover is to look at the overall system to see if it is meeting the established service level objectives. It is common for fire and EMS responses within distinctive geographic areas be built upon the first-response areas of the fire stations located throughout the city. This approach allows the fire department to analyze the workload and measure the performance of those stations based upon the identified service level objectives. By doing so it will assist the department to identify any areas of weakness, where additional stations may be warranted, or additional companies should be placed in service based upon the workload.

The following is a breakdown of each CFD station which provides the station's address, equipment housed at that station, and an analysis of the Companies' first-in response area.

Fire Headquarters **1233 Fifth Street** **Clovis, CA 93612**



Apparatus

Battalion Chief Pickup Truck (3) - Staffed with one person

Station 1
633 Pollasky Avenue
Clovis, CA 93612



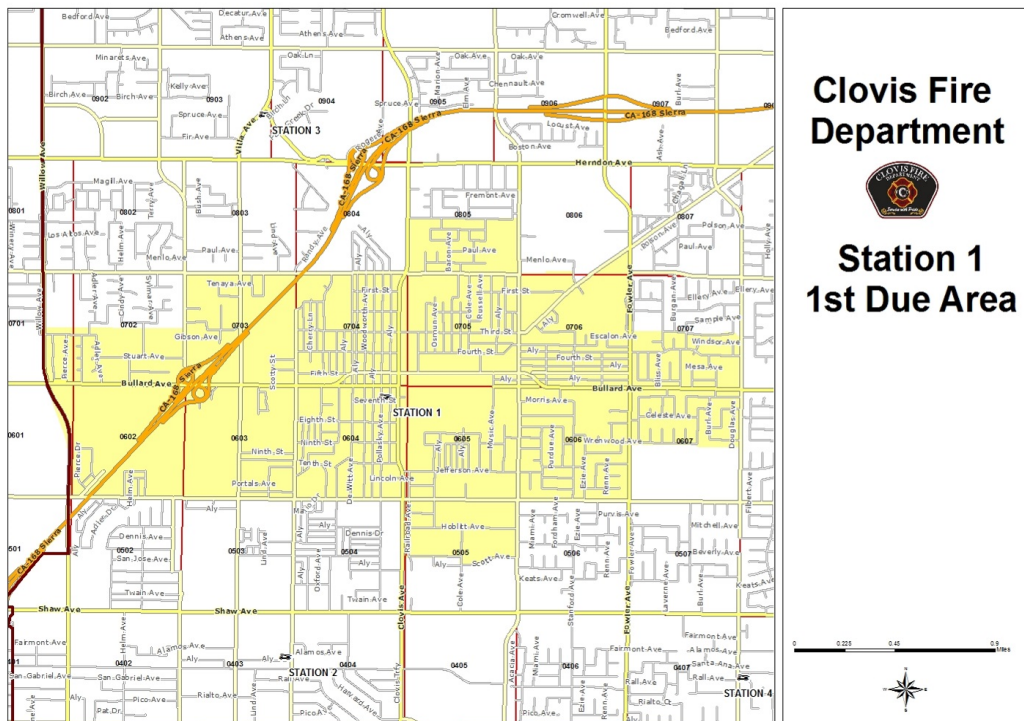
Apparatus

Truck 41—Staffed with three personnel

Truck 241—Reserve

G.E.M. Car (special events only)

1936 Ford (public education events only)

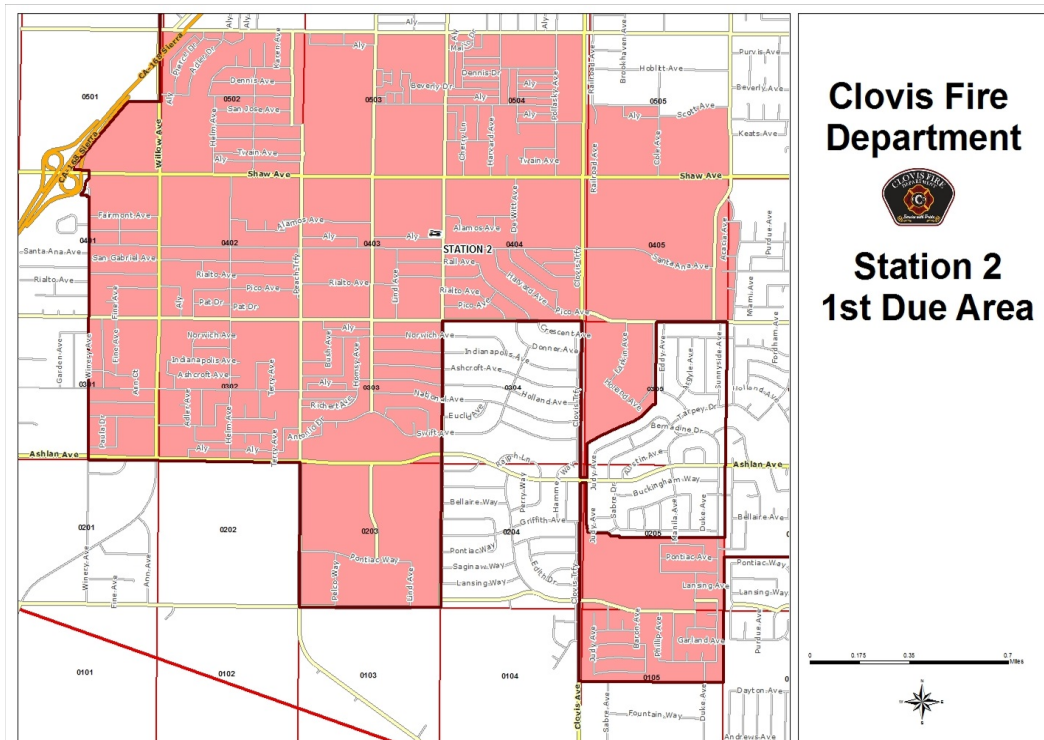


Station 2
2300 Minnewawa Avenue
Clovis, CA 93612



Apparatus

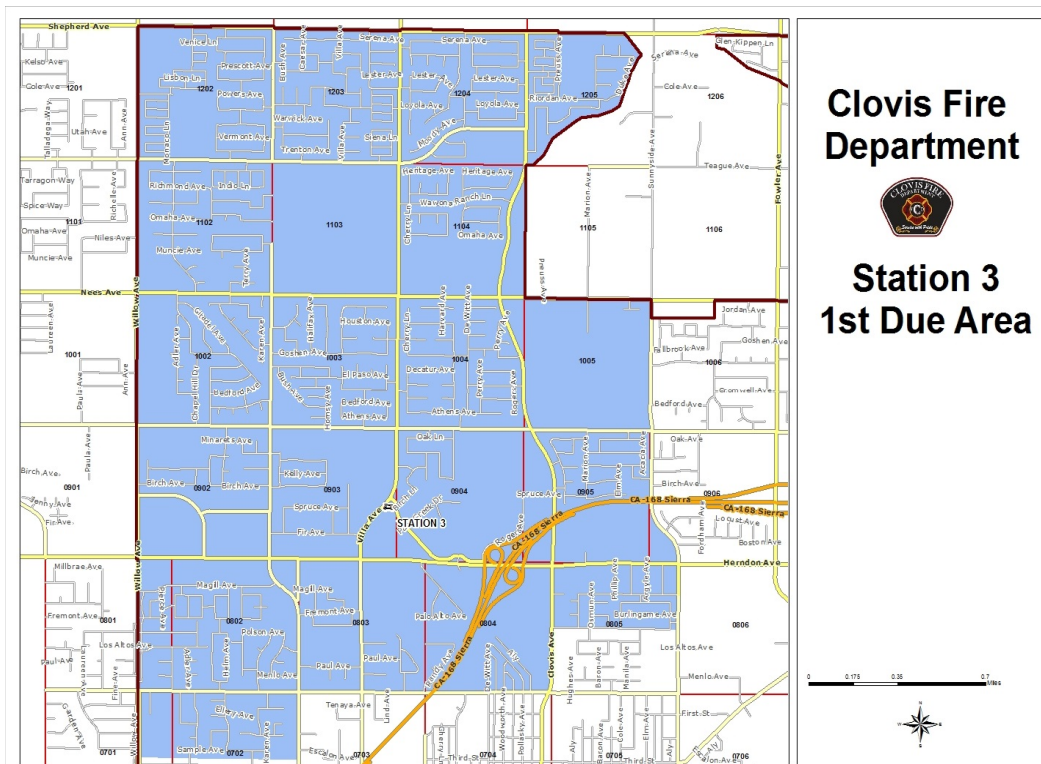
Engine 42—Staffed with three personnel
HazMat 40—Cross Staffed
Engine 242—Reserve



Station 3
555 N. Villa Avenue
Clovis, CA 93612



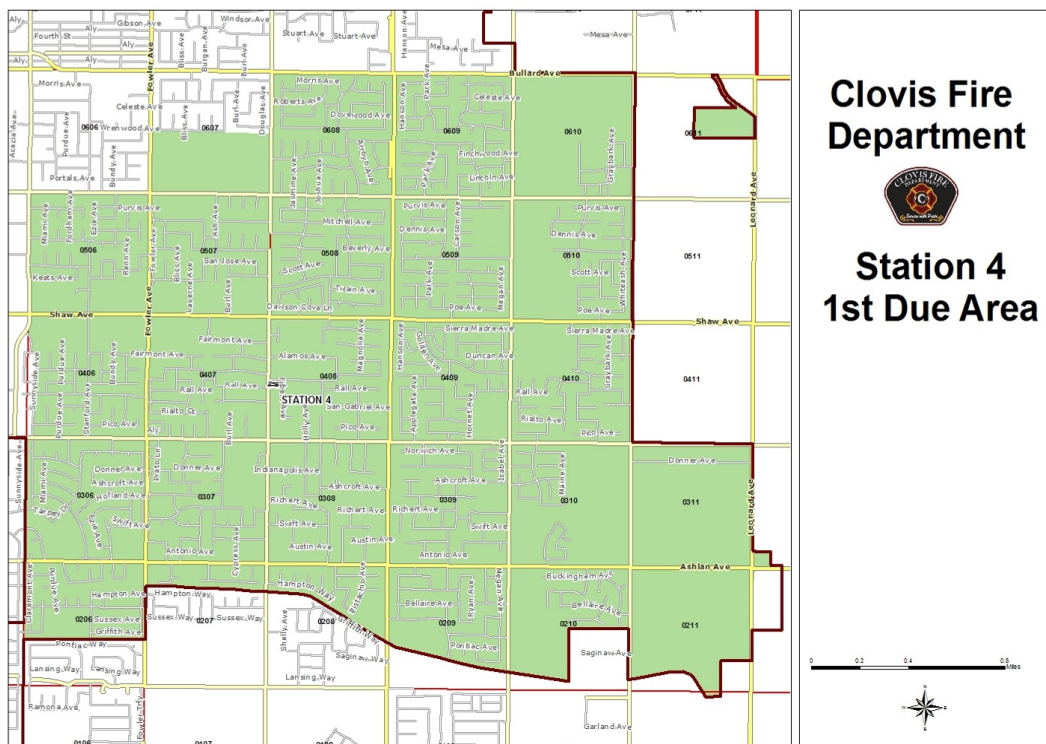
Apparatus
Engine 43—Staffed with three personnel
Engine 243—Reserve



Station 4
2427 Armstrong Avenue
Clovis, CA 93611



Apparatus
Engine 44—Staffed with three personnel
Water Tender 40—Cross Staffed
Decon Trailer
USAR Trailer

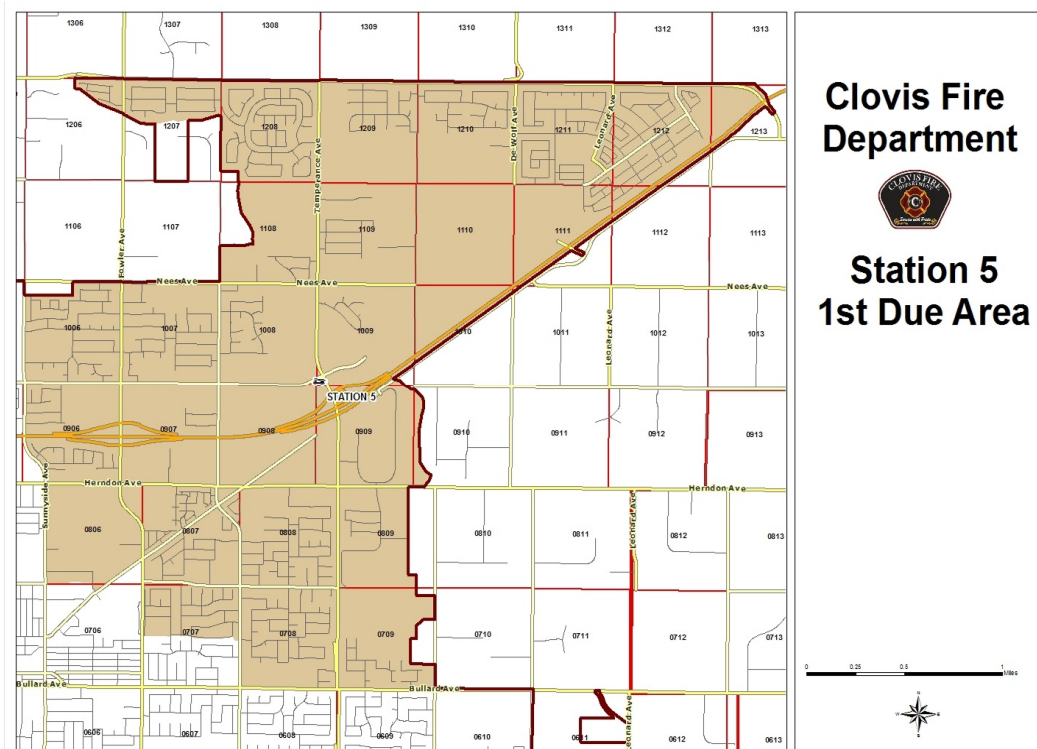


Station 5
790 N. Temperance Avenue
Clovis, CA 93611



Apparatus

Engine 45—Staffed with three personnel
OES-276—Cross Staffed
Rescue 40—Cross Staffed



**Station 6
2388 Encino
Clovis, CA 93619**



Apparatus

Engine 46—Staffed with three personnel
Brush Engine 40—Cross Staffed

APPENDIX

	<u>Clovis, California</u>
<i>Population</i>	
Population estimates, July 1, 2016, (V2016)	NA
Population estimates, July 1, 2015, (V2015)	104180
Population estimates base, April 1, 2010, (V2016)	NA
Population estimates base, April 1, 2010, (V2015)	95699
Population, percent change - April 1, 2010 (estimates base) to July 1, 2016, (V2016)	NA
Population, percent change - April 1, 2010 (estimates base) to July 1, 2015, (V2015)	8.9
Population, Census, April 1, 2010	95631
<i>Age and Sex</i>	
Persons under 5 years, percent, July 1, 2015, (V2015)	X
Persons under 5 years, percent, April 1, 2010	7.2
Persons under 18 years, percent, July 1, 2015, (V2015)	X
Persons under 18 years, percent, April 1, 2010	28.1
Persons 65 years and over, percent, July 1, 2015, (V2015)	X
Persons 65 years and over, percent, April 1, 2010	10.6
Female persons, percent, July 1, 2015, (V2015)	X
Female persons, percent, April 1, 2010	51.8
<i>Race and Hispanic Origin</i>	
White alone, percent, July 1, 2015, (V2015) (a)	X
White alone, percent, April 1, 2010 (a)	70.9
Black or African American alone, percent, July 1, 2015, (V2015) (a)	X
Black or African American alone, percent, April 1, 2010 (a)	2.7
American Indian and Alaska Native alone, percent, July 1, 2015, (V2015) (a)	X
American Indian and Alaska Native alone, percent, April 1, 2010 (a)	1.4
Asian alone, percent, July 1, 2015, (V2015) (a)	X
Asian alone, percent, April 1, 2010 (a)	10.7
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2015, (V2015) (a)	X
Native Hawaiian and Other Pacific Islander alone, percent, April 1, 2010 (a)	0.2
Two or More Races, percent, July 1, 2015, (V2015)	X
Two or More Races, percent, April 1, 2010	4.8
Hispanic or Latino, percent, July 1, 2015, (V2015) (b)	X
Hispanic or Latino, percent, April 1, 2010 (b)	25.6
White alone, not Hispanic or Latino, percent, July 1, 2015, (V2015)	X
White alone, not Hispanic or Latino, percent, April 1, 2010	57.5
<i>Population Characteristics</i>	
Veterans, 2011-2015	5983
Foreign born persons, percent, 2011-2015	11.4
<i>Housing</i>	
Housing units, July 1, 2015, (V2015)	X
Housing units, April 1, 2010	35306
Owner-occupied housing unit rate, 2011-2015	60.2
Median value of owner-occupied housing units, 2011-2015	247700
Median selected monthly owner costs -with a mortgage, 2011-2015	185

APPENDIX

Median selected monthly owner costs -without a mortgage, 2011-2015	495
Median gross rent, 2011-2015	1068
Building permits, 2015	X
<i>Families and Living Arrangements</i>	
Households, 2011-2015	34512
Persons per household, 2011-2015	2.90
Living in same house 1 year ago, percent of persons age 1 year+, 2011-2015	85.3
Language other than English spoken at home, percent of persons age 5 years+, 2011-2015	23.6
<i>Education</i>	
High school graduate or higher, percent of persons age 25 years+, 2011-2015	88.9
Bachelor's degree or higher, percent of persons age 25 years+, 2011-2015	29.5
<i>Health</i>	
With a disability, under age 65 years, percent, 2011-2015	8.5
Persons without health insurance, under age 65 years, percent	11.6
<i>Economy</i>	
In civilian labor force, total, percent of population age 16 years+, 2011-2015	64.1
In civilian labor force, female, percent of population age 16 years+, 2011-2015	58.2
Total accommodation and food services sales, 2012 (\$1,000) (c)	167154
Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c)	376455
Total manufacturers shipments, 2012 (\$1,000) (c)	D
Total merchant wholesaler sales, 2012 (\$1,000) (c)	189912
Total retail sales, 2012 (\$1,000) (c)	1496311
Total retail sales per capita, 2012 (c)	15171
<i>Transportation</i>	
Mean travel time to work (minutes), workers age 16 years+, 2011-2015	20.8
<i>Income and Poverty</i>	
Median household income (in 2015 dollars), 2011-2015	62666
Per capita income in past 12 months (in 2015 dollars), 2011-2015	28686
Persons in poverty, percent	13.8
<i>Businesses</i>	
Total employer establishments, 2014	X
Total employment, 2014	X
Total annual payroll, 2014 (\$1,000)	X
Total employment, percent change, 2013-2014	X
Total nonemployer establishments, 2014	X
All firms, 2012	7100
Men-owned firms, 2012	3515
Women-owned firms, 2012	2835
Minority-owned firms, 2012	2616
Nonminority-owned firms, 2012	4151
Veteran-owned firms, 2012	524
Nonveteran-owned firms, 2012	6268
<i>Geography</i>	
Population per square mile, 2010	4108.2
Land area in square miles, 2010	23.2

APPENDIX

Category	Problem Nature Description	Response Priority	CAD Code	Incident Type	CFD
Aid	Aid-Automatic Aid	Auto Aid	65A4	100	1E or 1T
	Aid-Mutual Aid	Mutual Aid	65A3	BC Approval	BC Approval
Aircraft	Aircraft-Alert I	Aircraft Emergency	51C2	124	N/A
	Aircraft-Alert II	Aircraft Emergency	51C1	125	N/A
	Aircraft-Alert III	Aircraft Emergency	51D1	128	N/A
	Aircraft-Crash (On FYI)	Aircraft Emergency	51D1	128	N/A
	Aircraft-Crash (Off FYI)	Fire	80	135	4E, 1T, 1BC
	Aircraft-Emergency Land- ing	Fire	81	135	N/A
Alarms	Alarm-CO Alarm (No Pts)	Special Duty	086	Alarm-CO Alarm (No Pts)	1E or 1T
	Alarm-Commercial	Still Alarm	52C3	145	1E or 1T
	Alarm-Commercial with Reset	Special Duty	52C3R	Alarm-Commercial with Reset	No CFD Response
	Alarm-Residential	Still Alarm	52B1	101	1E or 1T
	Alarm-Residential with Reset	Special Duty	52B2R	Alarm-Residential with Reset	No CFD Response
	Alarm-Tamper Alarm	Special Duty	52B5T	Alarm-Tamper Alarm	1E or 1T
	Alarm-Testing	No Fire Response	25	No Fire Response	N/A
	Alarm-Trouble Alarm	No Fire Response	087	Alarm-Trouble Alarm	No CFD Response
Citizen Assist	Citizen Assist-Animal Problem	In Service Detail	53A3	126	1E or 1T
	Citizen Assist-Bees	Special Duty	53A3B	137	1E or 1T
	Citizen Assist-Other	Special Duty	53A2	100	1E or 1T
	Citizen Assist-Pt Locked in Vehicle	Emergency Call (Summer)	53B1	126	1E or 1T
		Special Duty (Winter)	53B1	126	1E or 1T
Electrical	Electrical-Arcing in Struc- ture	Still Alarm	55B1	100	1E or 1T
	Electrical-Arcing Power Lines	Special Duty	55A1	102	1E or 1T
	Electrical-Arcing Power Lines with Hazards	Special Duty	55C2	100	1E or 1T
	Electrical-Power Lines Down	Emergency Call	55B2	100	1E or 1T
EMS	Medical Aid	Emergency Call			1E or 1T
	Vehicle Accident	Emergency Call			1E or 1T
	Vehicle Accident-Pin In / Rollover	Emergency Call			1E, 1T, 1 BC
	Vehicle Accident - Free- way	Emergency Call			1E, 1E or 1T, 1BC
	Vehicle into a Building – with injury	Emergency Call			2E, 1T, Rescue*, 1BC
	Industrial Accident	Emergency Call			1E, 1T, 1BC

APPENDIX

Category	Problem Nature Description	Response Priority	CAD Code	Incident Type	CFD
Fire	Fire-Apartment	Fire	69D4	Fire-Apartment	4E, 1T, 1E or 1T 1BC
	Fire-Commercial	Fire	69D3	Fire-Commercial	4E, 1T, 1E or 1T 1BC
	Fire-Residential	Fire	69D5	Fire-Residential	3E, 1T, 1E or 1T 1BC
	Fire-Out Building	Fire	69D09	Fire-Out Bldg Fire	3E, 1T, 1E or 1T 1BC
	Fire-Outside	Still Alarm	67D3	115	1E or 1T
	Fire-Oven Fire (Contained)	Still Alarm	69C1	Fire-Oven Fire (Contained)	1E or 1T
	Fire-Vegetation (Small)	Still Alarm	67D2	129	2E, 1BC
	Fire-Vegetation (Large)	Still Alarm	67D1	106	3E, 1BC
	Fire-Vehicle	Still Alarm	71C1	100	1E or 1T
	Fire-Warming	Special Duty	67B3	100	1E or 1T
Gas Leak	Gas Leak-Fuel Spill/Leak (Small)	Special Duty	59B1	100	1E or 1T
	Gas Leak-Fuel Spill/Leak (Large)	Emergency Call	59C1	160	1E,1T, 1BC
	Gas Leak-Natural Gas Leak (Inside)	Emergency Call	60C1	105	1E or 1T
	Gas Leak-Natural Gas Leak (Outside)	Special Duty	60B1	100	1E or 1T
	Gas Leak-Natural Gas (Rupture)	Emergency Call	60D4	139	1E, 1E or 1T, 1BC
HazMat	Abandoned Waste	Special Duty	61A1	112	1E or 1T
	HazMat	HazMat	61D1	161	2E, 1E or 1T, HMRT*, 1BC
Investigation	Investigation-Fire Reported Out	Special Duty	69C2	100	1E or 1T
	Investigation-Odor Smoke (Inside/Outside)	Still Alarm	68A2	100	1E or 1T
	Investigation-Odor Gas (Outside)	Special Duty	60B2	100	1E or 1T
	Investigation-Smoke (Outside)	Still Alarm	68C1	100	1E or 1T
	Investigation-Smoke (Unk Location)	Special Duty	68A1	100	1E or 1T
	Investigation-Strange Odor w/o Pts	Special Duty	66A1	116	1E or 1T
	Investigation-Strange Odor with Pts	HazMat	66C1	136	1E or 1T

APPENDIX

Category	Problem Nature Description	Response Priority	CAD Code	Incident Type	CFD
Rescue	Rescue-Building Collapse	Rescue	54B1	132	2E, 1T, Rescue*, 1BC
	Rescue-Confined Space	Rescue	54D1	108	2E, 1T, Rescue*, 1BC
	Rescue-Entrapment	Rescue	58D1	108	2E, 1T, Rescue*, 1BC
	Rescue-High Angle	Rescue	62D1	150	2E, 1T, Rescue*, 1BC
	Rescue-Jumper	Emergency Call	089	Rescue-Jumper	1E, 1T, 1BC
	Rescue-Stuck in Elevator	Special Duty	56A1	126	1E or 1T
	Rescue-Water	Rescue		140	1E, 1T, Rescue, 1BC
Train	Train-Accident	Medical Aid	70D10	148	NA
	Train-Derailment	Hazmat	70D4	138	NA
Vehicle	Vehicle-Vehicle into a Building - Non-Injury	Emergency	53B4	117	1E, 1T, Rescue, 1BC
Water Problem	Water Problem-Knocked Off Hydrant	Special Duty	53O3	127	1E or 1T
	Water Problem-Hydrant Leak	In Service Detail	53O6	In Service Detail	1E
	Water Problem-Broken Sprinkler Head	Emergency Call	53A6	130	1E or 1T
	Water Problem-Domestic Water Leak with Electrical Hazard	Emergency Call	53C1	131	1E or 1T
	Water Problem-Domestic Water Leak w/o Electrical Hazard	Special Duty	53A4	113	1E or 1T
	Water Problem-Structure Flooding, non- fire related	Emergency Call	53O5	134	1E or 1T

APPENDIX

EFFECTIVE RESPONSE FORCE ANALYSIS

FIRE LOW

90th Percentile

	Grand Total	2021	2020	2019	2018	2017
90th Pct - Call Processing - First Dispatch	00:01:52	00:01:52	00:01:53	00:01:48	00:01:49	00:01:51
90th Pct - Turnout - First Dispatch	00:01:41	00:01:43	00:01:40	00:01:37	00:01:37	00:01:44
90th Pct - Travel First Unit	00:05:39	00:05:18	00:05:52	00:05:33	00:05:30	00:06:05
90th Pct - Travel ERF	00:05:39	00:05:18	00:05:52	00:05:33	00:05:30	00:06:05
90th Pct - Total Response First Unit	00:08:03	00:08:00	00:08:24	00:07:41	00:07:44	00:08:13
90th Pct - Total Response ERF	00:08:03	00:08:00	00:08:24	00:07:41	00:07:44	00:08:13

Count

	Grand Total	2021	2020	2019	2018	2017
Count - Call Processing - First Dispatch	943	206	182	190	162	203
Count - Turnout - First Dispatch	1,000	214	199	203	164	220
Count - Travel First Unit	1,000	216	201	199	163	221
Count - Travel ERF	1,000	216	201	199	163	221
Count - Total Response First Unit	961	208	189	192	164	208
Count - Total Response ERF	961	208	189	192	164	208

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018	2017
Lower Bound - 90th Pct - Call Processing	00:01:48	00:01:41	00:01:40	00:01:35	00:01:39	00:01:38
Lower Bound - 90th Pct - Turnout	00:01:38	00:01:35	00:01:32	00:01:31	00:01:34	00:01:38
Lower Bound - 90th Pct - Travel First Unit	00:05:27	00:04:53	00:05:17	00:05:08	00:04:52	00:05:29
Lower Bound - 90th Pct - Travel ERF	00:05:27	00:04:53	00:05:17	00:05:08	00:04:52	00:05:29
Lower Bound - 90th Pct - Total Response First Unit	00:07:47	00:07:15	00:07:50	00:07:26	00:07:15	00:07:26
Lower Bound - 90th Pct - Total Response ERF	00:07:47	00:07:15	00:07:50	00:07:26	00:07:15	00:07:26

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018	2017
Upper Bound - 90th Pct - Call Processing	00:01:57	00:02:02	00:02:08	00:01:59	00:02:05	00:02:10
Upper Bound - 90th Pct - Turnout	00:01:45	00:01:51	00:01:53	00:01:46	00:01:47	00:01:50
Upper Bound - 90th Pct - Travel First Unit	00:06:00	00:06:02	00:06:53	00:06:21	00:06:15	00:06:35
Upper Bound - 90th Pct - Travel ERF	00:06:00	00:06:02	00:06:53	00:06:21	00:06:15	00:06:35
Upper Bound - 90th Pct - Total Response First Unit	00:08:24	00:08:33	00:09:14	00:08:24	00:09:15	00:09:21
Upper Bound - 90th Pct - Total Response ERF	00:08:24	00:08:33	00:09:14	00:08:24	00:09:15	00:09:21

APPENDIX

EFFECTIVE RESPONSE FORCE ANALYSIS

FIRE MEDIUM

90th Percentile

	Grand Total	2021	2020	2019	2018	2017
90th Pct - Call Processing - First Dispatch	00:01:45	00:02:08	00:01:30	00:01:29	00:01:57	00:01:15
90th Pct - Turnout - First Dispatch	00:01:23	00:01:17	00:01:32	00:01:02	00:01:02	00:01:07
90th Pct - Travel First Unit	00:04:23	00:04:40	00:05:13	00:03:49	00:03:41	00:03:41
90th Pct - Travel ERF	00:08:50	00:08:57	00:09:54	00:08:40	00:07:06	00:08:39
90th Pct - Total Response First Unit	00:07:01	00:07:26	00:07:16	00:06:14	00:06:48	00:06:00
90th Pct - Total Response ERF	00:11:25	00:11:53	00:12:11	00:10:27	00:10:30	00:10:18

Count

	Grand Total	2021	2020	2019	2018	2017
Count - Call Processing - First Dispatch	105	15	39	20	16	15
Count - Turnout - First Dispatch	108	16	41	20	16	15
Count - Travel First Unit	110	16	42	21	16	15
Count - Travel ERF	92	16	27	21	13	15
Count - Total Response First Unit	109	16	42	20	16	15
Count - Total Response ERF	91	16	27	20	13	15

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018	2017
Lower Bound - 90th Pct - Call Processing	00:01:39	00:01:40	00:01:26	00:01:25	00:01:43	00:00:56
Lower Bound - 90th Pct - Turnout	00:01:14	00:01:07	00:01:27	00:00:58	00:01:00	00:00:48
Lower Bound - 90th Pct - Travel First Unit	00:03:52	00:04:06	00:04:14	00:03:33	00:03:08	00:03:21
Lower Bound - 90th Pct - Travel ERF	00:08:31	00:07:51	00:08:13	00:08:00	00:06:05	00:07:15
Lower Bound - 90th Pct - Total Response First Unit	00:06:40	00:06:50	00:06:45	00:05:43	00:06:20	00:05:09
Lower Bound - 90th Pct - Total Response ERF	00:10:50	00:11:07	00:10:42	00:09:42	00:08:55	00:10:03

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018	2017
Upper Bound - 90th Pct - Call Processing	00:02:08	00:02:38	00:01:54	00:02:16	00:02:23	00:01:40
Upper Bound - 90th Pct - Turnout	00:01:34	00:01:34	00:01:36	00:01:23	00:01:23	00:01:14
Upper Bound - 90th Pct - Travel First Unit	00:05:20	00:04:53	00:05:20	00:07:13	00:03:48	00:03:58
Upper Bound - 90th Pct - Travel ERF	00:10:01	00:09:32	00:13:17	00:09:52	00:10:19	00:08:51
Upper Bound - 90th Pct - Total Response First Unit	00:07:40	00:09:17	00:09:19	00:06:35	00:08:19	00:07:00
Upper Bound - 90th Pct - Total Response ERF	00:12:33	00:12:54	00:15:16	00:12:24	00:12:12	00:11:44

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EFFECTIVE RESPONSE FORCE ANALYSIS

FIRE HIGH

90th Percentile

	Grand Total	2021	2020	2019	2018	2017
90th Pct - Call Processing - First Dispatch	00:01:43	00:01:51	00:01:30	00:01:50	00:01:47	00:00:55
90th Pct - Turnout - First Dispatch	00:01:28	00:01:15	00:01:36	00:01:16	00:01:01	00:00:29
90th Pct - Travel First Unit	00:04:43	00:04:42	00:05:20	00:03:02	00:03:34	00:03:23
90th Pct - Travel ERF	00:09:20	00:09:18	00:07:35	00:08:43	00:06:31	00:06:43
90th Pct - Total Response First Unit	00:06:45	00:07:09	00:06:45	00:06:02	00:06:31	00:05:41
90th Pct - Total Response ERF	00:11:43	00:12:39	00:10:12	00:11:09	00:09:49	00:08:44

Count

	Grand Total	2021	2020	2019	2018	2017
Count - Call Processing - First Dispatch	58	7	29	7	13	2
Count - Turnout - First Dispatch	58	7	29	7	13	2
Count - Travel First Unit	59	7	30	7	13	2
Count - Travel ERF	36	7	10	7	10	2
Count - Total Response First Unit	59	7	30	7	13	2
Count - Total Response ERF	36	7	10	7	10	2

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018	2017
Lower Bound - 90th Pct - Call Processing	00:01:39	00:01:21	00:01:26	00:01:20	00:01:43	00:00:34
Lower Bound - 90th Pct - Turnout	00:01:23	00:00:51	00:01:27	00:01:01	00:01:00	00:00:18
Lower Bound - 90th Pct - Travel First Unit	00:03:47	00:03:06	00:03:51	00:02:39	00:03:02	00:01:51
Lower Bound - 90th Pct - Travel ERF	00:07:49	00:07:49	00:07:12	00:07:16	00:06:26	00:04:02
Lower Bound - 90th Pct - Total Response First Unit	00:06:26	00:06:05	00:06:09	00:05:24	00:05:40	00:05:06
Lower Bound - 90th Pct - Total Response ERF	00:10:57	00:10:02	00:09:53	00:10:04	00:09:33	00:07:44

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018	2017
Upper Bound - 90th Pct - Call Processing	00:02:08	00:01:52	00:07:30	00:02:16	00:02:08	00:01:01
Upper Bound - 90th Pct - Turnout	00:01:36	00:01:34	00:08:00	00:01:23	00:01:04	00:00:32
Upper Bound - 90th Pct - Travel First Unit	00:05:20	00:04:53	00:26:40	00:03:33	00:03:46	00:03:47
Upper Bound - 90th Pct - Travel ERF	00:10:19	00:09:32	00:08:16	00:09:50	00:20:38	00:07:24
Upper Bound - 90th Pct - Total Response First Unit	00:07:48	00:07:40	00:07:48	00:06:16	00:08:19	00:05:50
Upper Bound - 90th Pct - Total Response ERF	00:12:54	00:12:54	00:11:23	00:11:23	00:24:25	00:08:59

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EFFECTIVE RESPONSE FORCE ANALYSIS

EMS MODERATE

90th Percentile

	Grand Total	2021	2020	2019	2018	2017
90th Pct - Call Processing - First Dispatch	00:01:53	00:02:12	00:01:58	00:01:42	00:01:40	00:01:43
90th Pct - Turnout - First Dispatch	00:01:27	00:01:29	00:01:28	00:01:25	00:01:25	00:01:27
90th Pct - Travel First Unit	00:04:59	00:05:12	00:05:02	00:04:55	00:04:45	00:04:49
90th Pct - Travel ERF	00:04:59	00:05:12	00:05:02	00:04:55	00:04:45	00:04:49
90th Pct - Total Response First Unit	00:07:29	00:08:00	00:07:32	00:07:12	00:07:02	00:07:17
90th Pct - Total Response ERF	00:07:29	00:08:00	00:07:32	00:07:12	00:07:02	00:07:17

Count

	Grand Total	2021	2020	2019	2018	2017
Count - Call Processing - First Dispatch	25,106	5,079	5,309	5,285	4,779	4,654
Count - Turnout - First Dispatch	25,719	5,378	5,434	5,361	4,838	4,708
Count - Travel First Unit	25,735	5,377	5,431	5,362	4,842	4,723
Count - Travel ERF	25,735	5,377	5,431	5,362	4,842	4,723
Count - Total Response First Unit	25,790	5,388	5,445	5,371	4,849	4,737
Count - Total Response ERF	25,790	5,388	5,445	5,371	4,849	4,737

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018	2017
Lower Bound - 90th Pct - Call Processing	00:01:52	00:02:10	00:01:55	00:01:39	00:01:36	00:01:40
Lower Bound - 90th Pct - Turnout	00:01:26	00:01:27	00:01:27	00:01:24	00:01:24	00:01:26
Lower Bound - 90th Pct - Travel First Unit	00:04:56	00:05:08	00:04:57	00:04:50	00:04:41	00:04:43
Lower Bound - 90th Pct - Travel ERF	00:04:56	00:05:08	00:04:57	00:04:50	00:04:41	00:04:43
Lower Bound - 90th Pct - Total Response First Unit	00:07:26	00:07:54	00:07:28	00:07:06	00:06:57	00:07:10
Lower Bound - 90th Pct - Total Response ERF	00:07:26	00:07:54	00:07:28	00:07:06	00:06:57	00:07:10

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018	2017
Upper Bound - 90th Pct - Call Processing	00:01:55	00:02:15	00:02:01	00:01:44	00:01:42	00:01:46
Upper Bound - 90th Pct - Turnout	00:01:27	00:01:30	00:01:29	00:01:26	00:01:26	00:01:29
Upper Bound - 90th Pct - Travel First Unit	00:05:01	00:05:17	00:05:08	00:05:02	00:04:51	00:04:54
Upper Bound - 90th Pct - Travel ERF	00:05:01	00:05:17	00:05:08	00:05:02	00:04:51	00:04:54
Upper Bound - 90th Pct - Total Response First Unit	00:07:32	00:08:05	00:07:40	00:07:18	00:07:08	00:07:26
Upper Bound - 90th Pct - Total Response ERF	00:07:32	00:08:05	00:07:40	00:07:18	00:07:08	00:07:26

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EFFECTIVE RESPONSE FORCE ANALYSIS

EMS HIGH

90th Percentile

	Grand Total	2021	2020	2019	2018	2017
90th Pct - Call Processing - First Dispatch	00:02:29	00:02:30	00:01:21	00:01:24	00:00:46	00:01:03
90th Pct - Turnout - First Dispatch	00:01:29	00:01:30	00:01:06	00:01:21	00:00:58	00:01:21
90th Pct - Travel First Unit	00:05:05	00:04:59	00:03:49	00:07:11	00:05:01	00:03:45
90th Pct - Travel ERF	00:05:07	00:04:59	00:05:42	00:08:05	00:03:19	00:04:12
90th Pct - Total Response First Unit	00:07:53	00:07:52	00:06:14	00:10:06	00:04:29	00:05:24
90th Pct - Total Response ERF	00:08:06	00:07:52	00:08:04	00:11:26	00:05:56	00:06:11

Count

	Grand Total	2021	2020	2019	2018	2017
Count - Call Processing - First Dispatch	354	339	3	7	1	4
Count - Turnout - First Dispatch	388	373	3	7	2	3
Count - Travel First Unit	390	373	3	8	2	4
Count - Travel ERF	390	373	3	8	2	4
Count - Total Response First Unit	387	371	3	8	1	4
Count - Total Response ERF	387	371	3	8	1	4

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018	2017
Lower Bound - 90th Pct - Call Processing	00:02:22	00:02:22	00:01:12	00:01:12	00:00:46	00:00:44
Lower Bound - 90th Pct - Turnout	00:01:23	00:01:23	00:01:00	00:01:17	00:00:51	00:01:13
Lower Bound - 90th Pct - Travel First Unit	00:04:48	00:04:43	00:02:22	00:04:19	00:02:43	00:02:56
Lower Bound - 90th Pct - Travel ERF	00:04:50	00:04:43	00:03:20	00:06:56	00:03:17	00:03:12
Lower Bound - 90th Pct - Total Response First Unit	00:07:39	00:07:39	00:04:47	00:06:30	00:04:29	00:05:07
Lower Bound - 90th Pct - Total Response ERF	00:07:41	00:07:39	00:06:18	00:09:19	00:05:56	00:05:18

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018	2017
Upper Bound - 90th Pct - Call Processing	00:02:32	00:02:37	00:01:25	00:01:44	00:00:46	00:01:10
Upper Bound - 90th Pct - Turnout	00:01:36	00:01:36	00:01:09	00:01:23	00:01:00	00:01:24
Upper Bound - 90th Pct - Travel First Unit	00:05:35	00:05:30	00:03:55	00:09:07	00:05:36	00:03:57
Upper Bound - 90th Pct - Travel ERF	00:05:41	00:05:30	00:06:21	00:08:39	00:03:20	00:04:14
Upper Bound - 90th Pct - Total Response First Unit	00:08:36	00:08:36	00:06:22	00:13:30	00:04:29	00:05:34
Upper Bound - 90th Pct - Total Response ERF	00:08:39	00:08:36	00:08:34	00:13:30	00:05:56	00:12:22

APPENDIX

EFFECTIVE RESPONSE FORCE ANALYSIS

HAZMAT LOW

90th Percentile

	Grand Total	2021	2020	2019	2018	2017
90th Pct - Call Processing - First Dispatch	00:01:59	00:02:04	00:02:08	00:01:44	00:02:05	00:01:57
90th Pct - Turnout - First Dispatch	00:01:34	00:01:27	00:01:33	00:01:32	00:01:30	00:01:39
90th Pct - Travel First Unit	00:05:37	00:05:54	00:05:42	00:05:07	00:05:10	00:05:46
90th Pct - Travel ERF	00:05:37	00:05:54	00:05:42	00:05:07	00:05:10	00:05:46
90th Pct - Total Response First Unit	00:07:56	00:08:38	00:08:05	00:07:29	00:07:39	00:08:22
90th Pct - Total Response ERF	00:07:56	00:08:38	00:08:05	00:07:29	00:07:39	00:08:22

Count

	Grand Total	2021	2020	2019	2018	2017
Count - Call Processing - First Dispatch	338	64	68	79	64	63
Count - Turnout - First Dispatch	346	66	71	79	65	65
Count - Travel First Unit	343	66	71	78	64	64
Count - Travel ERF	343	66	71	78	64	64
Count - Total Response First Unit	344	66	71	79	65	63
Count - Total Response ERF	344	66	71	79	65	63

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018	2017
Lower Bound - 90th Pct - Call Processing	00:01:52	00:01:43	00:01:42	00:01:31	00:01:43	00:01:44
Lower Bound - 90th Pct - Turnout	00:01:30	00:01:24	00:01:17	00:01:24	00:01:19	00:01:32
Lower Bound - 90th Pct - Travel First Unit	00:05:07	00:04:53	00:04:38	00:04:49	00:04:40	00:04:37
Lower Bound - 90th Pct - Travel ERF	00:05:07	00:04:53	00:04:38	00:04:49	00:04:40	00:04:37
Lower Bound - 90th Pct - Total Response First Unit	00:07:37	00:07:35	00:07:16	00:06:52	00:06:47	00:07:16
Lower Bound - 90th Pct - Total Response ERF	00:07:37	00:07:35	00:07:16	00:06:52	00:06:47	00:07:16

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018	2017
Upper Bound - 90th Pct - Call Processing	00:02:13	00:02:40	00:02:43	00:02:15	00:02:36	00:02:28
Upper Bound - 90th Pct - Turnout	00:01:42	00:01:47	00:01:54	00:01:52	00:01:47	00:02:02
Upper Bound - 90th Pct - Travel First Unit	00:05:54	00:07:36	00:06:35	00:06:00	00:07:01	00:08:20
Upper Bound - 90th Pct - Travel ERF	00:05:54	00:07:36	00:06:35	00:06:00	00:07:01	00:08:20
Upper Bound - 90th Pct - Total Response First Unit	00:08:37	00:11:19	00:09:23	00:08:30	00:09:19	00:11:40
Upper Bound - 90th Pct - Total Response ERF	00:08:37	00:11:19	00:09:23	00:08:30	00:09:19	00:11:40

APPENDIX

EFFECTIVE RESPONSE FORCE ANALYSIS

HAZMAT HIGH

90th Percentile

	Grand Total	2021	2020	2019	2018
90th Pct - Call Processing - First Dispatch	00:16:13	00:02:08	00:01:21	00:22:44	00:00:22
90th Pct - Turnout - First Dispatch	00:01:37	00:00:57	00:01:23	00:01:38	
90th Pct - Travel First Unit	00:23:39	00:02:23	00:02:15	00:38:27	00:03:02
90th Pct - Travel ERF	00:25:29	00:02:23	00:05:27	00:39:22	00:03:06
90th Pct - Total Response First Unit	00:41:12	00:05:28	00:04:59	01:02:41	00:03:28
90th Pct - Total Response ERF	00:51:29	00:05:28	00:29:41	01:04:41	00:03:28

Count

	Grand Total	2021	2020	2019	2018
Count - Call Processing - First Dispatch	6	1	1	3	1
Count - Turnout - First Dispatch	5	1	1	3	
Count - Travel First Unit	6	1	1	3	1
Count - Travel ERF	6	1	1	3	1
Count - Total Response First Unit	6	1	1	3	1
Count - Total Response ERF	6	1	1	3	1

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018
Lower Bound - 90th Pct - Call Processing	00:01:21	00:02:08	00:01:21	00:00:55	00:00:22
Lower Bound - 90th Pct - Turnout	00:01:23	00:00:57	00:01:23	00:00:48	
Lower Bound - 90th Pct - Travel First Unit	00:02:23	00:02:23	00:02:15	00:00:02	00:03:02
Lower Bound - 90th Pct - Travel ERF	00:05:27	00:02:23	00:05:27	00:06:59	00:03:06
Lower Bound - 90th Pct - Total Response First Unit	00:04:59	00:05:28	00:04:59	00:02:30	00:03:28
Lower Bound - 90th Pct - Total Response ERF	00:16:19	00:05:28	00:29:41	00:16:19	00:03:28

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018
Upper Bound - 90th Pct - Call Processing	00:29:15	00:02:08	00:01:21	00:29:15	00:00:22
Upper Bound - 90th Pct - Turnout	00:01:41	00:00:57	00:01:23	00:01:41	
Upper Bound - 90th Pct - Travel First Unit	00:53:15	00:02:23	00:02:15	00:53:15	00:03:02
Upper Bound - 90th Pct - Travel ERF	00:53:15	00:02:23	00:05:27	00:53:15	00:03:06
Upper Bound - 90th Pct - Total Response First Unit	01:24:11	00:05:28	00:04:59	01:24:11	00:03:28
Upper Bound - 90th Pct - Total Response ERF	01:24:11	00:05:28	00:29:41	01:24:11	00:03:28

APPENDIX

EFFECTIVE RESPONSE FORCE ANALYSIS

TECHNICAL RESCUE LOW

90th Percentile

	Grand Total	2021	2020	2019	2018	2017
90th Pct - Call Processing - First Dispatch	00:01:46	00:01:58	00:01:46	00:01:44	00:01:45	00:01:40
90th Pct - Turnout - First Dispatch	00:01:31	00:01:34	00:01:29	00:01:26	00:01:30	00:01:32
90th Pct - Travel First Unit	00:04:55	00:05:10	00:04:45	00:04:43	00:04:52	00:04:56
90th Pct - Travel ERF	00:04:55	00:05:10	00:04:45	00:04:43	00:04:52	00:04:56
90th Pct - Total Response First Unit	00:07:26	00:07:43	00:07:08	00:07:13	00:07:26	00:07:24
90th Pct - Total Response ERF	00:07:26	00:07:43	00:07:08	00:07:13	00:07:26	00:07:24

Count

	Grand Total	2021	2020	2019	2018	2017
Count - Call Processing - First Dispatch	2,943	569	539	555	584	696
Count - Turnout - First Dispatch	3,011	583	546	567	601	714
Count - Travel First Unit	3,008	583	546	566	600	713
Count - Travel ERF	3,008	583	546	566	600	713
Count - Total Response First Unit	3,000	582	546	564	600	708
Count - Total Response ERF	3,000	582	546	564	600	708

90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2019	2018	2017
Lower Bound - 90th Pct - Call Processing	00:01:43	00:01:52	00:01:41	00:01:38	00:01:37	00:01:34
Lower Bound - 90th Pct - Turnout	00:01:29	00:01:31	00:01:26	00:01:23	00:01:26	00:01:30
Lower Bound - 90th Pct - Travel First Unit	00:04:49	00:04:55	00:04:29	00:04:31	00:04:44	00:04:44
Lower Bound - 90th Pct - Travel ERF	00:04:49	00:04:55	00:04:29	00:04:31	00:04:44	00:04:44
Lower Bound - 90th Pct - Total Response First Unit	00:07:18	00:07:27	00:06:52	00:06:51	00:07:10	00:07:08
Lower Bound - 90th Pct - Total Response ERF	00:07:18	00:07:27	00:06:52	00:06:51	00:07:10	00:07:08

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2019	2018	2017
Upper Bound - 90th Pct - Call Processing	00:01:50	00:02:08	00:01:56	00:01:50	00:01:53	00:01:48
Upper Bound - 90th Pct - Turnout	00:01:33	00:01:39	00:01:34	00:01:29	00:01:35	00:01:36
Upper Bound - 90th Pct - Travel First Unit	00:05:03	00:05:22	00:05:00	00:05:08	00:05:21	00:05:09
Upper Bound - 90th Pct - Travel ERF	00:05:03	00:05:22	00:05:00	00:05:08	00:05:21	00:05:09
Upper Bound - 90th Pct - Total Response First Unit	00:07:35	00:08:05	00:07:49	00:07:30	00:07:59	00:07:42
Upper Bound - 90th Pct - Total Response ERF	00:07:35	00:08:05	00:07:49	00:07:30	00:07:59	00:07:42

APPENDIX

EFFECTIVE RESPONSE FORCE ANALYSIS

TECHNICAL RESCUE HIGH

90th Percentile

	Grand Total	2021	2020	2018	2017
90th Pct - Call Processing - First Dispatch	00:02:49	00:00:45	00:00:32	00:04:49	00:00:46
90th Pct - Turnout - First Dispatch	00:01:23	00:00:45	00:00:49	00:00:03	00:01:37
90th Pct - Travel First Unit	00:03:40	00:04:14	00:01:35	00:00:03	00:02:59
90th Pct - Travel ERF	00:14:26	00:04:14	00:03:46	00:11:22	00:15:15
90th Pct - Total Response First Unit	00:05:21	00:05:44	00:02:56	00:04:54	00:04:49
90th Pct - Total Response ERF	01:04:24	00:05:44	00:11:04	00:20:38	01:26:11

Count

	Grand Total	2021	2020	2018	2017
Count - Call Processing - First Dispatch	5	1	1	1	2
Count - Turnout - First Dispatch	5	1	1	1	2
Count - Travel First Unit	5	1	1	1	2
Count - Travel ERF	5	1	1	1	2
Count - Total Response First Unit	5	1	1	1	2
Count - Total Response ERF	5	1	1	1	2

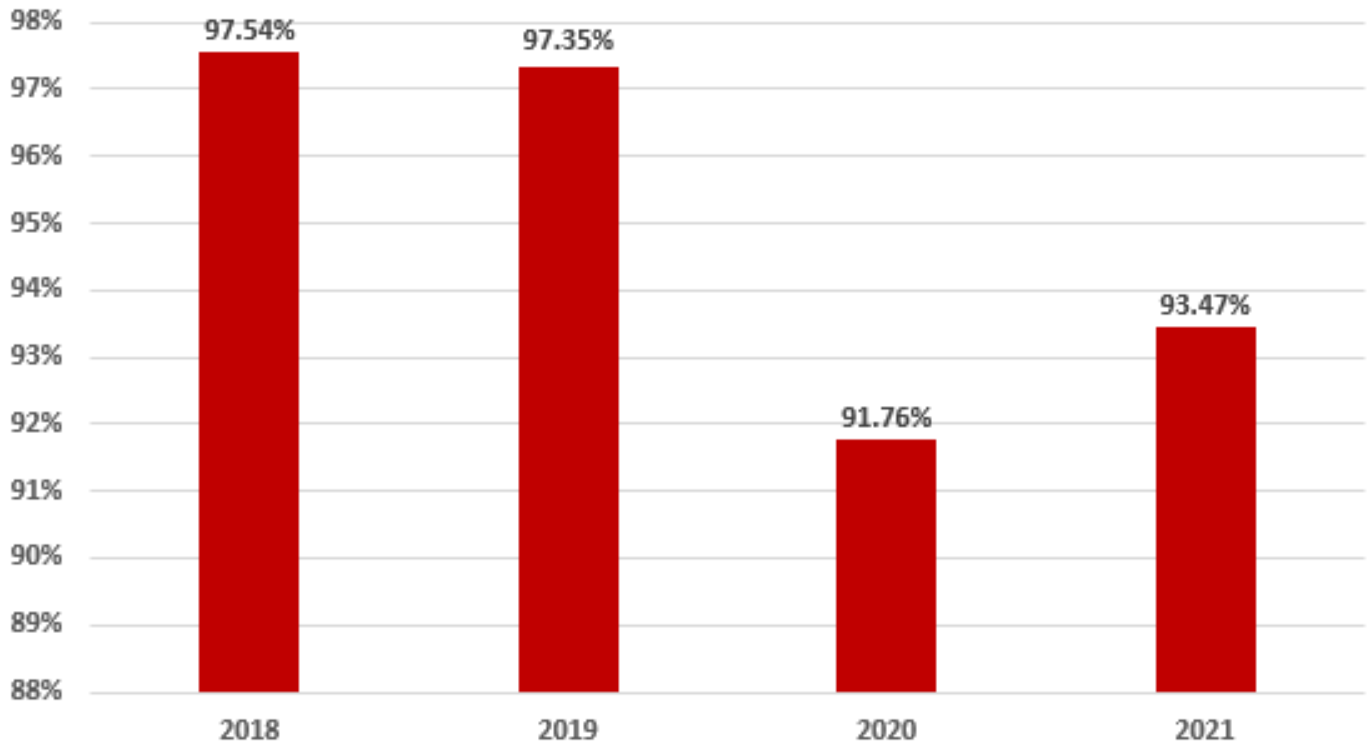
90th Percentile C.I. Lower Bound

	Grand Total	2021	2020	2018	2017
Lower Bound - 90th Pct - Call Processing	00:00:45	00:00:45	00:00:32	00:04:49	00:00:31
Lower Bound - 90th Pct - Turnout	00:00:45	00:00:45	00:00:49	00:00:03	00:00:15
Lower Bound - 90th Pct - Travel First Unit	00:02:30	00:04:14	00:01:35	00:00:03	00:02:30
Lower Bound - 90th Pct - Travel ERF	00:11:22	00:04:14	00:03:46	00:11:22	00:13:04
Lower Bound - 90th Pct - Total Response First Unit	00:04:54	00:05:44	00:02:56	00:04:54	00:04:12
Lower Bound - 90th Pct - Total Response ERF	00:20:38	00:05:44	00:11:04	00:20:38	00:28:05

90th Percentile C.I. Upper Bound

	Grand Total	2021	2020	2018	2017
Upper Bound - 90th Pct - Call Processing	00:04:49	00:00:45	00:00:32	00:04:49	00:00:50
Upper Bound - 90th Pct - Turnout	00:01:58	00:00:45	00:00:49	00:00:03	00:01:58
Upper Bound - 90th Pct - Travel First Unit	00:04:14	00:04:14	00:01:35	00:00:03	00:03:07
Upper Bound - 90th Pct - Travel ERF	00:15:48	00:04:14	00:03:46	00:11:22	00:15:48
Upper Bound - 90th Pct - Total Response First Unit	00:05:44	00:05:44	00:02:56	00:04:54	00:04:59
Upper Bound - 90th Pct - Total Response ERF	01:40:43	00:05:44	00:11:04	00:20:38	01:40:43

ALS Response Time Performance 2018-2021



APPENDIX



POLICY MANUAL

Code:

Data Management Performance Outliers Policy

Adopted: Revised: Reviewed:

Purpose: To establish a uniform process to measure and evaluate calls for service against adopted benchmarks and standards.

Scope: All Fire Department Chief Officers.

RESPONSIBILITY

Because of the dynamic nature of emergency responses, incident data points include call processing time, turnout time, travel time, and total response time. Factors that can skew the data are primarily caused by human error or system errors resulting in performance information that is incorrect. Before data is published or used in reporting system performance, it should be analyzed for accuracy, and data points well outside the normal or expected performance range should be removed for analysis. The following table reflects benchmark performance measures and outlier thresholds for excluding calls:

Element	Benchmark	Outlier
Call Processing	1:30	3:00
Turnout	1:00 (EMS)/1:30 (Fire)	3:00
Travel	4:00	10:00
Total Response Time (1 st Unit)	7:00	18:00

Outlier time stamps were determined based on current system performance, ongoing analysis of the actual performance within each category, and industry-accepted statistical procedures (i.e. standard deviation, normal distribution). As part of the annual policy review, the outlier time stamps will be adjusted based on prior year performance to ensure data integrity.

PROCEDURES

Initial Incident Data Analysis shall be completed monthly. This review includes the dispatch performance report provided by EMS Communications, NFIRS extract, and call transfer data between the primary and secondary PSAP.

A spreadsheet of the raw data, data with outliers removed and outliers with explanation for causation will be reviewed each month. Trends resulting in longer times in any of the four criteria listed above will be reviewed. Any possible corrective action or improvements will be implemented as necessary to improve total system performance.



POLICY MANUAL

Code:

Data Management Performance Outliers Policy

Adopted:

Revised:

Reviewed:

The initial steps for determining Fire Department response time performance is the following:

- 1) Set the parameters to the following: priority calls (code 3 response), within the City of Clovis, call type (EMS, Fire, Haz Mat or Rescue), and identify the first arriving unit.
- 2) Filter it from a heterogeneous set to a homogeneous set by, for example, removing:
 - a. outgoing aid
 - b. non-suppression resources
 - c. non-emergency responses
 - d. staged responses
 - e. UTL, etc...
- 3) Isolate the data set that you wish to work with and review i.e. travel times.
- 4) Remove values that are obviously not legitimate data points. This is completed by understanding the shortest possible travel time in the data set and the longest possible travel time based on past history. In addition, isolating values that are suspicious when they appear to be the product of technology problems, data entry problems, processing problems, or mathematical errors is also completed. Before removal from the report, those data points are reviewed to see what variables they may have in common. Data that doesn't belong in the data set because they are not legitimate, are not treated as outliers and further reviewed for causation. Outliers are values that are extremely low occurrence but not necessarily identifiable as data errors and are removed first.
- 5) Once a homogeneous data set is established with obviously inappropriate values removed, that information is measured graphically, preferably as a histogram, so that it can be assessed for skewness -- the extent to which it looks like a normal distribution.
- 6) If the data appears to be only mildly skewed then it is entirely reasonable to treat it as a normal distribution for purposes of trimming outliers. In a normal distribution, the most popular method for identifying outliers is chosen, which is using three standard deviations from the mean.



To access this report electronically as well as other guiding documents, please scan the code above or visit:
<https://cityofclovis.com/fire/about-fd/soc-annual-report/>

CLOVIS FIRE DEPARTMENT 2022



CLOVIS FIRE DEPARTMENT

2022-2027 Strategic Plan



To access this report electronically as well as other guiding documents, please scan the code above or visit:
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CLOVIS FIRE DEPARTMENT 2022



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MESSAGE FROM THE FIRE CHIEF



I am proud to present the Clovis Fire Department 2022-2026 Strategic Plan. The mission of the Clovis Fire Department is fairly simple at its core: protect our community. However carrying out this mission is very complex and becomes more complex with each passing year. The strategic planning process is our way of ensuring that we evaluate all aspects of our service delivery, compare them against the appropriate regulations, National Fire Protection Association (NFPA) Standards, and industry best practices, then develop a plan that ensures we do the best we can with the resources we are provided. We are fortunate that we serve a community which recognizes the importance of public safety in maintaining a healthy and vibrant community. We are also fortunate to have a workforce that recognizes the value of teamwork, planning, preparing, efficiency and ultimately, service to the community. These two forces have enabled the Clovis Fire Department to be a model of excellence within the fire service community.

Even in light of our historical successes, we are still well aware that we have future hazards and challenges to meet. It is our belief that, in the future, the fire service will see more scrutiny in the cost of the services we provide, more unfunded government regulation, more pressure to contain costs, and more demand for performance outcome metrics for decision makers (i.e., cost vs. benefit, return on investment, trends over time, etc.). These factors will require more effort towards following private sector business models including continuous improvement process, embrace change, and move towards more outcome based performance objectives. It will also push more agencies toward developing agreements with surrounding fire agencies to provide seamless fire service protection to the communities we serve.

As our city grows, there will be more demand for services (call volume), particularly for seniors and socioeconomically challenged citizens. Urban planning will move toward higher densities that will require road network and deployment strategies to evolve. Civil unrest and social strains will create more hazards and place more risk on our firefighters and fire administration.

After September 11, 2001 and now, again, after many years of the impacts of COVID-19, a new dynamic has been created resulting in potential financial impacts at the local level. This required the fire service to respond in new ways and to explore alternatives in emergency service delivery. Strategic planning is critical as Clovis Fire Department prepares for the future, responds to the needs of the community, and properly assesses its type, level, and ability to provide exceptional service.

On a more positive note, we see the Clovis Fire Department as being positioned very well to meet the coming challenges, probably better than the majority of other fire service agencies in the state. We will continue to leverage our resources and strengths to ensure the Clovis Fire Department is always available when our community calls.

A handwritten signature in blue ink that reads "John Binaski". The signature is written in a cursive, flowing style.

John Binaski
Fire Chief

INTRODUCTION

Over the last 100 years, the Clovis Fire Department (CFD) has grown and evolved to continually meet the needs of the community. The organization provides fire suppression, emergency medical services, fire prevention, technical rescue, hazardous materials mitigation, domestic preparedness planning and response, fire investigation, and public fire safety education to the City of Clovis. The Clovis Fire Department is consistently working to achieve and maintain the highest level of professionalism and efficiency on behalf of the community.

The Clovis Fire Department prides itself on being progressive in terms of providing state-of-the-art fire protection services at an efficient cost. One of the strategies CPD has incorporated into its long-term plans is to follow the process of fire service accreditation through the Center for Public Safety Excellence (CPSE). The accreditation process for the fire service is similar to the accreditation process for hospitals, schools and law enforcement agencies. The discipline being evaluated has developed a set of performance standards and best practices with CPSE using neutral, subject matter experts, to evaluate the candidate organization to ensure they are able to perform at the level expected. Fire agencies in every developed nation have embraced this process. The Clovis Fire Department is proud to be known as one of the first fire departments in California to attain accredited status, and has maintained the status for nearly fourteen years.

This Strategic Plan was written in accordance with the guidelines set forth by the Center for Public Safety Excellence - Fire & Emergency Service Self-Assessment Manual 10th Edition, and is intended to guide the organization within established parameters set forth by the City of Clovis. The plan includes input from a representative group composed of members of the organization (internal stakeholders) and from the community at large (external stakeholders).

The Clovis Fire Department's Strategic Plan sets forth a comprehensive vision and mission statement that provides the agency with a clear understanding of its purpose. Additionally, this strategic plan identifies the core values that allow the organization's members, individually and collectively, to carry out the day-to-day functions in support of the mission.





CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

ORGANIZATIONAL BACKGROUND

The City of Clovis, known as the “Gateway to the Sierras”, is located in the Central Valley region of California, along the eastern foothills of the Sierra Nevada mountain range. It is the second largest incorporated city in the County of Fresno and part of the Fresno/Clovis metro area. It is the home of the nationally recognized Clovis Rodeo which was established in 1914, an award-winning school district, public safety services, and family-friendly amenities. The City of Clovis is a General Law City, with a City Manager reporting to a five-member City Council. Councilmembers are elected at-large from the community and serve four-year terms. One member of the Council serves a two-year term as Mayor and is elected to the position by the Council.



The inception of the Clovis Fire Department began in 1892 with the formation of a “bucket brigade” comprised of employees from the local sawmill for the protection of their buildings, equipment, and lumber. These sawmill employees would provide assistance to the community of Clovis, along with the spontaneous civilian volunteers that would spring into action when fire erupted. In 1912, the community of Clovis was formally incorporated as a City. Almost immediately, the City passed a series of fire ordinances and authorized the purchase of some basic firefighting equipment available for emergencies. The formation of a formal City of Clovis volunteer fire department followed on October 16, 1917.

In 1966, the City hired its first full-time fire chief and five firefighters, thus transforming the organization into a paid/professional career department. Today, the Clovis Fire Department provides fire protection services to the City of Clovis, protecting a population of over 120,000, covering just over 27 square miles, as well as to the surrounding agencies as part of an automatic/mutual aid agreement. The Department currently consists of 67 firefighters deployed from five strategically located fire stations and six support staff. It has a Class II rating from the Insurance Service Organization and is accredited from the Center of Public Safety Excellence.

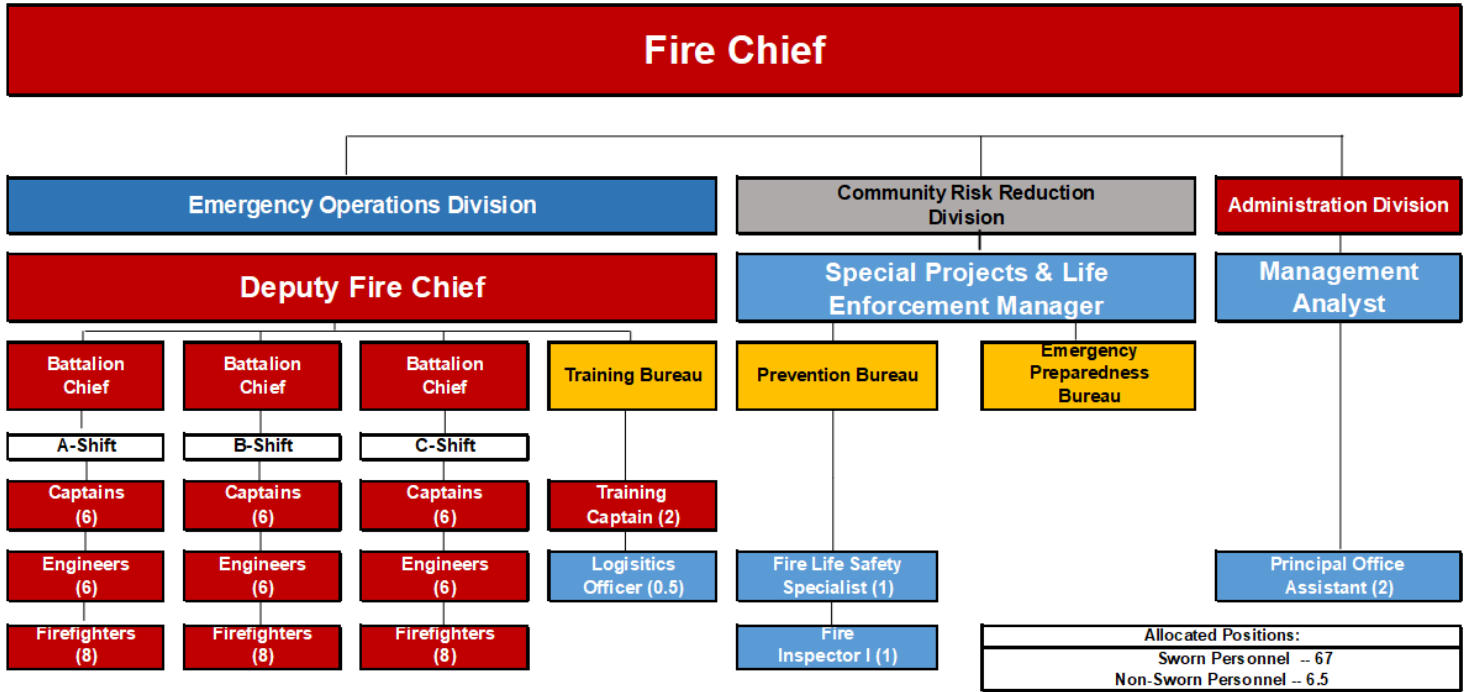




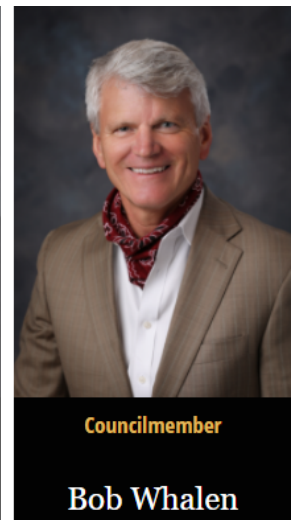
CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

FIRE DEPARTMENT ORGANIZATIONAL CHART



CITY OF CLOVIS OFFICIALS



CITY OF CLOVIS VISION

“A City that is committed to the Clovis Community Family, their needs, their values, and a quality of life for all; reflecting that commitment in how it develops and in the activities it undertakes.”



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

OUR MISSION

The Mission of the Clovis Fire Department is to provide for the fire and life safety of the community in the most professional, courteous and efficient manner possible.

Prevent Harm

- To our Community
- To our Firefighters
- To our Environment

Be Professional

- In our Appearance
- In our Performance
- In our Reputation

Use Resources Wisely

- With our Budget
- With our Time
- With our People

OUR VISION

The Clovis Fire Department is dedicated to serving the people of our community and we will work to continue to exceed community expectations. We will provide leadership locally, regionally and nationally. We will establish and strengthen partnerships and cooperate with allied agencies to enhance our service. We will provide the best service possible within the fiscal opportunities available. We will exercise foresight in planning, preparing and auditing for the safety and well-being of the community. We will promote confidence, trust and self-reliance through personal and professional growth. We will support our workforce to maintain a healthy lifestyle and perform duties in a safe and responsible manner.

OUR VALUES

We Value the Clovis Way of Life Through...

Teamwork Empowerment of our personnel to provide quality customer service

Traditions Remembering the past

Innovation Always seeking to acquire knowledge and skill

Integrity Adherence to moral and ethical principles

Honor Integrity in one's beliefs and actions

Respect Deference to the rights or opinions of others

Creativity Transcending traditional ideas or patterns to create meaningful new ideas

Courage Facing difficulty without fear

OUR MOTTO

Service with Pride



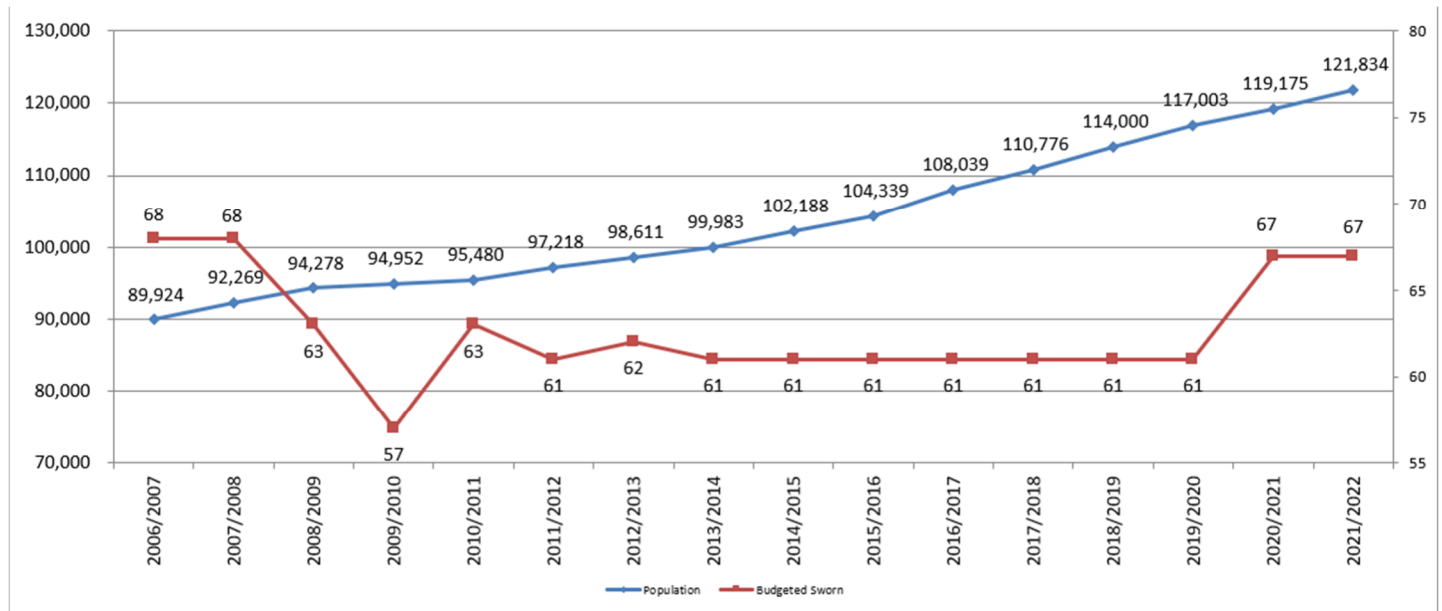
CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

CALL VOLUME FOR PAST 5 YEARS

Call Volume by Call Type, 2017-2021						
Incident Type	2017	2018	2019	2020	2021	5-Year Average
Emergency Medical	5,821	6,142	6,599	6,566	7,134	6,452
Good Intent/Service Call	2,253	2,469	2,253	2,097	2,082	2,231
Fire	421	336	351	386	386	376
Hazardous Materials/Explosion	147	177	193	178	130	165
Rescues & Vehicle Accidents	538	375	467	397	427	441
False Alarm & False Call	604	621	799	647	613	657
TOTAL	9,784	10,122	10,662	10,274	10,772	10,323

COMPARISON OF CITY POPULATION & CFD SWORN STAFF BY YEAR





CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

NOTABLE STATISTICS

COMPARISON OF PEER CITIES—2021/22							
Peer City	Fire Department Budget (In Millions)	Population Estimate	Per Capita Fire Department Expenditures	Sworn Personnel	Firefighters per 1,000 population	ISO Rating (lower is better)	CPSE Accreditation
Santa Maria	\$11.9	109,707	\$109	72	0.66	4	NO
Chico	\$13.9	101,475	\$137	57	0.56	2	NO
Bakersfield	\$52.2	403,455	\$129	240	0.59	2	YES
Hanford	\$6.7	57,990	\$116	33	0.57	2	NO
Lodi	\$16.4	66,348	\$247	55	0.83	2	NO
Manteca	\$9.6	83,498	\$116	51	0.61	3	NO
Merced	\$11.0	86,333	\$127	63	0.73	2	NO
Modesto	\$39.2	218,464	\$180	139	0.64	2	NO
Porterville	\$7.3	62,623	\$117	42	0.67	2	NO
Tracy	\$25.6	93,000	\$275	82	0.70	4	NO
Tulare	\$9.3	68,875	\$135	44	0.64	2	NO
Visalia	\$18.6	141,384	\$132	77	0.54	3	NO
Comparative	\$22.7	129,950	\$170	78	0.60	3	NO
Clovis	\$20.3	120,124	\$167	67	0.56	2	YES
Fresno	\$76.8	542,107	\$142	302	0.56	3	NO





CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

FIRE FACILITIES



Station 1

633 Pollasky

1 Engine, 1 Truck, 1 Rescue Apparatus



Station 2

2300 Minnewawa

2 Engines



Station 3

555 N. Villa

1 Engine, 1 Brush Engine



Station 4

2427 Armstrong

2 Engines, 1 Water Tender



Station 5

790 N. Temperance

1 Engine, 1 Truck, 1 HazMat Apparatus



Station 6

2388 Encino



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

STRATEGIC PLANNING PROCESS



What is a Strategic Plan?

It is a living management tool that:

- Provides short-term direction
- Builds a shared vision
- Sets goals and objectives
- Optimizes use of resources

A "Community-Driven Organization is defined as one that maintains a focus on the needs and expectations, both spoken and unspoken, of customers, both present and future, in the creation and/or improvement of the product or service provided."

The fire service has entered into a very competitive evolutionary cycle. Public demands continue to increase, while dollars and other resources continue to shrink. These trends place increased pressure on the modern fire service chief, manager, Councilmembers, and staff to develop ways to be more effective and more efficient.

To ensure that community needs were integral to the development of the Clovis Fire Department Strategic Plan, the Community-Driven Strategic planning process was utilized. Effective strategic planning benefits from a consistent and cohesively structured process employed across all levels of the organization. Planning is a continuous process, one with no clear beginning or end. The planning process should be flexible and dynamic, with new information from community stakeholders, City Council, and community changes factored in appropriately.

Community-Driven Strategic Planning creates a platform for a wide range of beginnings. The approach comes to life by being shared, debated, and implemented in the context of the organizational realities.



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

STRATEGIC PLANNING PROCESS



Goodstein, Nolan, & Pfeiffer define Strategic Planning as “a **continuous** and **systematic process** where the **guiding members** of an organization make decisions about its future, develop the necessary **procedures and operations** to achieve that future, and determine **how success is to be measured.**”

- **Continuous** refers to the view that strategic planning must be an ongoing process, not merely an event to produce a plan;
- **Systematic** recognizes that strategic planning must be a structured and deliberate effort, not something that happens on its own;
- **Process** recognizes that one of the benefits of strategic planning is to undertake thinking strategically about the future and how to get there, which is much more than production of a document (e.g., a strategic plan);
- **Guiding** members identifies not only senior unit executives, but also employees. (It also considers stakeholders and customers, who may not make these decisions, but who affect the decisions being made);
- **Procedures and Operations** means the full spectrum of actions and activities from aligning the organization behind clear long-term goals to putting in place organizational and personal incentives, allocating resources, and developing the workforce to achieve the desired outcomes; and
- **How success is to be measured** recognizes that strategic planning must use appropriate measures to determine if the organization has achieved success.

Planning is a continuous process, one with no clear beginning and no clear end. While plans can be developed on a regular basis, it is the process of planning that is important, not the publication of the plan itself. Most importantly, strategic planning can be an opportunity to unify the City, leadership, members, and stakeholders through a common understanding of where the department is going, how everyone involved can work toward that common purpose, and how progress will measure success.



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

AGENDA ITEM NO. 21.

STRATEGIC PLANNING PROCESS OUTLINE

1. Define the services provided to the community and establish the community's service priorities.
2. Establish the community's expectations of the department, aspects that the community views positively, as well as any concerns they may have about the department.
3. (Re) Develop the departments mission statement.
4. (Re) Establish the values of the department's membership.
5. Identify the strengths and any weaknesses of the department.
6. Identify areas of opportunity for and potential challenges to the department.
7. Establish realistic goals and objectives, along with critical tasks for each objective.
8. Develop a vision of the future.

The Clovis Fire Department utilized a community-driven strategic planning process to critically examine traditions, values, philosophies, beliefs, and desires. Members of the committee were challenged to work in the best interest of the organization with a focus on service to the community. The external and internal stakeholder groups performed an outstanding job in committing to this important project and remain committed to this document's completion.

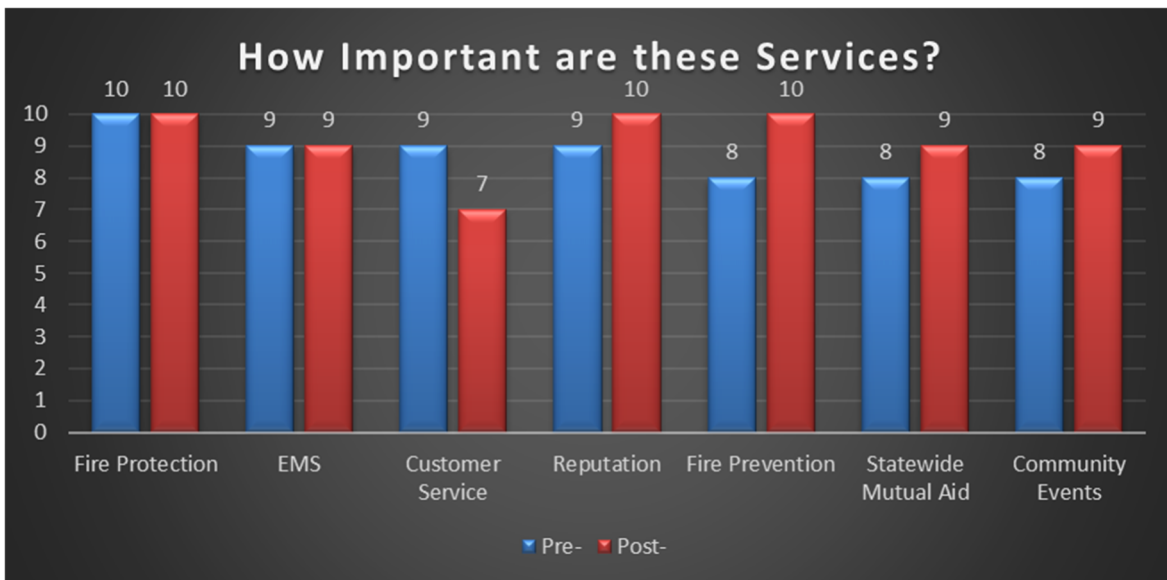
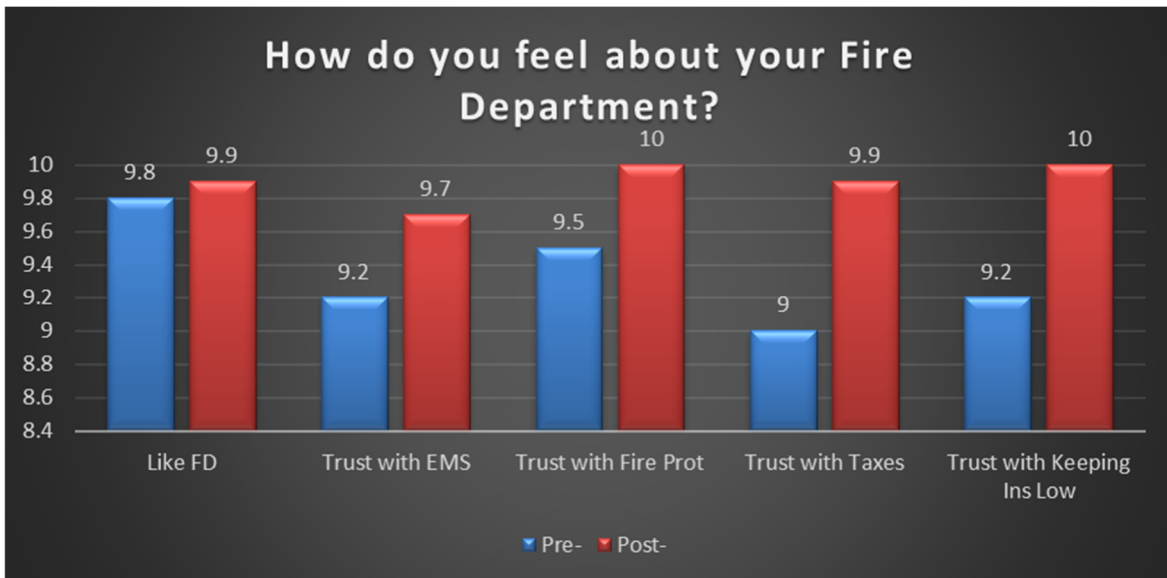
A strategic plan serves as a management tool that documents the shared mission and vision into a series of short-term and long-term strategic initiatives, goals and objectives. The intent is to drive the organization toward a common vision while optimizing organizational resources. The Clovis Fire Department recognizes the future of the fire service will continue to change due to multiple influencing forces, the greatest of which will be citizen expectations. Although we fully expect to see influences from all facets of the world around us, it is service to our citizens that will drive the majority of changes. In short, we don't want to waste time and energy on goals that lack a good cost/benefit ratio. The process of strategic planning is as important as the final plan itself. The inclusion of internal stakeholders from all ranks and a diverse cross section of external stakeholders were used to ensure the plan had strategic initiatives that reflected the community but were balanced against various constraints.

Stakeholders were selected by soliciting interested people from within the organization and from the community at large. The process took participants through a wide variety of lectures and discussions on fire department organization, levels of service and Strengths, Weaknesses, Opportunities and Challenges (SWOC analysis). External and internal stakeholders were asked a series of questions related to their expectations as customers and service providers. There was a pre and post survey of their perception of the Clovis Fire Department and the services we provide. The committee also developed their expectations of the department and validated a majority of the work previous stakeholder groups have provided over the past 15 years. Several of the original external stakeholders continue to be involved in our annual review and appraisals of the department.



CLOVIS FIRE DEPARTMENT 2022-2026 Strategic Plan

SUMMARY OF FINDINGS FROM EXTERNAL STAKEHOLDERS





CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

SUMMARY OF FINDINGS FROM EXTERNAL STAKEHOLDERS

1. Maintain the current service delivery levels for fire and emergency medical response throughout the City.
2. Established benchmarks and outcomes are appropriate and should be continually evaluated to meet industry best practice.
3. Future development, or new growth areas, should not adversely impact the current level of service in existing areas of the community.
4. Non-emergency community contact is essential in community risk reduction. Firefighters should continue attending public events, conducting school programs, providing public education activities, and interacting with community groups.
5. The Fire Department plays an important part in maintaining a safe business environment and lowering insurance premiums. The Fire Department is key in protecting both City and business revenues from potential loss.
6. The Fire Department needs to maintain and replace, when needed, its fire apparatus, fire stations, and training facilities. Having high-quality equipment, fire apparatus, and stations extends the useful life of these important resources.
7. The Community Emergency Response Team (CERT) has been a successful program utilized to train community members in disaster response. Additional volunteer opportunities could be beneficial to the Department and those citizens willing to volunteer.
8. Maintain or enhance existing public-private partnerships, such as the ones with American Ambulance, CUSD, PG&E, and Fresno City College. Continue to work with CUSD Career Technical Education in support of the Fire Technology Program and the Department's Fire Explorer Program to expand opportunities for future firefighters to attract a diverse workforce mirroring the community we serve.
9. Clovis Firefighters are viewed as being well trained, professional, and courteous. It is expected from the community that this will continue in the future.
10. Current pay and benefits are appropriate, this should be maintained to attract a diverse and professional workforce.





CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

STRATEGIC INITIATIVES

The Clovis Fire Department bridges the gap between the organizational mission and the critical day-to-day tasks it takes to support an organized list of goals in the form of a strategic planning document. Strategic initiatives are broad statements that set a direction for the organization. Many require support and/or cooperation from entities or departments outside of the Fire Department. Under each initiative, there may be included more specific goals and objectives that support the overarching initiative. After diligent review by all stakeholders, the following five Strategic Initiatives were developed along with a list of goals with supporting critical tasks.

STRATEGIC INITIATIVE #1

Provide cost effective, efficient services that reflect best practices in the industry.

To be sustainable in the future, the fire service must evaluate trends, evaluate cost efficiency, provide effective service delivery models that reflect best practices, and monitor financial accounts to ensure that service is affordable to local taxpayers.

Goal 1A	Maintain annual budget expenditures at or below \$170 per person and enhance annual budget revenues where applicable.		
Outcomes & Objectives	To make sure the citizens served by the Clovis Fire Department are receiving a competitive service for the cost per citizen. In 2000, a study was conducted which showed to have an effective fire department it would require a minimum cost of \$100 per citizen per year. As you increase this for the last twenty two years to account for inflation (3%), the result is \$170.		
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Monitor the overall budget minus revenue received from the Office of Emergency Services for out of area responses. • Review Master Fee Schedule annually and monitor revenue streams. • Monitor continued expenses for special teams such as hazardous materials, urban search and rescue, and fire investigations. • Complete annual appraisal reviews for all workgroups to determine if the outcomes are in line with costs. • Maintain employee injury cost rate below \$200,000 annually. • Monitor the cost benefit of overtime compared to hiring. • Explore additional public private partnerships. • Monitor and review costs for discipline and litigation. 		
Appraisal Timeframe	Annually.	Appraisal Documents	Fire Department Budget, CIP Budget, Fleet, and Out of County



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Goal 1B	Continuously improve on ways of protecting lives, property, and the environment prior and during emergency incidents.		
Outcomes & Objectives	<ul style="list-style-type: none"> Maintain an annual property fire loss below the 5-year average (\$2.4 million). Keep annual growth rate of structure fire instances at or below annual population growth (percent of structure fires lower than percentage of population growth year over year). Contain structure fires to room of origin for 80% of incidents. Zero civilian fire deaths (structure fires/accidental/unintentional). 		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Monitor to ensure 911 fire/rescue calls for service are processed (alarm handling) within 1 minute and 30 seconds, 90% of the time (emergent calls, 911 pick up to unit alert). Turnout time for fire/rescue calls for service within 1 minute and 30 seconds, 90% of the time (emergent calls, unit alert to wheels rolling). First unit travel time to structure fires, hazardous material releases, and other crisis incidents requiring use of personal protective equipment within 4 minutes, 90% of the time (emergent calls code 3, wheels rolling to unit arrival at scene). Inspect 100% of all CA State regulated occupancies that require an inspection and submit compliance report annually (In accordance with California Code of Regulations Title 19). Inspect 95% of high-risk occupancies annually. Inspect 90% of all moderate and low risk occupancies during each two-year inspection cycle. Keep annual Unit Hour Utilization (UHU) percentage below 30% for all units. 		
Appraisal Timeframe	Continuous and annually.	Appraisal Documents	Annual Report

Goal 1C	Improve Firefighter Safety and Survival.		
Outcomes & Objectives	<ul style="list-style-type: none"> Contain structure fires to room of origin for 80% of incidents. Zero firefighter line of duty deaths. Maintain an employee injury rate below 20 percent of total allocated staffing positions (industrial injuries). Maintain Workers Compensation annual costs below \$200,000 (3% or less of total fire suppression personnel salaries). 		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Provide extensive annual health and wellness physicals to all sworn department personnel Provide immediate medical treatment and care, when required. Provide injured employees with access to Workers Compensation paperwork and medical care, when required. Provide required structure fire training and acting recertification training. Provide proven cancer preventing measures to protect personnel while on emergency incidents and in the fire stations. Expand the use of the Community Emergency Response Team (CERT). 		
Appraisal Timeframe	Continuous and annually.	Appraisal Documents	Annual Report



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

Goal 1D	Maintain accreditation status through the Center for Public Safety Excellence.
Outcomes & Objectives	Accreditation provides outside peer review of the Fire Department and confirms the department is meeting industry best practices.
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Update Strategic Plan and review annually. • Update Standard of Cover and review annually. • Complete required documentation for accreditation. • Complete the CFAI annual compliance reports.

Goal 1E	Maintain a Class II or higher Insurance Service Organization (ISO) rating.
Outcomes & Objectives	The business community in the City of Clovis benefit from having lower insurance rates and having a lower ISO rating assists in accomplishing this.
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Review the ISO Fire Suppression Rating Schedule. • Evaluate areas for improving the department's ISO rating based on cost benefit analysis.

Goal 1F	Maintain a 5-year capital improvement plan for the department and ensure appropriate funding for expected needs.		
Outcomes & Objectives	In order to provide for an efficient effective response force, the Fire Department needs to be strategically located throughout the community and respond with the appropriate resources.		
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Review the department's 20 year Fleet Replacement Plan and monitor for proper funding. • Review the department's small engine (Hurst Tool, chainsaws, K12, and others) and hose replacement plan and monitor for proper funding. • Review the department's 20 year fire station maintenance and improvement plan. 		
Appraisal Timeframe	Annually.	Appraisal Documents	Fire Department Budget, 5-Year Capital Budget, Fleet Replacement



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

STRATEGIC INITIATIVE #2

Maintain or improve service delivery to the citizens of Clovis.

As the organization prepares itself to meet the demands of the future, identifying the data sources that will be required to provide accurate, reliable forecasting and quality business analytics, is essential. Use of data to make quality business decisions is a critical element to the progress of the department as we focus on quality improvement and improving the performance of our organization. It is essential that we utilize quality data and establish methods to measure the performance of the services we provide.

Goal 2A	Improve patient survivability for sudden cardiac arrest measured by Return Of Spontaneous Circulation (ROSC) 24 hours after the event to a level above 35%.		
Outcomes & Objectives	<ul style="list-style-type: none"> Maintain a cardiac survival rate at or above the national average (ROSC, 3-year average) Advocate to ensure an ALS transport capable ambulance arrival at EMS calls within 9 minutes, 90% of the time (emergent calls, 911 verification of address to first-unit arrival) 		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Monitor private ambulance provider total response time compliance of ALS arrival with 9 minutes, 90% of the time. Review all cardiac arrest patients care reports. See if there are any common themes from patients who do not survive (Obesity, lifestyle, drugs, and etc.). Review trends or new technology to improve cardiac survival. Replace all existing automatic external defibrillators (AED). Look at expanding locations of citizen AED throughout the city. Develop a CPR fraction rate performance measure for cardiac arrest incidents. Increase bystander CPR participation rate to 50 percent (911 to provide data). 		
Appraisal Timeframe	Annually.	Appraisal Documents	PCR, CAD Data, ROSC Report

Goal 2B	Maintain or improve response time performance, specifically in the Northwest Heritage Grove Area (North of Shepard and East of Fowler) of the city.		
Outcomes & Objectives	To provide the same level of emergency services throughout all areas within the City of Clovis. Currently the Fire Department is experiencing longer than the adopted response time standards in the southeast.		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Monitor response time performance. Purchase property to locate future Station #7 in the northwest. 		
Appraisal Timeframe	Annually.	Appraisal Documents	Annual Report, Planning Calendar, Annexations



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

STRATEGIC INITIATIVE #3

Increase value-added services to provide the best possible service to the community beyond the 9-1-1 call.

It is essential that we define what differentiates Clovis Fire Department from other service providers, and align our services with what the public wants the fire and rescue service to do.

Goal 3A	Promote community engagement and enhance outreach to better connect with our customers.
Outcomes & Objectives	To engage the citizens of Clovis to better understand the functions and responsibilities of the Fire Department beyond what they have seen on TV.
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Work with, and expand opportunities with the City's PIO Team. • Review all of the ways we communicate with the public. • Expand the department's public education and participation with Clovis Unified School District. • Look at our social media footprint and provide systematic updates to the departments webpage, Facebook and Twitter.

Goal 3B	Fire companies take ownership and accountability of results within their first-due response districts.
Outcomes & Objectives	To have each fire station and specifically each shift become more involved with businesses, schools, and the public within their first due response area.
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Have each engine company shift complete 100 business inspections annually within their first due area if applicable. • Have each engine company shift attend all school carnivals within their first due area. • Have each engine company shift attend each preschool annually within their first due area. • Each engine company and specifically each shift will be responsible to meet required response time standards as outlined by policy and to complete a physical walk through of all high-hazard occupancies within their first-due area. • Explore the possibility of sending a direct mailer to citizens within the response area for a particular station to determine specific citizen needs and expectations.



CLOVIS FIRE DEPARTMENT

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Goal 3C	Promote a positive agency reputation within the community.		
Outcomes & Objectives	<ul style="list-style-type: none"> Recruit and hire employees that represent the demographic make-up of the community. Zero cases of harassment/discrimination. Zero cases requiring formal disciplinary action (action above written reprimand). 		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Update and maintain a two-year training plan (concurrent with periodic risk assessment). Provide liability reduction/harassment prevention/people-skills training to all employees annually (in compliance with AB1825/SB1343). Review/update all disciplinary policies and procedures. 		
Appraisal Timeframe	Annually.	Appraisal Documents	Training Plan

Goal 3D	Promote innovation within the organization.		
Outcomes & Objectives	The Fire Service is constantly changing and improving. Over the past forty years, the Fire Service has expanded the areas they are responsible for beyond just responding to fires. This includes medical aids, hazardous materials, urban search and rescue, and many others.		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Encourage all personnel to bring forth recommendations for improvement. Send personnel to training or conferences on new techniques or changing standards. Embrace an agency that is progressive and willing to change based on data and facts not emotions. 		



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

STRATEGIC INITIATIVE #4

Invest in leadership development and employee wellbeing for the long-term success of the department.

To remain competitive in the future and reflect best practices, quality, well-trained and motivated personnel is imperative. Investing in leadership development is an essential component for the long-term health of the organization. This will ensure and reinforce effective leadership and management concepts and support the exploration of new ideas and practices.

Goal 4A	Enhance the department’s succession planning and professional development efforts.
Outcomes & Objectives	Over the next five years, it is projected the department will see a larger than normal number of retirements and the department needs to be prepared for the need to promote individuals into higher positions throughout the organization.
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Increase acting, interim assignments, and professional development opportunities. • Increase training and educational opportunities for all personnel as outlined by their respective MOUs. • Bring outside instructors or courses locally so personnel can attend without travel expenses. • Expand the opportunities for personnel to attend conferences. • Expand the opportunities for personnel to be on local, state, and national committees.

Goal 4B	Expand the culture of the organization to better recognize, value, and implement safety strategies.
Outcomes & Objectives	Firefighting has inherited risks, but the goal of the professional firefighter is to measure the risk versus the gain to determine potential positive outcomes.
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Update Operational Risk Management Policy. • Provide employee behavior health update. • Provide current and updated Safety Officer training. • Provide equipment and training for active threat incidents. • Provide updated training on NIST updates and Transitional Fire Attack.

Goal 4C	Expand temporary 40-hour work assignment opportunities for 56-hour employees interested in career advancement.
Outcomes & Objectives	To give shift employees an opportunity to expand their knowledge base and experience working in one of the 40-hour assignment positions.
Critical Tasks & Measurements	<ul style="list-style-type: none"> • Based on overtime costs and staffing solicit for interested personnel to be part of training during the winter months to complete special training projects. • Based on overtime costs and staffing solicit for interested personnel to be part of expanding our public education within the city as needed.



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

STRATEGIC INITIATIVE #5

Invest in Fire Prevention, Public Education, and Fire Investigation efforts with the goal of reducing fires before they occur.

Goal 5A	Perform fire prevention inspections on all 2,000+ public occupancies on a bi-annual basis.		
Outcomes & Objectives	In order to have a fire safe city for the citizens who reside or visit, it is necessary for existing business to be inspected for meeting the current California Fire Code and local municipal codes.		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Inspect 100% of all CA State regulated occupancies that require an inspection and submit compliance report annually (In accordance with California Code of Regulations Title 19). Inspect 95% of all commercial fire protection systems annually. Inspect 95% of high-risk occupancies annually. Inspect 90% of all moderate and low risk occupancies during each two-year inspection cycle. Engine companies will inspect approximately 750 business occupancies annually. 		
Appraisal Timeframe	Annually.	Appraisal Documents	Prevention Inspection and Plan Check Reports, and Annual Report

Goal 5B	Provide grade school fire prevention public education in conjunction with the burn foundation to all Clovis Unified Schools within the City of Clovis.		
Outcomes & Objectives	To work on improving fire safety education to all grade school children attending Clovis Unified Schools throughout the City of Clovis.		
Critical Tasks & Measurements	<ul style="list-style-type: none"> Complete pre and post tests for all school children attending the FISE education presentations. Expand the use of engine companies for school public education opportunities. Review the results of the data from each education session. 		



CLOVIS FIRE DEPARTMENT

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Goal 5C	Investigate all fires for cause and origin and work with proper authorities for all prosecution of all fires deemed to be caused by arson.		
Outcomes & Objectives	In order to keep fire insurance costs as low as possible for local businesses and the community, all fires need to be investigated to determine cause and origin. The goal is to look for trends and prosecute arson cases as needed.		
Critical Tasks & Measurements	<ul style="list-style-type: none"> • All fires within the City of Clovis will be investigated for cause and origin. • All fires deemed suspicious will be followed up with Clovis Fire Investigations Team in cooperation with Clovis PD. • A sufficient fire investigation report will be completed on all fires 		
Appraisal Timeframe	Annually.	Appraisal Documents	Annual Report and Annual Appraisal from CFIT

*All Strategic Initiatives are formally tracked in the Department's Strategic Initiative Tracking Form.



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

PERFORMANCE MANAGEMENT

To assess and ensure that our organization is delivering on the promises made in this strategic plan, the leaders must determine performance measures for which they are fully accountable. As output measurement can be challenging, our organization must focus on the assessment of progress toward achieving improved output. The Clovis Fire Department must further be prepared to revisit and revise our goals, objectives, and performance measures to keep up with accomplishments and environmental changes.

To establish that the department's strategic plan is achieving results, performance measurement data will be implemented and integrated as part of the plan. An integrated process, known as "Managing for Results", will be utilized, which is based upon the following tenants.

- The identification of strategic goals and objectives;
- The determination of resources necessary to achieve them;
- The analyzing and evaluation of performance data; and
- The use of that data to drive continuous improvement in the organization.

“No matter how much you have achieved, you will always be merely good relative to what you can become. Greatness is an inherently dynamic process, not an end point.”

Jim Collins
Good to Great and the Social Sectors

A “family of measures” typically utilized to indicated and measure performance includes:

- **Inputs**—Value of resource used to produce an output.
- **Outputs**—Quantifiable units produced which are activity-oriented and measurable.
- **Efficiency**—Inputs used per output (or outputs per input).
- **Service Quality**—The degree to which customers are satisfied with a program, or how accurately or timely a service is provided.
- **Outcome**—Qualitative results associated with a program/service; i.e., the ultimate benefit to the customer. Focused on the “why” of providing a service.



CLOVIS FIRE DEPARTMENT 2022-2026 Strategic Plan

THE SUCCESS OF THE STRATEGIC PLAN

The Clovis Fire Department has approached its desire to develop and implement a Strategic Plan by asking for and receiving input from the community and members of the department during the development stage of the planning process. The department utilized professional standards and the Community-Driven Strategic Planning Process to compile this document.

The success of the Clovis Fire Department's Strategic Plan will not only depend upon implementation of the strategic initiatives and their related goals, but also from the support received from the City of Clovis, membership of the department, and the community at-large.

The final step in the Community-Driven Strategic Planning Process is to develop organizational and community commitment to the plan. Everyone who has a stake in the present and the future of the Clovis Fire Department also has a role and responsibility in this Strategic Plan.

Provided that the Community-Driven Strategic Planning process is kept dynamic and supported by effective leadership and active participation, it will be a considerable opportunity to unify internal and external stakeholders through a jointly developed understanding of organizational direction; how all vested parties will work to achieve the mission, goals, and vision; and how the organization will measure and be accountable for its progress and successes.





CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

ANALYSIS OF CURRENT DEPARTMENT

The Strengths, Weaknesses, Opportunities, and Challenges (SWOC) analysis is designed to help the organization evaluate itself in order to determine its current state of effectiveness as well as its future competitiveness/survival based foreseeable changes. Stakeholders were asked to develop a broad list of items from each category, which was then summarized as follows:

Strengths

- ◆ Employees are passionate about the organization and providing better than average service to the community.
- ◆ Department enjoys broad support from the community.
- ◆ Well established labor management relationship.
- ◆ Department can provide a self-sufficient effective response force for all risk categories.
- ◆ The ability to provide mutual aid/auto aid to both Operational Area and statewide.
- ◆ Facilities are well designed and maintained .
- ◆ Department is perceived as a good regional partner by other fire agencies.
- ◆ Department can attract and retain employees due to good working conditions, pay and benefits Administrative and Operational staffing levels meet minimum standards.
- ◆ Department has experienced a very low frequency of high-risk events.
- ◆ Building stock throughout the community is newer and remains in good shape.
- ◆ Department provides a diverse list of services beyond fire suppression, such as Emergency Medical Services, Emergency Management, Hazardous Materials Team, Urban Search and Rescue Team, Fire Investigations Team and others.
- ◆ High level of technical expertise and a highly educated staff within the department Cancer Prevention activities along with annual wellness/physicals for all suppression personnel.

Weaknesses

- ◆ Poor call handling times by dispatch/lack of data sharing between primary PSAP and secondary PSAP.
- ◆ Need to improve the frequency and depth of communication to organization.
- ◆ Need Pre-Plans updated and immediately accessible to the responding crews.
- ◆ Need better data entry and report writing by officers, prevention, and other staff to maintain quality data analytics.
- ◆ Refine, update and re-format the policy manual.
- ◆ Need to grow IT support to meet the needs of the organization moving forward.
- ◆ Logistical support and fleet maintenance.
- ◆ Need a process to measure internal customer service.



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan

ANALYSIS OF CURRENT DEPARTMENT

Opportunities

- ◆ Explore opportunities for expansion in EMS and ambulance RFP.
- ◆ Explorer bringing in outside instructors for the betterment of the organization. (Peer support/ behavior health, fire investigations, and incident operations).
- ◆ Leverage technology to improve processes.
- ◆ Continue engagement with local leaders.
- ◆ Company level engagement with the community.
- ◆ Enforcement of codes – cost recovery options.
- ◆ Explore additional grants or other funding opportunities.
- ◆ Better market Department's services via social media and community relations.
- ◆ Explore opportunities to improve recruitment & retention management and 40-hour staff assignments.
- ◆ Improve cardiac survival program.

Challenges

- ◆ Maintain service levels over time as the city continues to increase in population, density and building farther away from existing fire stations
- ◆ Pension and OPEB unfunded liabilities
- ◆ Future economic downturn
- ◆ Changing workforce – culture, capabilities, expectations
- ◆ Improving diversity of the workforce
- ◆ Recruiting fire prevention staff
- ◆ Rapidly changing expectations of the community
- ◆ Social media impacts
- ◆ Reputation management
- ◆ Keeping connection with the community
- ◆ Ability to staff during highest demands (summer, wildfire season, mutual aid, etc.)
- ◆ Unfunded political/regulatory mandates (state and federal)
- ◆ Litigation
- ◆ Maintaining response time benchmarks, accreditation, and ISO ratings
- ◆ Growing threat of cyber attacks



CLOVIS FIRE DEPARTMENT

2022-2026 Strategic Plan





COMMAND STAFF

John Binaski, Fire Chief

Chris Ekk, Deputy Chief

Jim Damico, Battalion Chief

Jason Ralls, Battalion Chief

Anthony Gomes, Battalion Chief

Chad Fitzgerald, Life Safety Enforcement Manager

Katie Krahn
Management Analyst



ANNUAL REPORT

Service with Pride 2021



CLOVIS FIRE DEPARTMENT

CLOVIS FIRE DEPARTMENT

Message from the Fire Chief



2021 marks five years that I have had the honor and privilege to serve the residents of Clovis as their Fire Chief. I work alongside 73 well-trained and highly skilled professional firefighters, fire engineers, fire officers, chief officers, fire inspectors, and administrative staff. Together, we provide incredible emergency services to approximately 120,124 residents with 26 square miles in our first due response area.

While the role of the fire service has dramatically changed and increased in complexity over the years, the commitment to serve our community to the best of our ability remains steadfast. Our department recognizes the importance of adaptability and the continual demand to change with the needs of our community.

The Clovis Fire Department saw a lot of exciting changes in 2021. In April, the largest hiring since 1999 occurred with an academy of ten. In July, promotions took place which made it possible to place a sixth fire company in service. In September, the Department placed two new fire engines in-service to replace fire engines which were over 15 years old and in October, we hired an additional three personnel to fill vacancies. The City was fortunate to have received grant funding to reimburse the expenses for nine of the new hires through Fiscal Year 2023/24. When Fire Station 6 opens in April 2022, it will be the first new fire station since the completion of Station 5 in 2006.

The Department saw the retirement of Fire Engineer Brad Couchman. We wish him and his family a happy, well-earned retirement.



*Fire Engineer
Brad Couchman*

We have many great accomplishments to report and one of the primary reasons for such success is teamwork. Teamwork between the firefighters, City staff, our elected officials, and most importantly, our community members is what makes us a highly successful fire department.

Accomplishments of 2021:

- The Fire Department placed its sixth fire company in service to serve the growth in the Southeast. This unit is being housed at Station 5 until the completion of Station 6 in April 2022.
- The Fire Department replaced four command vehicles as well as two fire engines which had been in service since 1996.
- The Fire Department added a second Training Captain to the Training Division to provide support to the 13 newly hired firefighters.

I am exceptionally proud of the men and women that serve in all areas of the Clovis Fire Department. I hope their commitment to our mission and values provide you with the same pride and satisfaction I enjoy each day as their Fire Chief.

John Binaski, Fire Chief

CLOVIS FIRE DEPARTMENT



Response Performance

This Annual Report is the Clovis Fire Department’s method of communicating with our elected officials, cooperating fire agencies, and, most importantly, our community about the quality and quantity of services provided in 2021. This report also serves as a record of our activities and accomplishments for future reference and comparison. The illustration below shows the high-level indicators that the Department uses to determine effectiveness and efficiency in a number of service delivery categories. This shows that, in 2021, the Fire Department did not meet or exceed its response-time goals, as it has a record of in past years. This fact is explained by the significant residential growth in all areas of the City over the past 15 years. As Fire Station #6 is slated to open in Spring 2022, and additional staff was added in 2021, 2022 performance should improve and meet performance goals.

90th Percentile Response Goals and Response Time Performance



CLOVIS FIRE DEPARTMENT

Strategic Goals



Strategic Initiative Goals and Actual Results

Goal	Actual Result
1A Cost per capita (CAFER annual fire budget - OES rev/exp ÷ population served = cost per capita) > Below \$170 City comparisons: Chico, Davis, Lodi, Manteca, Merced, Roseville, Turlock, Visalia	\$167
1C ISO rating > Class 3 or better	Class 2
2B Property loss — below \$2.3 million > Keep property loss due to fire below 5-year average (\$2.3 million)	\$2,936,340
3A Citizen Satisfaction Survey score > 90% or better	93%
6A Firefighter injury rate > Less than 14 reportable injuries (less than 20% of personnel)	5 injuries
6B Total injury claim costs > \$150,000 or lower (3% or less of total fire-suppression personnel salaries)	\$40,351
1B Accreditation status through the Center for Public Safety Excellence > Maintain accreditation status	Maintained accreditation status

Fire and Life Safety Strategic Initiative Goals and Actual Results

Prevention	Actual Result
5A Timing of permits and inspections > Return 100% of all fire-protection system and building plans for permit issuance within 10 days of submittal and provide inspections within 24 hours of request.	90%
5A-1 Plan checks > Complete plan checks within 10 days, 90% of the time.	90%
5A-2 Project approval > Approve 90% of projects within three (3) plan checks.	90%
5A-3 State-mandated inspections > Complete 90% of State-mandated inspections (E, R-2, R2.1, H).	96%
5C Fire investigations > Investigate 100% of all fires reported.	100%
5C-1 Clearance of fire investigations > Clear 90% of all fire investigations cases within one year.	100%



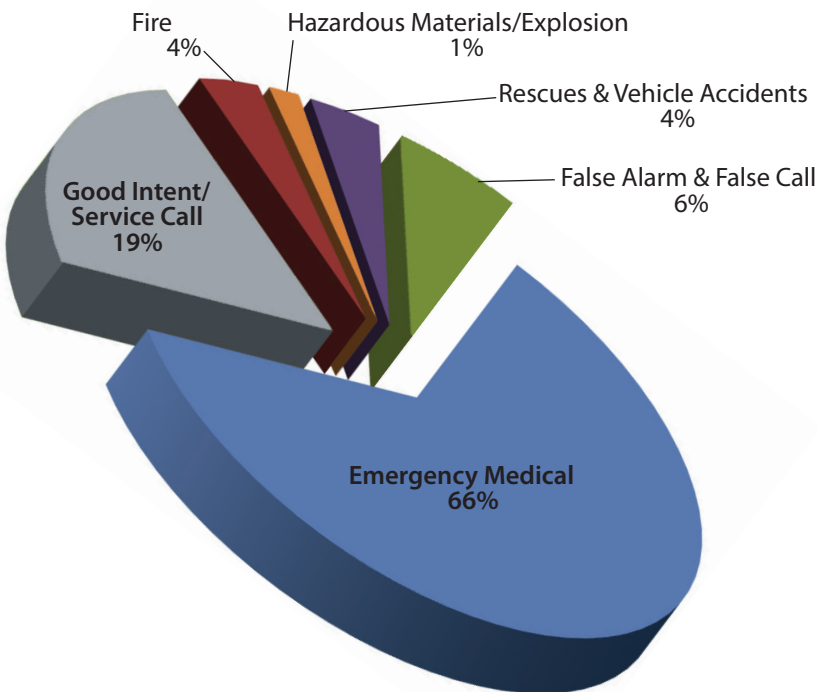
CLOVIS FIRE DEPARTMENT

Calls for Service

When citizens encounter a problem they do not inherently know how to solve, and they do not know who else to call, they often call 9-1-1/dispatch. Good intent/service calls are minor emergencies that require a response to investigate or mitigate before becoming significant emergencies. Examples of these call types include a burst water pipe, smoke mistaken to be a structure fire, trees and/or power lines down due to storm damage, vehicle locked with a child inside, and a citizen who needs help getting up after a fall. The numbers of good intent/service calls and calls of other types are outlined in the table below.

Call Volume by Type, 2019-2021				
Incident Type	2019	2020	2021	3-Year Average
Emergency Medical	6,599	6,566	7,134	6,766
Good Intent/Service Call	2,253	2,097	2,082	2,144
Fire	351	386	386	374
Hazardous Materials/Explosion	193	178	130	167
Rescues & Vehicle Accidents	467	397	427	430
False Alarm & False Call	799	647	613	686
TOTAL	10,662	10,274	10,772	10,569

2021 Call Volume by Type



Total Response Time Performance

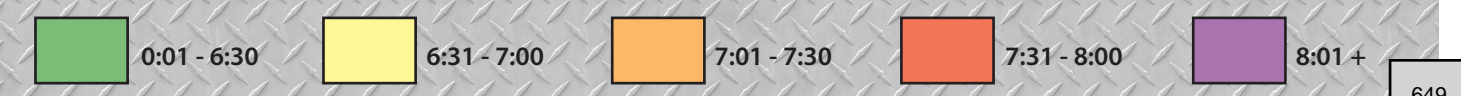
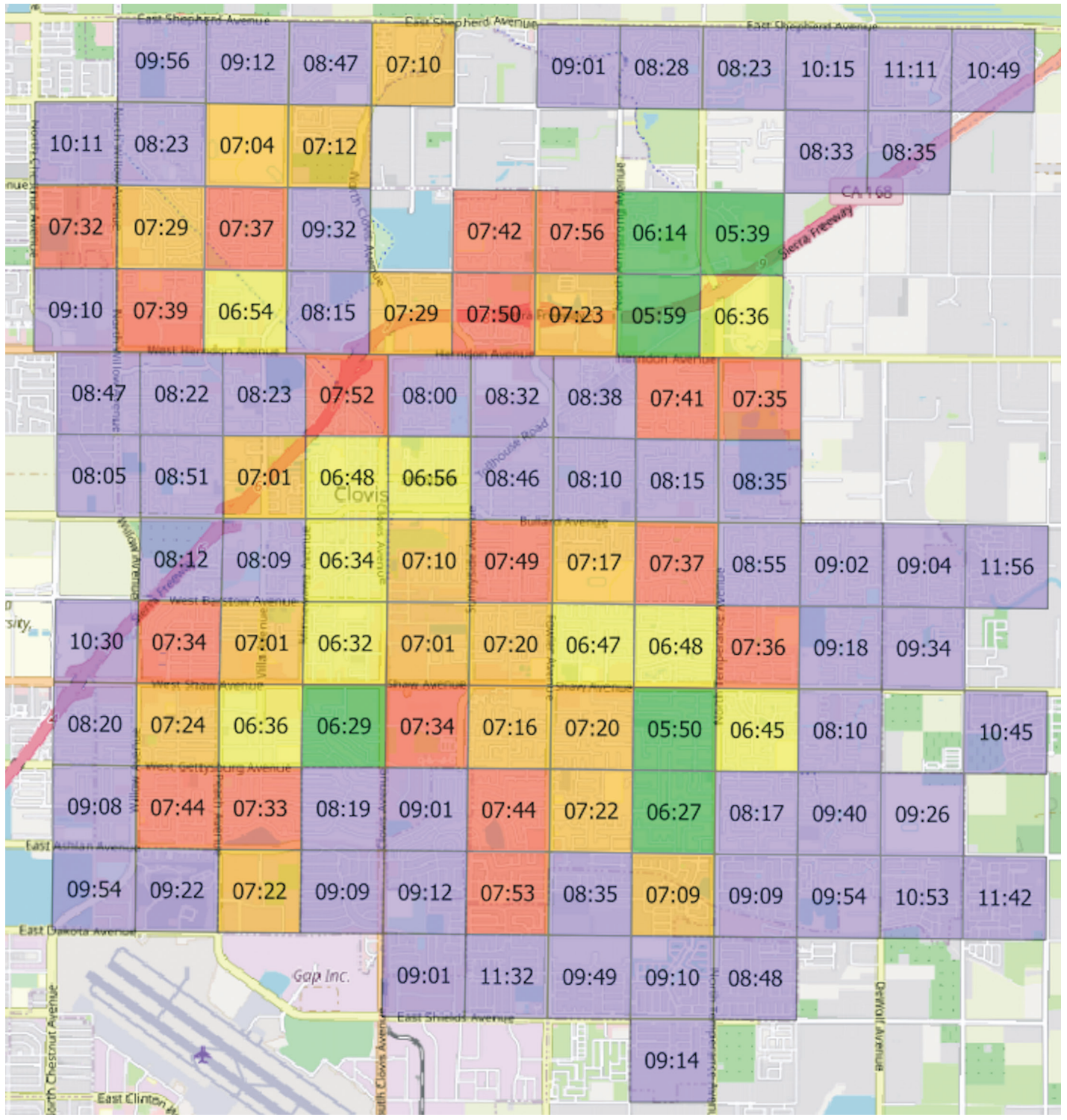
The graphic on the next page shows total response time performance in the Department's service area, color coded to show the 90th percentile performance of first-arriving units to priority calls. The times indicate the period from call pick-up to unit arrival. Areas in red and purple are those in which response times are the longest, which is primarily due to the travel distance from a fire station. The outlying peripheral areas are the most significant challenge in terms of response time performance over time. Almost all fire agencies have peripheral areas with longer response times; as such, the presence of red and purple areas is not uncommon. Longer response times, as noted in the graphic, are well above industry norms and continue to grow based on projected development.

Total Response Time Performance

CLOVIS FIRE DEPARTMENT



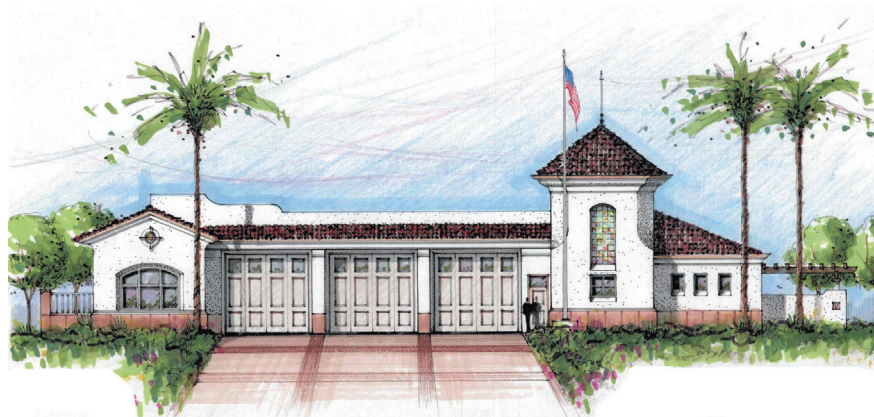
First-Arriving Unit, Priority Calls, 90th Percentile Performance



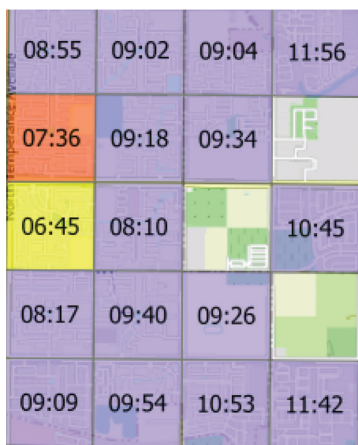


Southeast Area Statistics, 2016-2020						
Statistic	2016	2017	2018	2019	2020	2021
Single Family Homes	2,791	3,349	5,059	7,474	8,056	8,140
Calls for Service	326	371	410	731	948	902
Total Response Time	8:04	9:46	9:48	10:17	9:49	11:14

With continued growth in the Southeast, the service area for Station 4 continues to rise in geography, population density, and call volume. In this area, single family homes have increased 289% and calls for service have risen 291% since 2015. Using these statistics, along with the actual response times, the Department has developed a first-due response area for Station 6. The table above illustrates how the number of single-family residences has increased over the last five years, which correlates to an increase in call volume. Construction will be completed in the Spring of 2022 and the personnel and apparatus has already been set in place so that the new station can open immediately. This will ensure residents continue to receive the service levels adopted by Council.



First-Arriving Unit, Priority Calls, 90th Percentile Performance in Southeast Service Area



The graphic to the left shows total response time performance in the southeast area, color coded to show the 90th percentile performance of first-arriving units to priority calls. The times indicate the period from call pick-up to unit arrival.

CLOVIS FIRE DEPARTMENT

Significant Events



On February 15, 2021, at approximately 2:23 a.m., a vehicle fire was reported at 1665 Tollhouse Rd, Anlin Windows & Doors. When the first unit arrived, a tractor trailer was on fire extending to the connected trailer and threatening surrounding structures. Additional resources were requested, and the fire was contained to the tractor trailer and prevented any damage to surrounding buildings.

➤ **Fire loss for this incident was estimated at \$350,000.**

On February 2, 2021, at approximately 9:54 a.m., an apartment fire occurred at 115 W. Santa Ana significantly damaging the apartment of origin displacing the residents and causing minor damage to an adjoining apartment.

➤ **Fire loss for this incident was estimated at \$115,000.**

On Jun 3, 2021, at approximately 1:27 p.m. two houses were damaged by a fire that was reported behind a house at 676 Harvard Ave. Upon arrival, first units reported a fire in between two houses that had extended to both residences. Additional units from Fresno Fire and Fresno County Fire were requested to contain the fire, which extended to the backyard of a third house but did not damage the house. There were no injuries reported and two dogs were saved from one of the involved houses.

➤ **Fire loss for this incident was estimated at \$350,000.**



The most common property type for fire loss within the City of Clovis continues to be due to fires in single and multi-family residences.

Number of Mutual Aid Incidents, 2018 – 2020

	2017	2018	2019	2020	2021	5-Year Average
Fresno County - Received	272	265	322	234	313	281
Fresno County - Provided	285	239	283	217	280	261
Fresno City - Received	250	233	310	205	208	241
Fresno City - Provided	650	592	707	605	881	687
OES- Provided	74	49	34	65	44	53

CLOVIS FIRE DEPARTMENT



The Clovis Fire Department continues to focus on providing high-quality, up-to-date, and essential training to all personnel, including numerous required and recurring firefighting-related training programs mandated by multiple sources. State and national standards require a minimum of 240 training hours per employee, annually. Various regulations, mandates, and consensus standards are utilized to develop training curricula to ensure compliance with National Fire Protection Association, CAL-OSHA, the Insurance Services Office, and other state and national organizations.

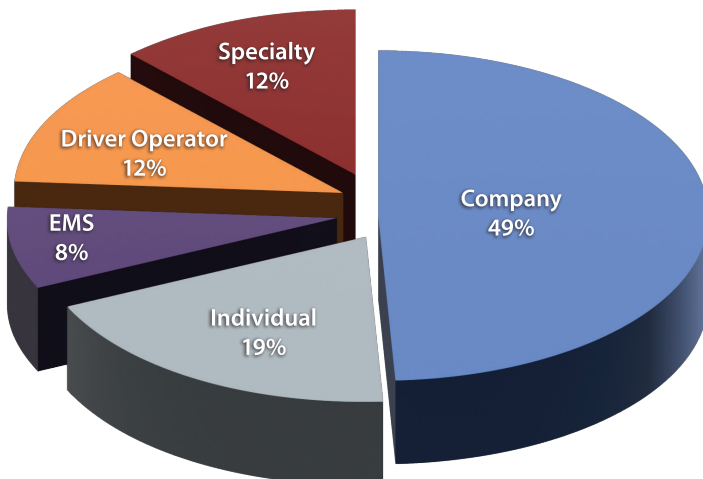
In 2021 over 22,000 hours of training were completed, averaging about 328 hours per personnel. Multi-company and multiagency trainings were able to take place with COVID safety measures in place. Training topics included service training for our new OES Type 3 engine and our two new Pierce Velocity PUC engines, Acting Engineer Evaluations, Advanced Fire Control First-In Operations, along with multiple specialty team floor trainings. A multi-agency training included an Active Threat Drill in conjunction with Clovis Police Department, Clovis Emergency Response Team, and Clovis Unified ROP Fire Program, Clovis Explorer Post 330, and American Ambulance.

There were two firefighter recruit academies that took place at the Training Center and utilized the newly formed Firefighter Skills Cadre. The first being a group of 10 firefighters and the second with 3 firefighters for a total of 13 new safety personnel. Completion of task book overhauls to align with State standards was completed on the Firefighter, Driver Operator, and Captain task books.

The upcoming year will focus on a new training classroom facility that will include two classrooms and offices for the training captains, the formation of a new Driver/Operator Cadre, Acting Captain Evaluations, Driver/Operator Academy, and an Aerial Driver Operator Academy for the new recruits. The Training Center will also be a site for the Fresno Training Symposium in 2022.



2021 Training Hours by Category



Facilities

CLOVIS FIRE DEPARTMENT



All Fire facilities are inspected monthly for compliance with all regulations as outlined by the City’s Risk Management Division. We also participate in the voluntary CalOSHA program, which allows for an annual compliance inspection of one fire facility.

Ratings	
Rating	Description
A	Meets current needs of the organization and complies with current applicable codes and regulations (UBC, UFC, ADA, OSHA, etc.).
B	Meets the needs of the organization, but the building needs some ongoing repairs and/or improvements to comply with industry best practices or applicable regulations.
C	Meets the basic needs of the organization, but the building either lacks features needed by assigned personnel or needs significant repairs/improvements to comply with industry best practices or applicable regulations.
D	Sub-standard; facility does not meet the needs of the organization, the structure needs significant upgrades, and it is out of compliance with current building codes or applicable regulations.
F	Facility has major structural issues; emergency crews cannot be assigned.

Station Analysis			
Facility	Age	Needs	Grade
Station 2	43	<ul style="list-style-type: none"> · The fire station is approximately 40 years old without any major interior remodeling or upgrades. · Many areas of the fire station are not ADA compliant. · Only one bathroom and not private. · Illegal bedroom configuration with only one exit · No fire sprinklers 	F
Training Center		<ul style="list-style-type: none"> · The bathrooms are not ADA compliant and showers need to be added for proper personnel decon after training. · Breakroom needs to be reconfigured for ADA compliance and reduced in size to expand office area. · Bathroom to be accessible from the exterior for when personnel are dirty from live fire training. 	D
Station 3	33	<ul style="list-style-type: none"> · The station was never designed with a workout room, a dining area, or proper storage. · Low-water landscaping retrofit. 	B
Station 4	22	<ul style="list-style-type: none"> · Kitchen remodeling to add a dining area. · Bathroom update. 	B
Station 5	15	<ul style="list-style-type: none"> · Low-water landscaping retrofit. 	A
Station 1	14		A

CLOVIS FIRE DEPARTMENT



The Clovis Fire Department’s front-line apparatus, comprised of five fire engines and one ladder truck, are part of the City’s emergency response infrastructure and are positioned throughout the service area. The Department also owns three reserve vehicles and two specialty vehicles. All apparatus are graded in the table below, according to the American Public Work Association (APWA) Fleet Replacement Guide.

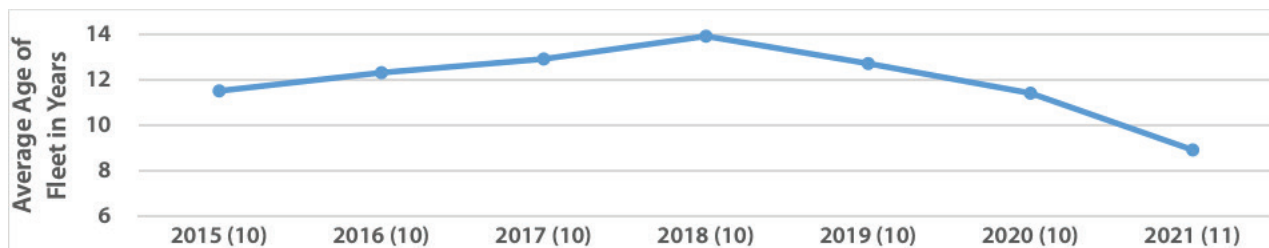
Vehicle Life Measurements			
Grading Score: Points associated with each	Age: Department goal is 10 year average	Hours: Total engine runtime during lifespan	Maintenance Percentage: Repairs compared to current market replacement costs
1	0-5 years	0-3,500	0-20%
2	6-10 years	3,501-6,500	21-35%
3	11-15 years	65,001-10,000	36-50%
4	>16 years	>10,001	>51%

Grading Score Outcomes Based on Total Points				
A 3-4	B 5-6	C 7-8	D 9-10	F 11-12

Vehicle Type	Unit	Year	Age	Hours	Maintenance	Grade
Engine	E-40*	2003	19	12,835	48%	F
Engine	E-243	2006	16	8,447	40%	D
Engine	E-41	2011	11	8,298	34%	C
Aerial Truck	T-241	2008	14	9,276	32%	C
Engine-Wildland	BE-40	2004	18	4,008	14%	C
Engine	E-42	2014	8	8,662	20%	B
Engine	E-46	2021	1	80	0%	A
Engine	E-44	2020	2	793	0.5%	A
Engine	E-45	2020	2	463	0.7%	A
Aerial Truck	T-41	2019	3	1,087	2%	A
Engine	E-43	2018	4	2,488	5%	A

*E-40 is slated for replacement with the order of E-42.

Year and Number of Apparatus in Service





Prevention

Inspections of new businesses and existing occupancies are an integral component to ensure the economic vibrancy of the community while reducing community risk for residents. Recurring inspections maintain a connection of citizens to the Fire Department and reduce potential threats to customers, occupants, and first responders alike. Continuing from 2020, Clovis Fire Department has continued to progress in achieving compliance with SB-1205 which requires schools, hotels, hospitals, nursing facilities, and apartments be inspected annually. There are 2,864 occupancies in Clovis that qualify for inspection. Of these, 342 are required to be inspected annually by the State Fire Marshal’s Office. The Department has a goal of inspecting the remaining occupancies on a biennial basis. Fire Prevention personnel and engine companies prioritize inspections based on risk. The number of occupancies fluctuates annually as new businesses are built and old businesses are redeveloped. In addition to existing occupancies, inspections of new commercial buildings are completed at various stages of construction prior to occupancy to ensure fire protection and supply systems are within code.

Inspection Statistics			
Inspection Type	Total Number of Occupancies	Completed Inspections	Percentage Completed
Biennial Inspections-Crews	774	773	97%
Biennial Inspections-Prevention	954	505	53%*
Annual State Mandated	342	327	96%

**reduced percentage due to part-time staffing until full-time was added In September 2021*

Public Education

Public Education serves as the behavioral change component of community risk reduction efforts. While inspections and plan checking provide for the necessary safety elements of the built-out community, training and public outreach provide a foundation for actions citizens can take to further reduce property/life loss in their homes or workplace. Beginning with our youngest residents, Clovis Firefighters, in conjunction with the Alisa Ann Ruch Burn Foundation, conduct annual assemblies in 15 Clovis elementary schools. Firefighters In Safety Education (FISE) use props and an interactive format allowing students to learn core concepts such as stop/drop/roll, stay low under smoke, and how to develop and execute a home escape plan. As in prior years, post testing of students shows a 40% improvement of lifesaving concepts that reduce life and property loss within the community. With in-classroom learning curtailed, FISE personnel and administrative staff have relied on social media outreach efforts to push seasonal safety messages and provide the public information regarding home hazard reduction throughout the year.

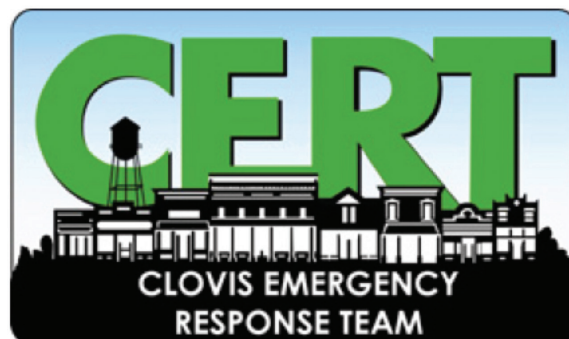


Emergency Preparedness

As a shared responsibility led by the Clovis Fire Department, 2021 continued to require staff at all levels to take an active role in COVID-19 response efforts. Since March of 2020, personnel from all City departments continue to support logistics, continuity of operations, and local business support as COVID-19 evolved along with changes in mitigation and mandates. An event of local significance occurred at Woods Mobile Home Park in December when a power outage impacted all residents. With low temperatures and COVID protocols limiting residents' ability to sustain alternative housing or secure groceries, personnel conducted a quick needs assessment and coordinated support for Woods that included food delivery, improved communications with PG&E to assist in addressing the outage and offered residents the use of the Senior Center in the event that temperatures dropped further requiring alternative overnight sleeping arrangements.

Clovis Community Emergency Response Team

This past year, Clovis CERT training was curtailed once again due to COVID-19 restrictions on in-person meetings. While training was paused, CERT members did play a valuable role in local events as mask and vaccine mandates were lifted. CERT members provided critical assistance at the Clovis Rodeo by staffing the first aid booth. Over the course of the weekend, 10 volunteers bandaged simple scrapes and also provided water and cooling to event attendees. CERT volunteers also worked with Clovis Fire and Clovis Police Department as part of an active shooter drill. During the single day event, CERT volunteers role-played survivors of a shooting at a large community event. CERT members were able to see how the agencies worked collaboratively and understand the importance of run, hide, fight as a survival technique taught during CERT basic. Finally, CERT was activated in support of the Woods Mobile Home Park support. Along with City staff, CERT was able to canvass the complex, conduct needs assessments and deliver food to residents unable to secure meals on their own.



CLOVIS FIRE DEPARTMENT



EMS Calls								
Time Interval	Benchmark	Metric	Average	2017	2018	2019	2020	2021
Call Processing	0:01:30	Count	5,940	4,654	4,387	5,285	5,309	5,079
		90th Percentile	0:0:1:53	0:01:43	0:01:39	0:01:42	0:01:58	0:02:12
Turnout	0:01:30	Count	5,065	4,707	4,447	5,360	5,434	5,378
		90th Percentile	0:01:27	0:01:27	0:01:25	0:01:25	0:01:28	0:01:29
Travel	0:04:00	Count	6,085	4,723	4,448	5,362	5,431	5,377
		90th Percentile	0:04:59	0:04:49	0:04:45	0:04:55	0:05:02	0:05:12
Total Response	0:07:00	Count	5,079	4,737	4,453	5,371	5,445	5,388
		90th Percentile	0:07:29	0:07:17	0:07:01	0:07:12	0:07:32	0:08:00

Fire Calls								
Time Interval	Benchmark	Metric	Average	2017	2018	2019	2020	2021
Call Processing	0:01:30	Count	187	203	155	190	182	206
		90th Percentile	0:01:52	0:01:51	0:01:48	0:01:48	0:01:53	0:01:52
Turnout	0:01:30	Count	199	218	157	204	202	214
		90th Percentile	0:01:41	0:01:41	0:01:36	0:01:37	0:01:40	0:01:43
Travel	0:04:00	Count	199	221	156	199	201	216
		90th Percentile	0:05:39	0:06:07	0:05:28	0:05:27	0:05:51	0:05:18
Total Response	0:07:00	Count	191	208	157	192	189	208
		90th Percentile	0:08:03	0:08:13	0:07:41	0:07:41	0:08:24	0:08:00

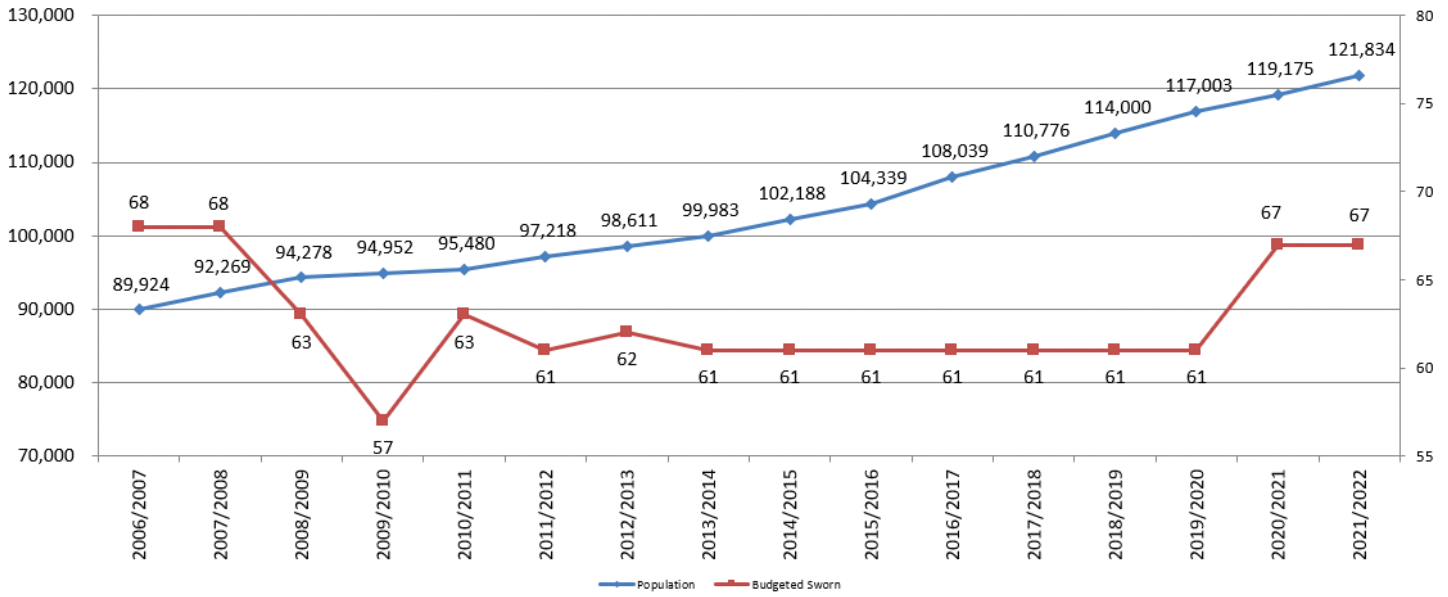
Rescue and Vehicle Accidents								
Time Interval	Benchmark	Metric	Average	2017	2018	2019	2020	2021
Call Processing	0:01:30	Count	577	696	528	555	539	569
		90th Percentile	0:01:46	0:01:40	0:01:44	0:01:44	0:01:46	0:01:58
Turnout	0:01:30	Count	591	714	545	567	546	583
		90th Percentile	00:01:31	0:01:32	0:01:30	0:01:26	0:01:29	0:01:34
Travel	0:04:00	Count	591	713	546	566	546	583
		90th Percentile	0:04:55	0:04:56	0:04:49	0:04:43	0:04:45	0:05:10
Total Response	0:07:00	Count	589	708	544	564	546	582
		90th Percentile	0:07:26	0:07:24	0:07:26	0:07:13	0:07:08	0:07:43



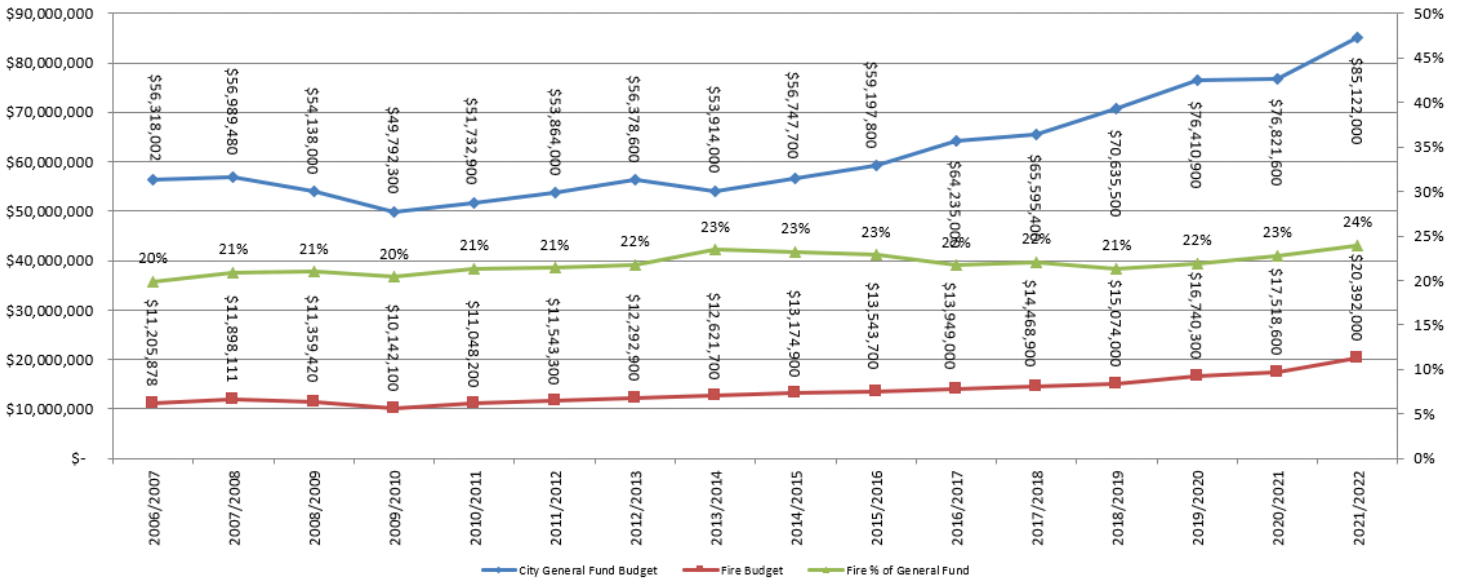
Appendix

CLOVIS FIRE DEPARTMENT

City Population and CFD Sworn Staff Comparison



Clovis General Fund and CFD Budget



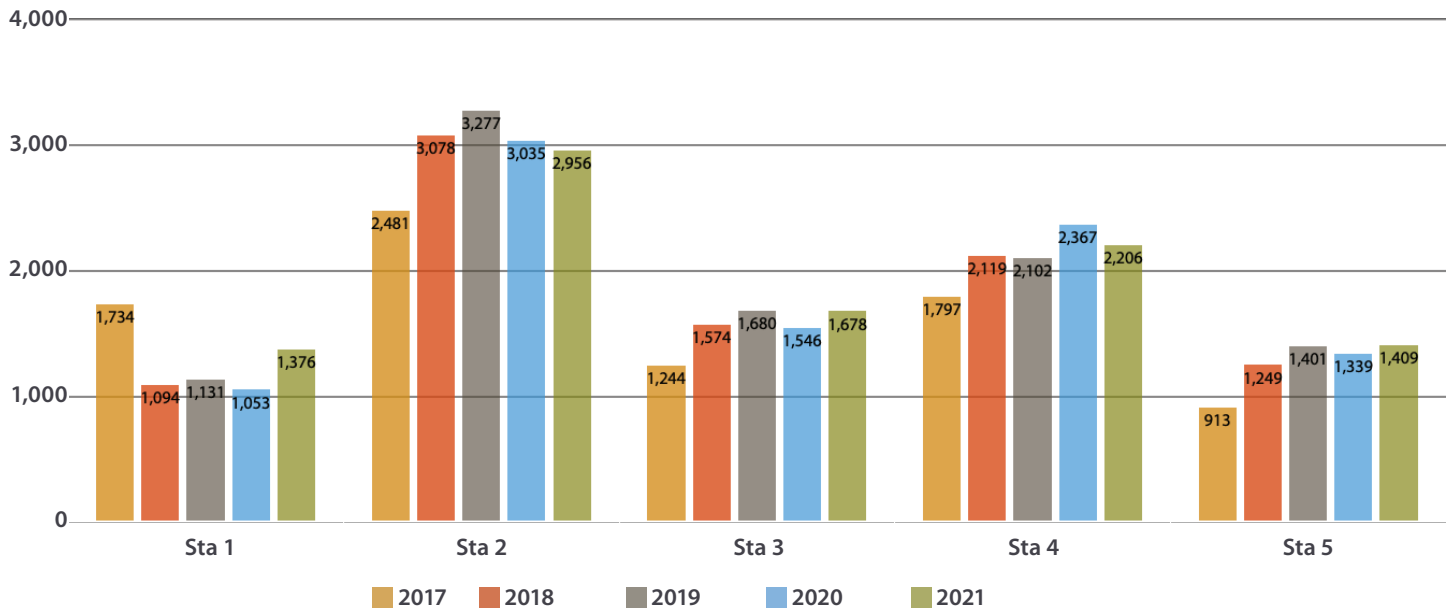
Appendix

CLOVIS FIRE DEPARTMENT



Number of Calls by First-Due Unit, 2017-2021						
Unit	2017	2018	2019	2020	2021	5-Year Average
T41	1,758	1,731	2,150	1,639	2,081	1,817
E42	3,221	3,374	3,402	3,230	3,191	3,299
E43	1,843	1,846	2,219	1,922	2,095	1,938
E44	2,048	2,059	2,211	2,519	2,462	2,176
E45	1,248	1,304	1,452	1,410	1,455	1,318
TOTAL	10,118	10,314	11,434	10,720	11,284	10,549

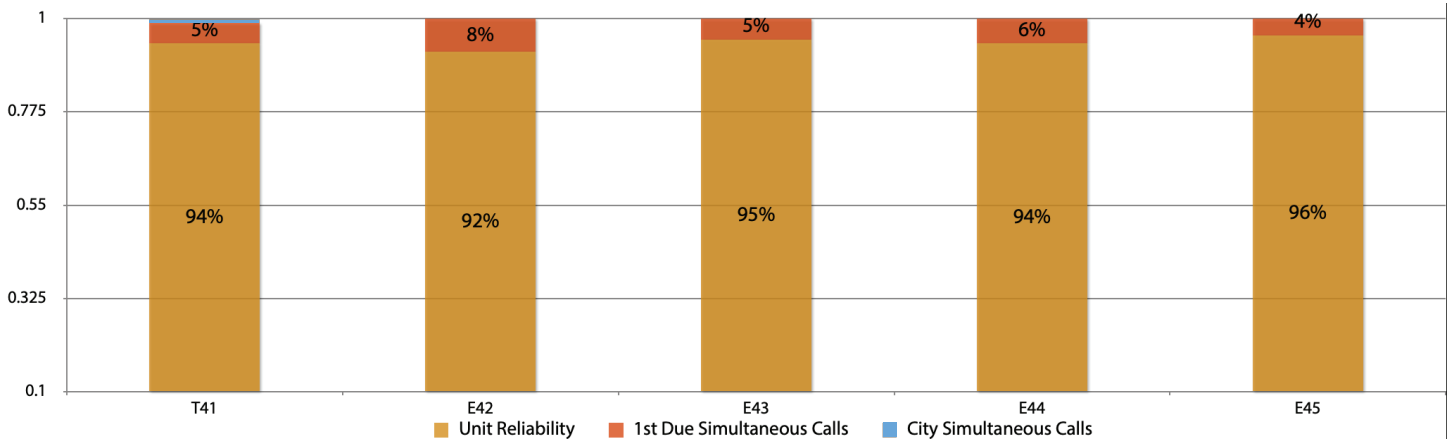
3-Year Workload by 1st Due Area



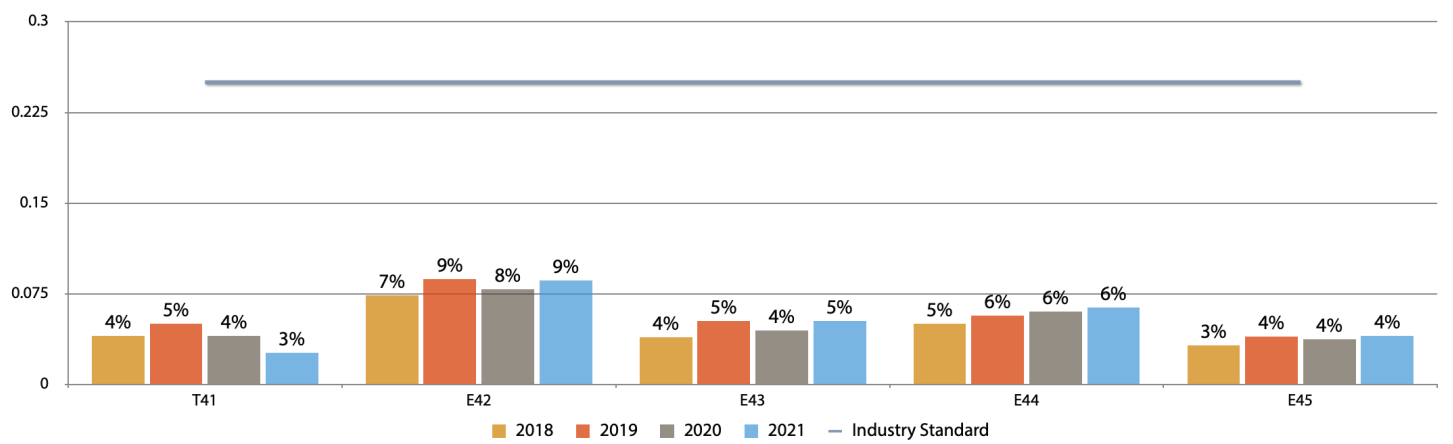
CLOVIS FIRE DEPARTMENT



Unit Reliability



Unit Hour Utilization by Year



CITY OF CLOVIS

AGENDA ITEM NO. 21.

FIRE

Emergency Operations Plan



FLOOD

2016



661

FOREWORD

This Emergency Operations Plan (EOP) addresses the City of Clovis, CA planned response to emergency/disaster situations associated with natural disasters, technological incidents, and national security emergencies. The operational concepts reflected in this plan focus on large-scale events.

This plan is a preparedness document – designed to be read, understood, and exercised prior to an emergency/disaster. The plan incorporates the concepts and principles of the California Standardized Emergency Management System (SEMS), National Incident Management System (NIMS), and the Incident Command System (ICS) into the emergency operations of the City of Clovis. This plan is flexible enough to use in all emergencies and will facilitate response and short-term recovery activities.

This plan provides basic planning information. City departments should prepare standard operating procedures (SOPs) and, in most cases, more detailed checklists that will describe their internal operations under emergency/disaster conditions.

This Plan is flexible enough to use in all emergencies and will facilitate response and short-term recovery activities (NIMS EOP Element).

PLAN CONCURRENCE

Department/Agency	Title	Name	Signature of Representative	Date
City Council	City Manager	John Holt		
City Council	Assistant City Manager/City Clerk	Andrew Hausler		
Fire Department	Fire Chief	John Bianski		
Police	Police Chief	Curt Fleming		

LETTER OF PROMULGATION

City Council Resolution

RESOLUTION NO: **XXXX**

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS

ADOPTING THE CITY OF CLOVIS EMERGENCY OPERATIONS PLAN (EOP) AND APPROVING SUBMITTAL OF THE CLOVIS EOP TO THE STATE OF CALIFORNIA OFFICE OF EMERGENCY SERVICES BY **ADD DATE**

WHEREAS, the City of Clovis EOP meets all federal and state criteria as described in the Federal Emergency Management Agency (FEMA) National Incident Management System (NIMS) and Standardized Emergency Management System (SEMS) developed by the State Office of Emergency Services (OES): and

Whereas, the City of Clovis EOP describes how the City of Clovis will manage and respond to major emergency incidents, including a system of organization consisting of clear designations of distinct functions which must be conducted during a disaster: assignment of each distinct function which must be conducted during a disaster; assignment of each distinct function to City departments; and guidelines for performance of the distinct functions by the departments; and

The City of Clovis EOP describes the method of requesting mutual aid resources from the County, State and Federal Governments when needed and is one of the eligibility requirements for Federal funding of Emergency Services staff positions is submittal of the City of Clovis EOP to the State of California OES by

ADD DATE; and

Whereas, the original City of Clovis EOP was written by City representatives from each department and coordinated by the Assistant City Manager. It has been reviewed and approved by all City department heads.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Clovis does hereby approve and adopt the Clovis EOP dated **ADD DATE**.

Approved and Adopted on the **ADD DATE**

ADD SIGNATURE

Robert Woolley, City Manager

PLAN REVISIONS

Date	Section	Description
Aug 2016	Throughout	Updated and reformatted plan to be consistent with FEMA CPG 101 and CalOES Crosswalk
Aug 2016	Annex C	Attached table "Hazard Categories" within the community risk assessment portion of the EOP
Aug 2016	Part 1	Included City of Clovis Map
Aug 2016	Annex A	Inserted EOC Staffing Chart that reflects respective functions within each section
Aug 2016	Appendix 1	Added description and function for the recovery phase
Aug 2016	Tab 1	EOC checklists for the respective sections added as tabs
Aug 2016	Annex A	Included language similar to the "Administrative Section" attachment to provide a basic overview of EOC operations
Aug 2016	Annex A	Eliminated Figure 4 EOC Messaging
Sep 2016	Annex A	Revised Figure 2-EOC Organizational Chart
Sep 2016	Annex A	Revised Level 1-3 Staffing Charts
Sep 2016	Annex A	Revised Org Charts for EOC Sections and added specific departments
Sep 2016	Appendix 2	Prepared and inserted Clovis Transit Emergency Plan
Sep 2016	Appendix 3	Added Emergency Flood Control Procedures
Sep 2016	Appendix 4	Added Extreme Heat Contingency Plan
Sep 2016	Throughout	Addressed all comments from first draft review and Clovis Conference Call (7 Sep)
Sep 2016	Cover	Revised Cover using Clovis unique images
August 2022	Appendix 5	Added Pandemic IAP and Critical Tasking by Department

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PART 1. BASIC PLAN

PURPOSE

The Basic Plan addresses the planned response for the City of Clovis to emergencies associated with disasters, technological incidents or other dangerous conditions created by either man or nature. It provides an overview of operational concepts, identifies components of the City Emergency Management Organization, and describes the overall responsibilities of Local, State and Federal entities. It provides an overview of operational concepts, identifies components of the City's emergency/disaster management organization within the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). It describes the overall responsibilities of the City of Clovis hence forth referred to as "City" for protecting life and property and assuring the overall well-being of the population.

Note: This EOP is intended for use and to be implemented by the City Emergency Operations Center (EOC). Field specific responses are accomplished by the various responding agencies and organizations per their own internal Standard Operating Procedures (SOP).

SCOPE

This Emergency Operations Plan (EOP):

- Defines the scope of preparedness and incident management activities.
- Describes the organizational structures, roles and responsibilities, policies and protocols for providing emergency support.
- Facilitates response and short-term recovery activities.
- Is flexible enough for use in all emergencies/disasters.
- Describes the purpose, situation and assumptions, concept of operations, organization, and assignment of responsibilities, administration and logistics, plan development and maintenance and authorities and references.
- Pre-designates jurisdictional and/or functional area representatives to the Incident Command, Unified Command, and the Emergency Operations Center (EOC) whenever possible to facilitate responsive and collaborative incident management.
- Includes pre-incident and post-incident public awareness, education and communications plans, and protocols.
- Pre-designates jurisdictional and/or functional area representatives to the Incident.

AUTHORITIES AND REFERENCES

GENERAL

The California Emergency Services Act (Chapter 7, Division 1, Title 2, California Government Code), hereafter referred to as the Act, provides the basic authorities for conducting emergency operations following a proclamation of Local Emergency, State of Emergency, or State of War Emergency by the Governor and/or appropriate local authorities, consistent with the provisions of the Act.

The California Emergency Plan, which is promulgated by the Governor, is published in accordance with the Act and provides overall statewide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime. Section 8568 of the Act states, in part, that “the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof.” Local emergency plans are, therefore, considered to be extensions of the California Emergency Plan.

California Civil Code, Chapter 9, Section 1799.102 provides for “Good Samaritan Liability” for those providing emergency care at the scene of an emergency: “No person, who, in good faith and not for compensation, renders emergency care at the scene of an emergency shall be liable for any civil damages resulting from any act or omission. The scene of an emergency shall not include emergency department and other places where medical care is usually offered.”

EMERGENCY PROCLAMATIONS LOCAL EMERGENCY

A local Emergency may be proclaimed by the City Council or by the City Manager as specified by ordinance adopted by the City Council. A local Emergency declared by the City Manager must be ratified by the City Council within seven days. The governing body must review the need to continue the declaration at least every fourteen days until the local emergency is terminated. The Local Emergency must be terminated by resolution as soon as conditions warrant. Declarations are normally made when there is an actual or threat of disaster or of extreme peril to the safety of persons and property within the city, caused by natural or man-made situations.

The declaration of a Local Emergency provides the governing body with the legal authority to:

- If necessary, request that the Governor proclaim a State of Emergency.
- Promulgate or suspend orders and regulations necessary to provide for the protection of life and property, including issuing orders or regulations imposing a curfew within designated boundaries.
- Exercise full power to provide mutual aid to any affected area in accordance with local ordinances, resolutions, emergency plans, or agreements.
- Request state agencies and other jurisdictions to provide mutual aid.
- Require the emergency services of any local official or employee.
- Requisition necessary personnel and materials from any local department or agency.
- Obtain vital supplies and equipment and, if required, immediately commandeer the same for public use.
- Impose penalties for violation of lawful orders.
- Conduct emergency operations without incurring legal liability for performance, or failure of performance. (Note: Article 17 of the Emergency Services Act provides for certain privileges and immunities.)

STATE OF EMERGENCY

A State of Emergency may be proclaimed by the Governor when:

- Conditions of disaster or extreme peril exist which threaten the safety of persons and property within the state caused by natural or man-made incidents.
- He/she is required to do so by local authorities.
- He/she finds that local authorities are unable to adequately cope with the emergency.
- Whenever the Governor proclaims a State of Emergency:
- Mutual aid shall be rendered in accordance with approved emergency plans when the need arises in any county, city and county, or city for outside assistance.
- The Governor shall, to the extent he/she deems necessary, have the right to exercise all police power vested in the state by the Constitution and the laws of the State of California within the designated area.
- Jurisdictions may command the aid of citizens as deemed necessary to cope with an emergency.
- The Governor may suspend the provisions of orders, rules or regulation of any state agency, any regulatory statute, or statute prescribing the procedure for conducting state business.
- The Governor may commandeer or make use of any private property or persons (other than the media) in carrying out the responsibilities of his/her office.
- The Governor may promulgate, issue, and enforce orders and regulations deemed necessary.

The following provides emergency authorities for conducting and/or supporting emergency operations:

Federal

- Emergency Planning and Community Right-To-Know Act of 1986, also known as the Superfund Amendments and Reauthorization Act of 1986, Title III (42 U.S.C. §§ 11001-11050)
- Homeland Security Act, Public Law 107-296, as amended (6 U.S.C. §101-557)
- Homeland Security Presidential Directive
- Robert T. Stafford Disaster Relief and Emergency Assistance Act

State

- California Emergency Services Act, Chapter 7 of Division 1 of Title 2 of the Government Code.
- California Government Code, Title 19, Public Safety, Div. 1, Cal OES, Chapter 2, Emergency and Major Disasters, Subchapter 3, Disaster Services Worker Volunteer Program
- California Health and Safety Code, Division 20, Chapter 6.5, Sections 25115 and 25117, Chapter 6.95, Sections 2550 et seq., Chapter 7, Sections 25600 through 25610, dealing with hazardous materials
- California Natural Disaster Assistance Act, Chapter 7.5 of Division 1 of Title 2 of the Government Code
- Executive Order S-2-05, National Incident Management System Integration into the State of California
- Orders and Regulations Promulgated by the Governor to Take Effect upon the Existence of a State of War Emergency
- Orders and Regulations which may be Selectively Promulgated by the Governor during a State of Emergency
- Standardized Emergency Management System (SEMS) Guidelines
- Standardized Emergency Management System (SEMS) Regulations, Chapter 1 of Division 2 of Title 19 of the California Code of Regulations and Government Code Section 8607(a)

Local – City of Clovis

- Clovis Municipal Code 4.2
- NIMS Adoption Resolution 06-127
- Emergency Services Ordinance No 76-26
- Resolution to participate in SEMS. Resolution No 96-33

SITUATION AND ASSUMPTIONS

SITUATION

Clovis is a city in Fresno County, California, United States. The 2014 population was estimated to be 102,189. According to the United States Census Bureau, the city has a total area of 23.28 square miles (60.29 km²), all of it land. Clovis is situated midway between Los Angeles and San Francisco, bordering Fresno, in the agriculturally rich San Joaquin Valley. Lying at the foot of the Sierra Nevada Mountain Range, which includes Yosemite, Kings Canyon, and Sequoia National Parks, Clovis has been known as "Gateway to the Sierras" since its incorporation in 1912. The formation of alluvial fans in this part of the San Joaquin Valley has led to a rather flat regional geography. The Clovis area has active and potentially active seismic fault zones. The elevation of Clovis is approximately 355 feet (108 m) above mean sea datum. According to the Flood Hazard Boundary Map produced by the U.S. Department of Housing and Urban Development, part of Clovis is within the 100-year flood zone, such as some of the area near the Clovis Towne Center. The groundwater flow in Clovis is generally to the southwest.

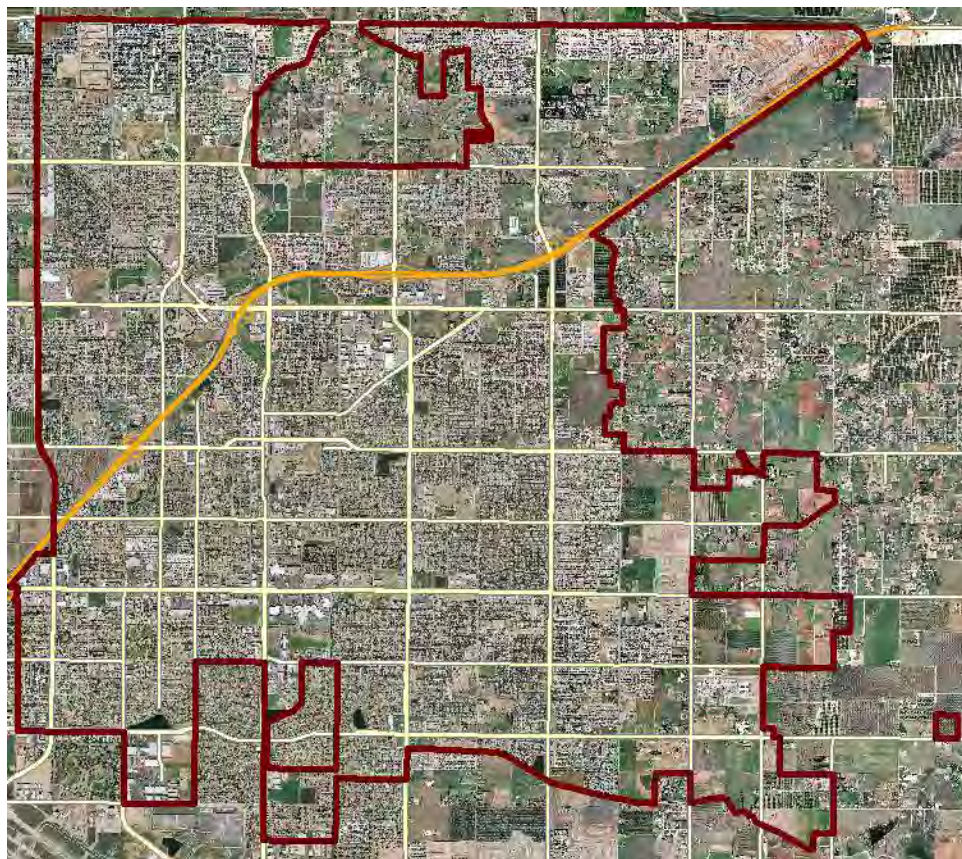


FIGURE 1. CITY OF CLOVIS

The City of Clovis is subject, in varying degrees, to the effects of the following:

- Drought
- Earthquake
- Flood
- Civil Disorder
- Dam Failure
- Hazardous Material Incident
- Nuclear Attack
- Power Failure
- Radiological Incident
- Urban Fire
- Aircraft Crash
- Excessive Heat
- Terrorism
- Epidemic

Note: More detailed hazard descriptions are contained in Part II Annex C Hazard Specific Threats.

ASSUMPTIONS

- The City is responsible for emergency/disaster actions and will commit available resources to save lives, minimize injury to persons, minimize damage to property, and preserve the environment
- The City will utilize SEMS and NIMS in emergency/disaster response operations
- The City will use the Incident Command System (ICS) and the Multi-agency Coordination System (MACS) at all incidents and events
- Mutual aid assistance will be requested when disaster response and relief requirements exceed the City's ability to meet them

The following systems may be damaged and temporarily out of service:

- Telephone systems, including cell phones
- Electrical power
- Communications systems including police, fire, and municipal radio systems
- Computers, including computer aided dispatch for Police Department
- Transportation systems including roads, highways, bridges and traffic signals
- Water systems
- Sewer and sanitation systems
- Natural gas

ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

The City Manager has overall responsibility for:

- Organizing, staffing, and operating the EOC
- All communications and warning systems
- Providing information and guidance to the public
- Maintaining information on the status of resources, services, and operations
- Directing overall operations
- Obtaining support for the City and providing support to other jurisdictions as required
- Identifying and analyzing potential hazards and recommending appropriate countermeasures
- Collecting, evaluating, and disseminating damage assessment and other essential information.
- Providing status and other reports to the Operational Area

This EOP may be implemented on the order of the following individuals who will direct the emergency response and recovery operations for the City of Clovis:

- City Manager, Director of Emergency Services
- Assistant City Manager
- Any Department Head (fire, PD, PDS, Public Utilities, etc.)

NOTE: Refer to ANNEX A. Emergency Operations Center Functions for specific details for organization and assignment of responsibilities

RESPONSIBILITIES

Local Jurisdiction (City of Clovis)

- Develop and maintain current emergency plans which are compatible with the California Office of Emergency Services (OES) EOP, the California Master Mutual Aid Agreement, and plans of neighboring jurisdictions.
- Negotiate, coordinate, and/or prepare mutual aid agreements.
- Maintain liaison with the appropriate OES Mutual Aid Region Office and neighboring jurisdictions.
- Designate staging areas to provide rally points for incoming mutual aid and supporting and recovery activities.
- Respond to mutual aid requests outside your jurisdiction.
- Dispatch situation reports to the operational area coordinator and OES mutual aid region as the emergency situation develops and changes.
- Request assistance from neighboring jurisdictions and the operational area.
- Use resources received from neighboring jurisdictions from the state, federal, and private agencies appropriately.
- Respond to emergency regulations issued by the Governor.

Operational Area (Fresno County)

- Coordinate mutual aid within the county.
- Maintain liaison with the appropriate OES mutual aid region coordinator or local jurisdictions within the county.
- Identify multipurpose staging areas for support of recovery activities.
- Channel local mutual aid request which cannot be satisfied from within the county to the State OES Mutual Aid Region Coordinator.
- Provide situation reports and damage assessment to OES region to aid in Identification, coordination and allocation of resources.
- Make use of resources provided by other counties, state, federal, and private agencies appropriately.
- Respond to emergency regulations issued by the Governor.

State Office of Emergency Services

- Perform executive functions assigned by the Governor.
- Coordinate emergency activities of all state agencies.
- Receive, evaluate, and disseminate information on emergency operations.
- Prepare emergency proclamations and orders for the Governor and disseminate to all concerned.
- Receive and allocate resources supplies by federal agencies and other states.

- Coordinate the flow of state mutual aid resources to local; jurisdictions.
- Maintain liaison with state, federal, and private agencies.
- Coordinate emergency operations with bordering states.
- Maintain the State Operations Center (SOC).

STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)/NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

GENERAL

The Standardized Emergency Management Systems (SEMS) is an emergency management systems mandated by Government Code 8607(a) for managing response to multi-agency and multi-jurisdiction emergencies in California. SEMS consists of five organizational levels with are activated as necessary: field response, local government, operational area, regional and state.

SEMS incorporates the use of the Incident Command Systems (ICS), the Master Mutual Aid Agreement, existing mutual aid systems, and the Operational Area Concept, and the Multi-Agency or Inter-Agency coordination.

LOCAL GOVERNMENT LEVEL IN SEMS

Local Government is one of the five levels of SEMS. A local government under SEMS is a city, county, city and county, school district or special district. Cities generally are responsible for emergency response within their boundaries. Some cities contract for some municipal services from other agencies. The basic role of a local government is to manage and coordinate the overall emergency response and recovery activities within its jurisdiction.

Special districts are primarily responsible in emergencies for restoration of services that they normally provide. They may also be responsible for safety of people at their facilities or on their property and for warning of hazards from their facilities or operations. Some special districts may assist other local governments in the emergency response.

All local governments are responsible for coordinating with other local governments, the field response level and the operational area. Local governments are also responsible for providing mutual aid within their capabilities.

SEMS REQUIREMENTS FOR LOCAL GOVERNMENTS

The City of Clovis will comply with SEMS regulations in order to be eligible for state funding for response related personnel cost and will:

1) Use SEMS when:

- The local government EOC is activated or
- A local emergency is declared or proclaimed

2) Establish coordination and communications with Incident Commanders either

- Directly to the EOC when activated, or
- Through Departmental Operating Centers (DOCs) to the EOC, when activated.

3) Use existing mutual aid systems for coordinating fire and law enforcement resources.

4) Establish coordination and communication between the City of Clovis EOC when activated and any state or local emergency response agency having jurisdiction at an incident within the City's boundaries.

5) Use multi-agency or inter-agency coordination to facilitate decisions for overall local government response activities.

CITY OF CLOVIS RESPONSIBILITIES UNDER SEMS

- The City of Clovis has formally adopted the use of SEMS during emergency situations.
- (Resolution No. 96-33)
- The development of SEMS will be a cooperative effort of all departments and agencies within the City of Clovis having a role in emergency response. The Emergency Services Coordinator has the lead staff responsibility for SEMS development and planning with responsibilities for:
 - Disseminating information within the City of Clovis on SEMS requirements and guidelines.
 - Identification of all departments and agencies involved in field level response.
 - Identification of departments and agencies with Department Operations Center (DOCs)
 - Coordinating with other local governments, the operational area and volunteer and private agencies on developments of SEMS.
 - Incorporating SEMS into the City of Clovis Emergency Operations Plan.
 - Identification of special districts that operate or provide services within the boundaries of City of Clovis. The emergency role of these special districts should be determined and provisions made for coordination during emergencies.

- The City of Clovis will participate in the development of the Fresno County Operational Area organization and system for coordination and communication within OA.
- All local government staff that may participate in emergencies in the EOC or Department Operations Centers (DOCs) or at the field level should receive appropriate.
- SEMS training as required by SEMS regulations. New personnel should be trained as they are hired.
- The City should develop an exercise program that provides periodic exercises for EOC and DOC personnel under SEMS.

TABLE 1. CITY OF CLOVIS SEMS FUNCTION

City of Clovis	Management	Public Information	Legal Counsel	Alerting & Warning	Fire & Rescue	Access Control	Law Enforcement	Medical	Public Health	Coroner	Care & Shelter	Evacuation	Building & Engineering Safety	Utilities	Radiological Protection	Hazardous Materials	Animal Control	Communications	Incident Recovery	Situation & Resource Status	Transportation	Supply & Procurement	EOC Support	Personnel	Cost Recovery	Time Recording	Claims	DSR Record Keeping	
City Manager	P	P																											
City Attorney			P																										
Fire Dept.	S	S	S	P	S	S	L	S	S		S	S	P	P	S	S	S	S										P	
Police Dept.	S	S		P	S	P	P	S		L		P			S	S	P	P	S	S								S	
Public Utilities	S			S	S	S							S	P	S	S	S	S	S	S	S							S	
Finance																					S						P	P	P
General Services	S																		S										
Purchasing																						P							
Personnel/Risk Mgt.																							S	P				P	
Community Services								L		P							S												
Planning & Devlp.	S	S																	S	P			S						
Planning																													
Engineering			S								S	S																	
Building Inspection			S				S					P																	

P - Denotes primary responsibility S - Denotes support responsibility L - Liaison with agency that has primary responsibility

SEMS EOC ORGANIZATION

There are five (5) functions within SEMS (from ICS) which will be used by the City of Clovis. They are:

1. **Management/Command** is responsible for overall emergency policy and coordination through the joint efforts of governmental agencies and private organizations; it is called Management in the EOCs and Command in the field.
2. **Operations** are responsible for coordinating all jurisdictional operations in support of the response to the emergency through implementation of the organizational level's action plan.
3. **Planning/Intelligence** is responsible for collecting, evaluating, and disseminating information, developing the organizational level's action plan in coordination with the other functions, and maintaining documentation.
4. **Logistics** is responsible for providing facilities, services, personnel, equipment, and materials.
5. **Finance** is responsible for financial activities and administrative aspects not assigned to other functions.

The five essential SEMS functions will be established as sections within the EOC, with other functions included as branches, groups or units. The position title "Director" refers to the lead persons of each organizational element in the EOC. The term "Branch Director" or "Unit Leader" is used as position titles for group leaders under the supervision of a Director.

Directors for Operations, Planning, Logistics and Finance constitute the *General Staff* of the EOC. The *EOC Director* and *General Staff* functions as an EOC management team. The General Staff is responsible for:

Overseeing the internal functioning of their sections, and Interacting with each other, the EOC Director, and other entities within the EOC to ensure the effective functioning of the EOC organization.

The EOC organization should include liaison representatives from special districts, volunteer agencies, and private agencies with significant response roles.

EOC INCIDENT ACTION PLANS

At local, operational area, regional and state levels, the use of EOC IAPs provide designated personnel with knowledge of the objectives to be achieved and the steps required for achievement. IAPs not only provide direction, but they also serve to provide the basis for measuring achievement of objectives and overall system performance. IAPs can be extremely effective tools during all phases of a disaster.

The action planning process should involve the EOC Director and General Staff along with other representatives as needed, such as special district liaisons, other agency liaisons, and Policy Group members. The Planning Section is normally responsible for development of the action plan.

IAPs are developed for a specified operational period which may range from a few hours to 24 hours. The operational period is determined by first establishing a set of priority actions that need to be performed. A reasonable time frame is then established for accomplishing those actions. The IAPs needed not be complex, but should be sufficiently detailed to guide EOC elements in implementing the priority actions.

MULTI-AGENCY/INTER-AGENCY COORDINATION AT LOCAL GOVERNMENT LEVEL

Multi-agency or inter-agency coordination is important for:

- Establishing priorities for response.
- Allocating critical resources.
- Developing strategies for handling multi-agency response problems.
- Sharing information.
- Facilitating communications.

Multi-Agency or Inter-Agency Coordination in the EOC

- Emergency response is coordinated at the EOC by:
 - Representatives for the City of Clovis departments and agencies
 - Liaison representatives from outside agencies including special districts, volunteer agencies and private organizations.
- Coordination with agencies not represented in the EOC may be accomplished by telecommunications.
- Involvement in the EOC action planning process is essential for effective emergency management.

Multi-Agency or Inter-Agency Coordination Group

- May be established formally.
- Should develop consensus on priorities, resource allocations, and response strategies.
- May function within the EOC at another location or through conference calls (should remain connected to the EOC).
- EOC Incident Action Plans should incorporate group(s) priorities and objectives.
- Group(s) objectives should be implemented through the EOC.

- The City of Clovis may participate with other local governments and agencies in a multi-agency coordination group organized by another local government, operational area or regional level.

COORDINATION WITH THE FIELD RESPONSE LEVEL

Coordination among SEMS levels is clearly necessary for effective emergency response. In a major emergency the City of Clovis' EOC may be activated to coordinate the overall response while the Incident Command System is used by field responders. Incident Commanders may report to Department Operations Centers (DOCs) which in turn will coordinate with the EOC. In some jurisdictions, Incident Commanders may report directly to the EOC, usually to their counterpart departmental staff in the Operations Section. When the EOC is directly overseeing Incident Command teams, the EOC is operating in a centralized coordination and direction mode.

It is also possible for Area Commands to be established between the Incident Command teams and the EOC. During a major city-wide disaster, the city may be divided into areas, with an Area Command overseeing the Incident Command teams with each area. The Area Commands would report to the EOC.

Another scenario for EOC-Area Commands interaction would be the occurrence of several similar type incidents located in closed proximity but in different jurisdictions. A unified Area Command may be established to oversee Incident Commands operating in general proximity to each other. The Unified Area Command would coordinate with activated local government EOCs.

COORDINATION WITH FRESNO COUNTY OPERATIONAL AREA LEVEL

Coordination and communication should be established between activated local government EOCs and the Operational Area. For the City of Clovis, this channel is through the Fresno County Operational Area Emergency Operations Center. The Fresno County EOCs primary location is the third floor of the Fresno County Health Department Building.

SPECIAL DISTRICT INVOLVEMENT

Special districts are defined as local governments in SEMS. The emergency response role of special districts is generally focused on their normal services or functional area of responsibility. During disasters, some types of special districts will be more extensively involved in the emergency response by assisting other local governments.

Coordination and communication should be established among special districts who are involved with the emergency response, other local governments and the operational area. Relationships among special districts, cities, county governments, and the operational areas are complicated by overlapping boundaries and by the multiplicity of special districts. Special

districts need to work with the local governments in their service areas to determine how best to establish coordination and communications in emergencies.

Typically, special district boundaries cross municipal boundary lines. A special district may serve several cities and unincorporated county areas. Some special districts serve more than one county. In such a situation, the special district may wish to provide a liaison representative to the Operational Area EOC to facilitate coordination and communicate with the various entities it serves.

When there are many special districts within a city, it may not be feasible for the jurisdiction to accommodate liaison representatives from all special districts at the City EOC in area-wide disasters. In such a case, the jurisdiction should work with the special districts to develop alternate coordination and communication methods.

COORDINATION WITH VOLUNTEER AND PRIVATE AGENCIES

The City EOC will generally be a focal point for coordination of response activities with many non-governmental agencies. The City of Clovis' EOC will establish coordination with private and volunteer agencies providing services with the city.

Agencies that play a key role in the response should have representatives at the EOC. If an agency supports several functions and has only one representative at the EOC, the agency representative should be located at the liaison area. If an agency is supporting one function only, its representative may be located with the functional elements. Some agencies may have a role in staffing organizational elements in the EOC; e.g. *American Red Cross personnel may be part of the staffing for the Care and Shelter element of the EOC.*

Agencies that may have county-wide response roles and cannot respond to the City EOC should be represented at the operational area level.

The City is served by a large number of private and volunteer agencies and may not be able to accommodate liaison representatives in the EOC from all agencies that have important response roles. The City should be prepared to conduct alternate means of coordination with these agencies when liaison representation is not practical.

Coordination with volunteer and private agencies that do not have representatives at the EOC may be accomplished through telecommunications, liaison with community councils that represent several agencies, or involvement of agencies in special multi-agency groups on specific issues.

CONCEPT OF OPERATIONS

Operations during peacetime and national security emergencies involve a full spectrum of activities from a minor hazardous materials incident, to a major earthquake, to a nuclear detonation. There are a number of similarities in operational concepts for peacetime and national security emergencies. Some emergencies will be preceded by a build-up or warning period, providing sufficient time to warn the population and implement mitigation measures designed to reduce the loss of life and property damage. Other emergencies occur with little or no advance warning, thus requiring immediate activation of the emergency operations plan and commitment of resources. All departments must be prepared to respond promptly and effectively to any foreseeable emergency, including the provision and utilization of mutual aid.

State OES may also activate the State Operations Center (SOC) in Sacramento to support State OES Regions in the affected areas. The State's Regional EOC will support the Fresno County Operational Area if needed.

Depending on the severity of the emergency, a Local Emergency may be proclaimed, the local Emergency Operations Center (EOC) will be activated, and the Fresno County Operational Area as well as State OES will be advised.

If the Governor requests and receives a Presidential declaration of an Emergency of a Major Disaster under Public Law 93-288, he will appoint a State Coordinating Officer (SCO). The SCO and an appointed Federal Coordinating Officer (FCO) will coordinate and control state and federal efforts in supporting local operations.

When local resources are committed to the maximum and additional resources are required, requests for mutual aid will be initiated through the proper channels. Fire and law enforcement agencies will request or render mutual aid directly through established channels. Any action which involves financial outlay by the city, or a request for military assistance must be authorized by the appropriate local official. If required, State OES may coordinate the establishment of one or more Disaster Support Areas (DSAs) where resources and supplies can be received, stockpiled, allocated, and dispatched to support operations in the affected area(s).

MUTUAL AID

The foundation of California's emergency planning and response is a statewide mutual aid system which is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation(s). This agreement was developed in 1950 and has been adopted by all counties and most incorporated cities in the State of California. The Master Mutual Aid Agreement creates a formal structure wherein each jurisdiction retains control of its own facilities, personnel and resources, but may also receive or render assistance to other jurisdictions within the state. State government is obligated to provide available resources to assist local jurisdictions in emergencies.

To facilitate the coordination of mutual aid, the state has been divided into six OES Mutual Aid Regions. Fire, Rescue and Law Enforcement Coordinators are assigned to the Operational Area (County) level. All fire and law requests go through their respective channels. Non-fire and non-law enforcement requests are made through OES via the Fresno County Operational Area.

Operations involve a full spectrum of response activities, from a minor incident, to a major earthquake, to a nuclear detonation. There are a number of similarities in operational concepts for responding to natural and man-made disasters. Some emergencies/disasters will be preceded by a build-up or warning period, providing sufficient time to warn the population and implement mitigation measures designed to reduce loss of life and property damage. Other emergencies occur with little or no advance warning, thus requiring immediate activation of this EOP and commitment of resources. All agencies must be prepared to respond promptly and effectively to any emergency/disaster, including the provision and utilization of mutual aid.

PLAN MAINTENANCE

This EOP will be reviewed annually to ensure that plan elements are valid and current. Each organization will review and upgrade its portion of the EOP and its standard operating procedures (SOPs) as required by SEMS and NIMS regulations. Changes in government structure and emergency response organizations will also be considered in the EOP revisions. The City Manager is responsible for making revisions to the EOP and will prepare, coordinate, publish and distribute any necessary changes to the plan to all City departments and other agencies as shown on the distribution list on page nine of this EOP. The City Manager will also review documents that provide the legal basis for emergency planning to ensure conformance to SEMS/NIMS requirements and modify the EOP as necessary. Revisions to the plan will be forwarded to the City Manager who will make changes to the original plan and then forward revisions using the Plan Revision Form to all plan holders. The plan should be reviewed and updated annually.

TRAINING AND EXERCISES

The City should conduct regular training and exercising of city staff in the use of this plan and other specific training as required for compliance with both SEMS and NIMS. The objective is to train and educate public officials, emergency/disaster response personnel, and volunteers. Both training and exercises are important components to prepare personnel for managing disaster operations. Training includes classroom instruction and drills. All staff who may participate in emergency response in the EOC, in department operating centers (DOCs) or at the field level must receive appropriate SEMS/NIMS/ICS training. *Refer to California Office of Emergency Services (Cal OES) Emergency Management Training for specific SEMS/NIMS/ICS classes and target audiences (<http://www.caloes.ca.gov/>).*

Regular exercises are necessary to maintain the readiness of operational procedures. Exercises provide personnel with an opportunity to become thoroughly familiar with the procedures, facilities, and systems which will be used in a disaster. Annual exercises are required by both SEMS and NIMS. There are several forms of exercises:

- **Tabletop Exercises** provide a convenient and low-cost method designed to evaluate policies, plans, and procedures and resolve coordination and responsibility issues.
- **Functional Exercises** usually take place in the EOC and simulate an emergency in the most realistic manner possible, without field activities.
- **Full-scale exercises** simulate an actual emergency, typically involving personnel in both the field and EOC levels and are designed to evaluate operational capabilities.

After an exercise or actual event, After Action and Corrective Action Reports must be written and submitted to the Operational Area within ninety days.

PART 2. FUNCTIONAL ANNEXES

ANNEX A. EMERGENCY OPERATIONS CENTER FUNCTIONS

The Emergency Operations Center (EOC) is the central physical location where key City of Clovis staff gathers to coordinate the response to an emergency. The EOC is responsible for multi-agency/multi-jurisdictional coordination, policy implementation, information management and resource coordination to support Incident Commanders in the field.

The following are priorities when conducting and coordinating disaster operations:

- Addressing rescue, evacuation, medical care, food, shelter, and the immediate public health and safety needs of the residents of Clovis.
- Restoring the infrastructure including sanitation, water, electricity, gas, streets, or highways, essential to the health, safety, and welfare of residents.
- Meeting the recovery needs of people including temporary housing, food stamps, employment, etc.
- Providing for the recovery of the community to its pre-disaster state to the greatest extent possible.

EOC PURPOSE

The EOC does not directly manage or command incidents. Field level emergency responders, such as the Police, Fire, and Public Works departments are managed by on-scene incident commander(s). The role of the EOC is to collect, validate and organize emergency information and to provide for the overall coordination of resources required during response and recovery operations.

The EOC may serve as a Multi-Agency Coordination Center (MACC) from which local governments can provide interagency coordination and executive decision making in support of incident response and recovery operations.

The EOC is staffed by City personnel that are specially trained to perform the centralized coordination of emergency activities, e.g., emergency management, support to Department Operations Centers (DOCs), public information and warning, communications, and resource coordination. The EOC facility has specialized equipment, information systems, and various tools that aid in restoring critical functions.

EOC PRIMARY FUNCTIONS

The EOC has three primary functions during an emergency:

1. Develop and maintain a Common Operating Picture of the incident.
2. Identify and secure additional resources for emergency operations.
3. Perform accounting and recordkeeping to track disaster costs.

The EOC performs these tasks by communicating across departments, agencies and jurisdictions to relieve on-scene command of the burden of external coordination, resource allocation, and information collection, verification, and dissemination. The decisions made through the EOC are designed to be broad in scope and offer guidance on overall priorities. Information is disseminated through the EOC Director and tactical decisions are coordinated from field response personnel.

Day-to-day operations are conducted from departments and agencies dispersed throughout the City of Clovis. When a major event or disaster occurs, centralized management is needed to facilitate a coordinated response through the City Manager or designee. The Director of Emergency Services may serve as the EOC Director, or select a qualified department director to serve in that position. Field Incident Command Posts (ICPs) must establish communications with the EOC, either directly or through parent organization DOCs. Additionally, the EOC must be capable of communicating appropriately with other EOCs during incidents, including county, state, federal, military, and private organizations. The effective coordination between EOCs and ICPs is a key enabler in the successful execution of emergency response operations.

The EOC may need to coordinate with special districts, volunteer and civic organizations, churches, and other non-governmental organizations, e.g., Red Cross, to meet disaster needs by connecting available resources within the community with the requests for assistance. Local communities may identify services and resource capabilities that may be coordinated by the EOC. The local organizations may also provide the EOC with a situational awareness within the community, including ongoing monitoring of resource shortfalls and service needs.

The following additional tasks are also performed in Clovis' EOC:

- Preparing situation reports and other reports as required; developing emergency policies and procedures; continuing analysis and evaluation of all data pertaining to emergency operations in order to maintain a common operating picture
- Collecting intelligence from, and disseminating information to, the various EOC representatives, and as appropriate, to Operational Area (OA) and state agencies; receiving and disseminating warning information.
- Controlling and coordinating the operational and logistical support of department resources committed to the emergency; coordinating resource allocation priorities.
- Coordination of emergency management activities for the City of Clovis.

- Providing emergency information and instructions to the public, making official releases to the news media and scheduling press conferences as necessary.

EOC BASIC ORGANIZATIONAL STRUCTURE

The basic EOC organizational structure consists of five Sections (functions) which normally would be activated for a major incident: Management, Operations, Planning, Logistics, and Finance. Checklists are provided for Section Chiefs and each individual position in the organization chart. Section Chiefs should hand out the checklists to their staff upon arrival in the EOC. Section Chiefs are responsible for ensuring all responders read and follow their position checklists (refer to Tab 1 of this EOP).

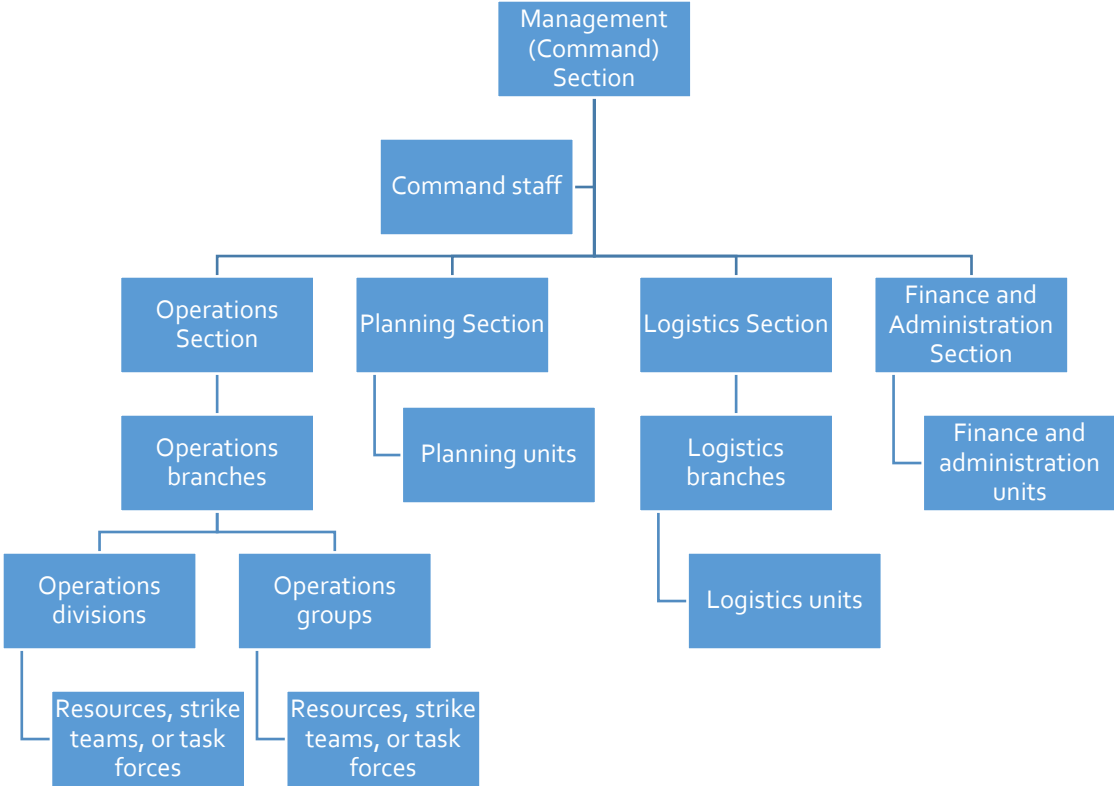


FIGURE 2. EOC ORGANIZATION

EOC EMERGENCY ACTIVATION LEVELS

The magnitude of the emergency will dictate Clovis’ response level. Response levels are used to describe the type of event, extent of coordination or assistance needed, and degree of participation from City departments. The EOC will be activated when at the discretion of

- City Manager
- Any Department Head (Fire, PD, PDS, Public Utilities, etc.)

The City Manager or official activating the EOC will determine the level of activation and request notification of Level 1, Level II, or Level III staff.

Level 1 – Minor Emergency – No EOC Activation Required

Level 1 is a minor incident that can be managed by first responders and resources from within the City. The EOC may be activated with one or a few people to monitor a situation or assist a department with coordination. Off-duty personnel may be recalled to back fill personnel assigned to the incident. City and/or mutual aid police, fire, public works, or medical responders will use ICS procedures and may work in a Unified Command.



FIGURE 3. LEVEL 1 EOC STAFFING

Level 2 – Moderate Emergency – Potential EOC Activation

Level 2 is a moderate to severe emergency in which Clovis resources are not adequate and mutual aid is required. Key management personnel from the involved departments will co-locate to provide jurisdiction coordination. The Clovis EOC may be partially or fully activated based on the severity of the situation. Off-duty personnel will likely be recalled. A local emergency may be requested wherein Fresno County Operational Area (OA) would be notified. Indications that the EOC should be activated include:

- If the incident has escalated due to the number of jurisdiction departments or agencies involved, or personnel and resources required where the coordination of the incident is not efficiently accomplished at the scene or at another location.
- Coordination of the response/recovery would be enhanced by multi- department or multiagency coordination in the EOC.
- When the level of request for varied resources from the City are received from adjacent cities or special districts, the county, or the state to respond outside the City and coordination of these requests are better facilitated at one central point.

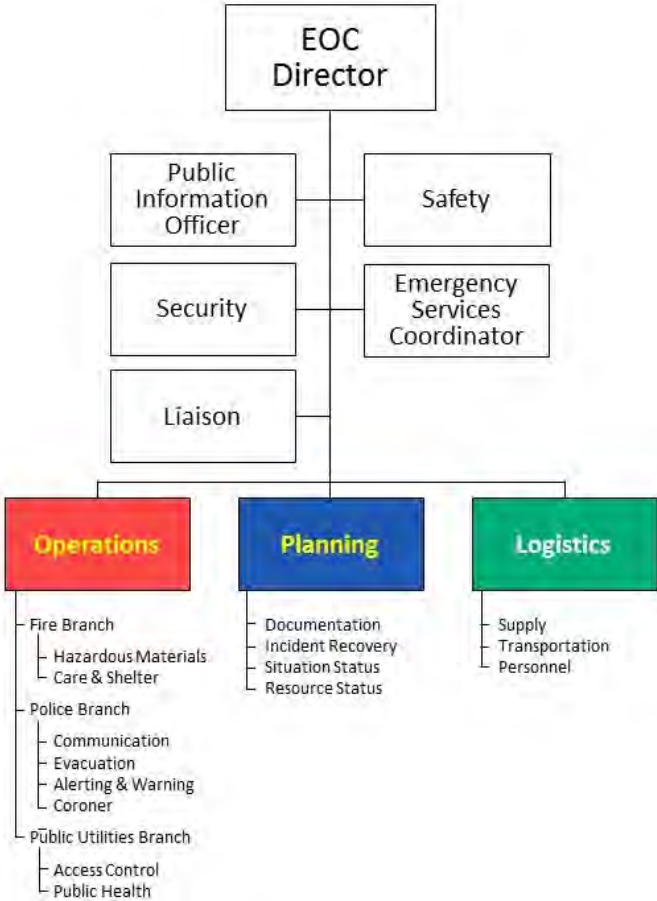


FIGURE 4. LEVEL 2 EOC STAFFING

Level 3 – Major Emergency - Full EOC Activation

Level 3 is a major local or regional disaster wherein resources in or near the impacted area are overwhelmed and extensive county, state and/or federal resources are required. A proclamation of emergency will be made and communications and coordination with the Fresno County OA EOC will be maintained. The overall response and early recovery activities will be managed from the Clovis EOC. Off-duty personnel will be recalled and long-term planning for human resources will be conducted.

POTENTIAL EOC ACTIVATION TRIGGERS

EOC activation is likely when one of the following events take place:

- When an earthquake of a significant magnitude occurs that would cause damage in the City or other neighboring jurisdictions.
- An emergency situation that has occurred or is likely to occur of such a magnitude that it will require a large commitment of resources from two or more City departments over an extended period of time – i.e., a sudden, severe and widespread energy shortage, explosion, fire, or police action (hostage situation, bombing, or other event).
- An impending or a Declared State of War Emergency, national security emergency, or any event that warrants activation (e.g., terrorism event in the greater Fresno County area).
- Other examples include a major hazardous materials incident, civil disturbance, aircraft disaster, structure fire or severe weather conditions.

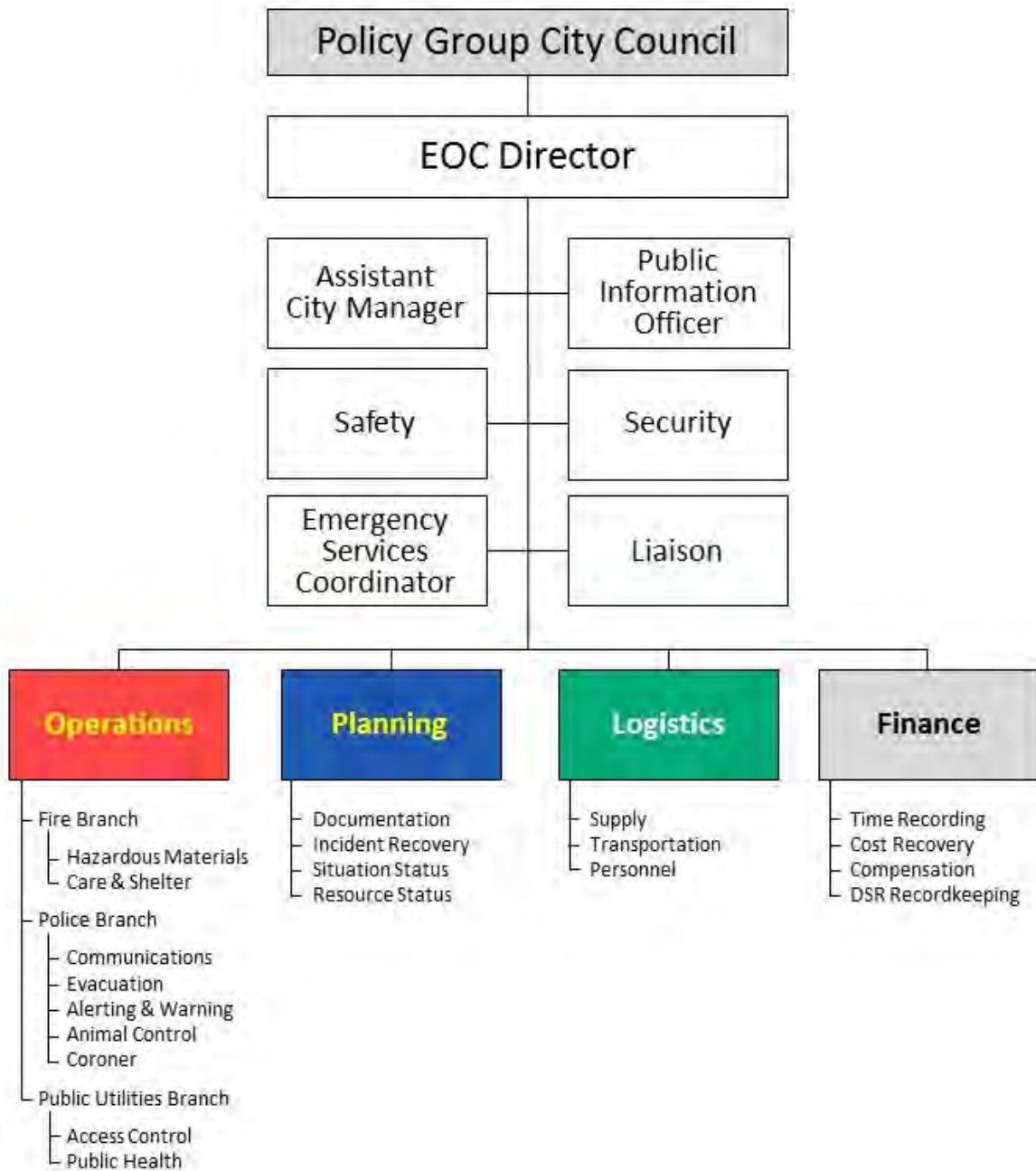


FIGURE 5.-LEVEL 3 EOC STAFFING

EOC ACTIVATION AND DEACTIVATION

The City Manager, any Department Head (Fire, PD, PDS, Public Utilities, etc.), or the Policy Group/City Council have the authority to activate the EOC during an emergency greatly affecting the City of Clovis. The Emergency Services Coordinator shall be immediately notified to initiate affected Departments to notify their employees. Each Department will be required to notify staff of the emergency or disaster, the immediate situation, and recall of or reporting of EOC staff for activation.

Departments are responsible upon notification to contact all appropriate support personnel within their oversight and direct them to their assignment, whether in the EOC or at the field level. Each City department shall develop and maintain a current duty staff roster to be used to recall staff during off-time emergencies.

The EOC Director (City Manager) also determines when it is appropriate to deactivate the EOC.

EOC Location

Primary EOC location:

Clovis Fire Department
1233 Fifth Street
Clovis, CA 93612

Alternate EOC location:

Corporation Yard/Public Utilities
155 Sunnyside Ave.
Clovis, CA 93611

The Alternate EOC will be activated only when the primary EOC is damaged, inaccessible, and/or evacuation of EOC staff members becomes necessary. If the primary EOC is unusable before its activation, staff members will be asked to report to the alternate EOC site. The EOC Logistics Section will arrange for relocation of EOC staff members to the alternate EOC. All field Incident Commanders will be notified of the transition to the alternate EOC.

EOC SECTION ORGANIZATIONS

Clovis operates under the NIMS/SEMS emergency management structure based on the Incident Command System. The Clovis Emergency Operations Plan complies with the legal stipulations of the Federal Homeland Security Presidential Directive (HSPD-5) and State of California Code of Regulations, Title 19, Division 2, which contain provisions relevant to emergency response. The basic Clovis EOC organizational structure consists of five functional sections including

Management, Operations, Planning & Intelligence, Logistics, and Finance & Administration.

The Clovis EOC reports information to the state emergency management level at the California Office of Emergency Services (Cal OES) Inland Region through the Fresno County OA. SEMS regulations require an operational area EOC to be activated when:

1. A local government within the operational area has activated its EOC and requested activation of the operational area EOC to support their emergency operations.
2. Two or more cities within the operational area have declared or proclaimed a local emergency.
3. The county and one or more cities have declared or proclaimed a local emergency.
4. A city and/or county have requested a governor's proclamation of a State of Emergency.
5. A State of Emergency is proclaimed by the governor for the county or two or more cities within the operational area.
6. The operational area is requesting resources from outside its boundaries. This does not include resources used in normal day-to-day operations that are obtained through existing mutual aid agreements.
7. The operational area has received resource requests from outside its boundaries. This does not include resources used in normal day-to-day operations which are obtained through existing mutual aid agreements.

The EOC Director (or designee) has overall responsibility for coordinating and supporting emergency operations within the City. The EOC will also be the focal point for information transfer and mutual aid requests by the departments within the City.

If the Fresno County Operational Area is activated, the Fresno County Health Director will be the Director of Emergency Operations (Operational Area Coordinator) for the Operational Area and will have the overall responsibility for coordinating and supporting emergency operations within the county. The Area Coordinator and supporting staff will constitute the Operational Area Emergency Management Staff. The Fresno County EOC will fulfill the role of Operational Area EOC.

EOC MANAGEMENT SECTION

The overall objective of the Management/Command Section is to ensure the effective management of response and recovery activities and resources in preparing for and responding to situations associated with all hazards. To carry out its responsibilities, the section will accomplish the following objectives during a disaster or emergency:

- Provide overall management and coordination of emergency response and recovery operations, including coordination of on-scene incident management as required.
- Coordinate and liaison with appropriate federal, state, and other local government agencies, as well as private sector entities and volunteer agencies.
- Establish priorities and resolve any conflicting demands for support
- Prepare/disseminate emergency public information to inform, alert, and warn the public
- Disseminate damage information and other essential data.
- Ensure that all EOC sections are aware of and follow documentation procedures to recover all eligible disaster response and recovery costs.

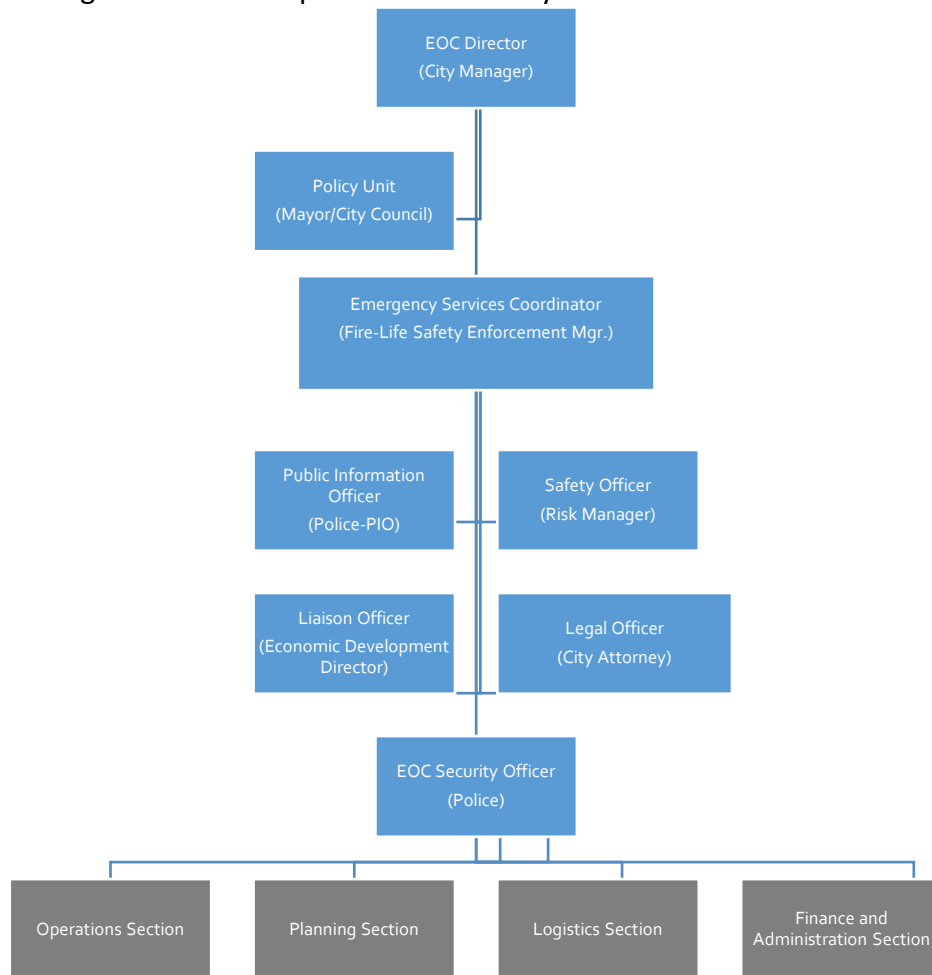


FIGURE 6. MANAGEMENT SECTION STAFF

EOC MANAGEMENT SECTION STAFF

The Management role is filled by the EOC Director and is the position that is established at every EOC activation to coordinate EOC operations. The City Manager will fill this position while serving as the Director of Emergency Services during an emergency/disaster. The Assistant City Manager shall serve as first alternate and the Fire Chief shall serve as second alternate to the Director of Emergency Services. Management also includes certain staff functions required to support the Management functions:

- Emergency Services Coordinator
- Public Information Officer
- Liaison Officer
- Safety Officer
- Security Officer
- Policy Group/City Council*
- Legal Advisor/Officer

(* = Authorized to activate EOC when extreme conditions dictate immediate activation and above personnel are not immediately available)

EOC Management Team

The EOC Director, the General Staff (Section Directors) and others as designated make up the EOC Management Team. The team is responsible for advising the EOC Director on procedure and policy matters. They shall assist the EOC Director in the development of overall strategy and tactics to mitigate the incident, and advise him/her regarding rules and regulations, proclamations and orders.

Public Information Officer

The Public Information Officer (PIO) ensures that information support is provided on request; that information releases are consistent, accurate and timely; that appropriate information is being provided to all required agencies and media.

After receiving a briefing from the EOC Director, the PIO will establish an area for the media away from the EOC and Command Post at City Hall (or a location designated). The PIO will provide news releases, answer questions the media may have, arrange for tours or photo opportunities of the incident. The PIO will coordinate all information releases and media contacts with the EOC Director.

Liaison Officer

The Liaison Officer serves as the point of contact for Agency Representatives from assisting organizations and agencies outside our city government structure. The Liaison Officer aids in

coordinating the efforts of these outside agencies to reduce the risk of their operating independently. This ensures each agency is doing what it does best and maximizes the effectiveness of available resources. The Operations Director will fill this position unless properly appointed.

The Liaison Officer also serves as the multi-agency or inter-agency representative for the City of Clovis. Multi-agency or inter-agency coordination is defined as the participation of agencies and disciplines involved at any level of the SEMS organization, working together in a coordinated effort to facilitate decisions for overall emergency response activities, including the sharing of critical resources and the prioritization of incidents.

Safety Officer

The Safety Officer is responsible for identifying and mitigating safety hazards and situations of potential City liability during EOC operations. The EOC Director will fulfill this position until properly appointed.

Security Officer

The Security Officer is responsible for security of all facilities and personnel access. The Police Department will fill this position.

Policy Group/City Council

Proclaim and /or ratify emergency/disaster declarations, approve emergency orders and serve as City Official. Provide policy direction to EOC Director when needed.

Emergency Services Coordinator

The Emergency Services Coordinator will act as a resource to the EOC Director and assist with the overall function of the EOC.

Legal Advisor/Officer

The Legal Advisor is the City Attorney and provides legal advice to the EOC Director on all legal matters relative to the emergency and assists in the declaration of an emergency.

OPERATIONS SECTION

The Operations Section is responsible for coordination of all response elements applied to the disaster or emergency. The EOC Operations Section carries out the objectives of the EOC Action Plan and requests additional resources as requested.

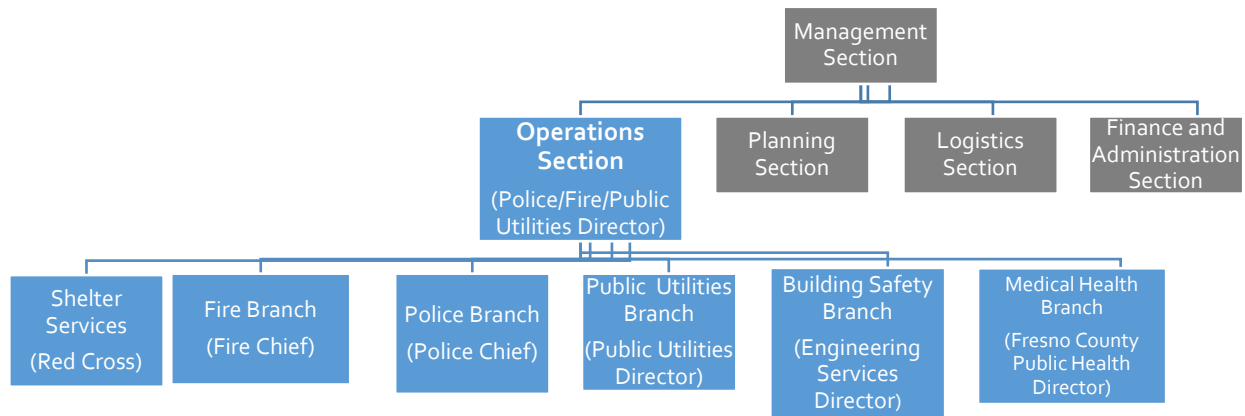


FIGURE 7. OPERATIONS SECTION STAFF

GENERAL DUTIES

- Ensure that the EOC Operations function is carried out, including the coordination of response for all operational functions assigned to the EOC, such as Fire, Law, Health, Care and Shelter, and Public Works
- Ensure Fresno County Fire Authority personnel respond to the EOC to serve as Fire and Rescue Branch Director as needed
- Ensure that operational objectives and assignments identified in the EOC Action Plan are carried out effectively
- Establish the appropriate level of branch and unit organization within the EOC Operations Section, continuously monitoring effectiveness and modifying accordingly
- Ensure that the EOC Planning and Intelligence Section is provided with status reports and major incident reports with current information
- Conduct periodic EOC Operations Section briefings for the EOC Director as required or requested
- Provide overall supervision of the EOC Operations Section

PLANNING AND INTELLIGENCE SECTION

The EOC Planning and Intelligence Section is responsible for overall supervision of collecting, verifying and analyzing, and displaying situation information; preparing periodic situation reports; preparing and distributing the City EOC Action Plan and facilitating the action planning meeting; conducting advanced/recovery planning activities; providing technical support services to the various EOC sections, branches, and units; and documenting and maintaining files on all EOC activities. The information gathered needs to be reported in an expeditious manner to the various EOC sections, City departments, and the Fresno County OA. The EOC Planning and Intelligence Section is also responsible for the detailed recording of the response effort and the preservation of these records during and following a disaster.

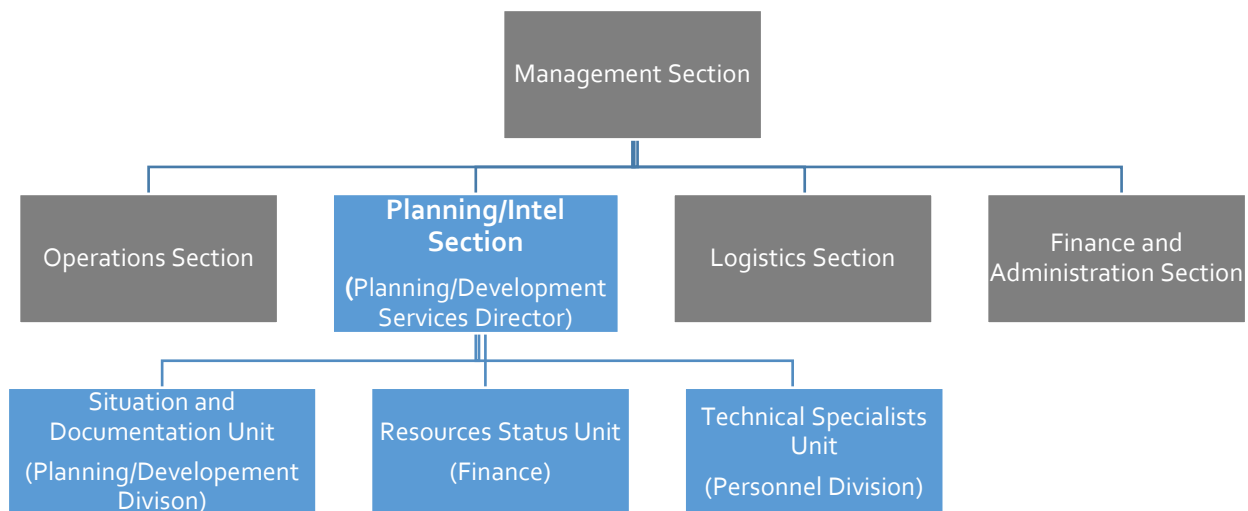


FIGURE 8. PLANNING/INTELLIGENCE SECTION STAFF

GENERAL DUTIES

- Ensure that the Planning and Intelligence function is performed, including:
 - Collecting, analyzing, and displaying situation information
 - Preparing periodic situation reports
 - Initiating and documenting the City’s Action Plan and After-Action Report
 - Planning for long-term response and advance planning
 - Coordinate the provision of geographic information system and other technical support services to the various organizational elements within the EOC
 - Establish the appropriate level of organization within the section and continuously monitor the effectiveness of that organization. Make changes as required. Exercise overall responsibility for the coordination of branch/unit activities within the section
 - Report to the EOC Director on all matters pertaining to section activities

LOGISTICS SECTION

The EOC Logistics Section’s primary responsibility is to provide all necessary personnel, supplies, equipment, support, transportation, and mobilization of resources to support the response effort at the disaster sites, public shelters, and EOC, etc. Methods for obtaining and using facilities, equipment, supplies, services, and other resources to support emergency response at all operational sites during emergency/disaster conditions will be according to established disaster accounting procedures developed by the Finance and Administration Section in the EOC, unless authorized by the EOC Director or emergency orders of the City Council.

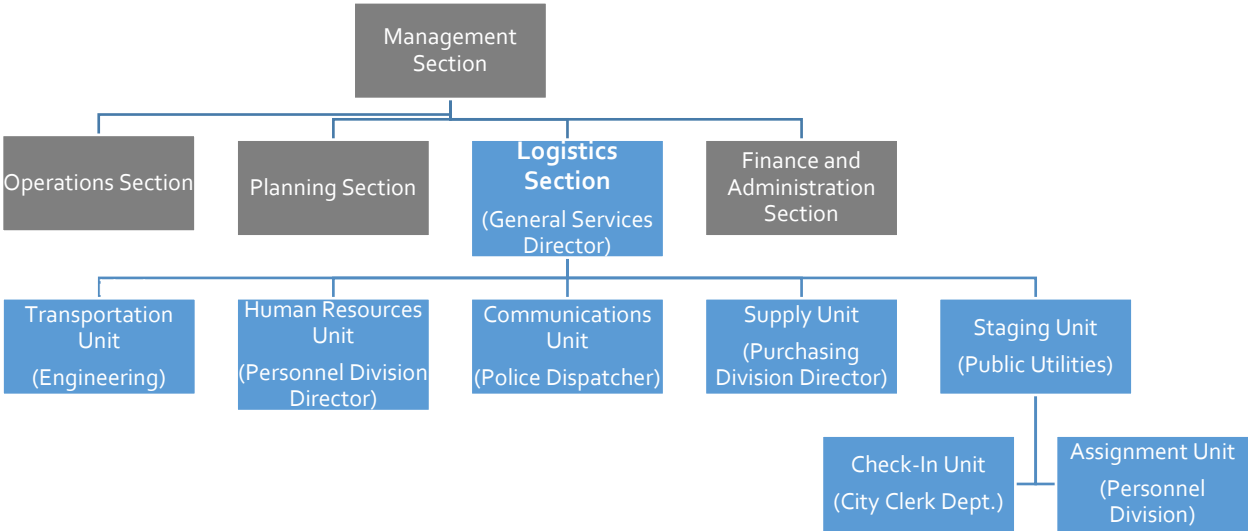


FIGURE 9. LOGISTICS SECTION STAFF

EOC FINANCE AND ADMINISTRATION SECTION

The EOC Finance and Administration Section’s primary responsibility is to maintain to the greatest extent possible the financial systems necessary to keep the City functioning during a disaster or emergency. These systems include:

- Payroll payments
- Revenue collection
- Claim processing
- Cost analysis and recovery documentation
- Revenue collection
- Documentation, timekeeping, and tracking

The section also supervises the negotiation and administration of vendor and supply contracts and procedures. The extent of the disaster or emergency will determine the extent to which the EOC Finance and Administration Section will mobilize.

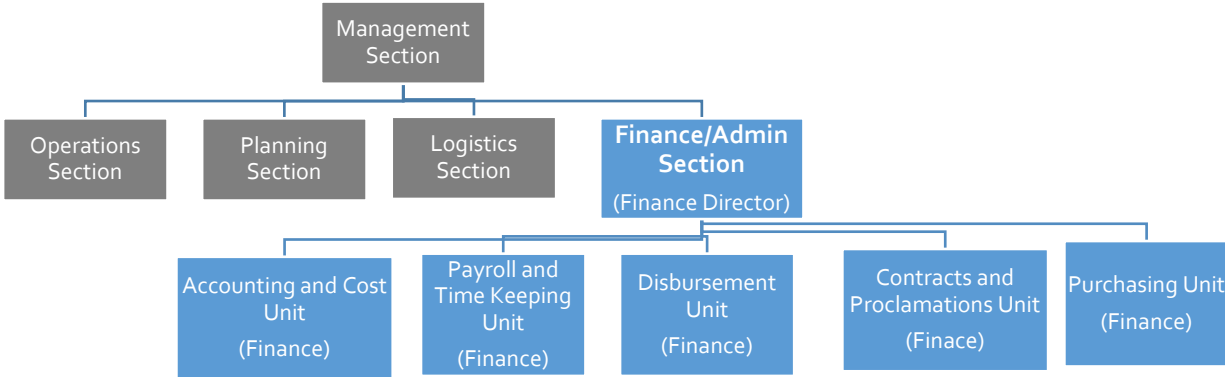


FIGURE 10. FINANCE AND ADMINISTRATION SECTION STAFF

GENERAL DUTIES

- Implement a Disaster Accounting System
- Maintain financial records of the emergency
- Track and record all agency staff time
- Process purchase orders and contracts in coordination with the EOC Logistics Section
- Process workers compensation claims received at the EOC
- Handle travel and expense claims
- Provide administrative support to the OA EOC

COMMON OPERATING PICTURE

Development of a common operating picture facilitates collaborative planning and assists all levels of the emergency organization to achieve situational awareness. The common operating picture is used to make policy decisions, develop the EOC Incident Action Plan, prioritize use of resources, approve purchase requests, etc., all of which are vital to the effective coordination of support for responders in the field. The collection and organization of the incident situation and status information and the evaluation, analysis and display of that information is critical for use by all sections in the EOC. The Situation Analysis Unit in the Planning / Intelligence Section is the lead for collecting, validating and consolidating the situation analysis, but each section is responsible to contribute to this task:

TABLE 2. COMMON OPERATING PICTURE RESPONSIBILITIES

Management Section Staff	Provides overall guidance, coordination and direction for intelligence collection; provides status reports to the OA EOC and other agencies on the status of the overall emergency operations.
Operations Section	Provides information on the status of field operations, updates on the nature and scope of the disaster, and requests for resources from on-scene command.
Planning/ Intelligence Section	Collects, verifies and combines input from other sections and agencies into the situation analysis; Develops GIS products when possible and disseminates Situation Reports via networked digital systems or hard-copy as required.
Logistics Section	Provides information on the status of available, committed and ordered resources; Relays status of support facilities and communications systems. The IT Division coordinates information technology systems within the EOC. May assist Public Information Officer with dissemination of information over website. Responsible for ensuring that technology (computer hardware/software and GIS capacity) in EOC is inspected periodically and operational.
Finance/Administration Section	Provides information on costs, claims and damage assessments related to the emergency.

The Planning & Intelligence Section's Situation Analysis Unit, Resource Status Unit, and City Geographic Information Systems (GIS) are primarily responsible for collecting, validating, and consolidating emergency-related information into the common operating picture.

- The Situation Analysis Unit is the lead for compiling information regarding incident-related events and current emergency response operations in the EOC. The Situation Analysis Unit will work with the Operations Section to capture and present field operations to the EOC.
- The Resource Status Unit is the lead for compiling information regarding resource requests, allocation, and status in the EOC. The Resource Status Unit will work with the Logistics Section to capture and present resource allocation activities for the EOC.
 - GIS is necessary for producing maps and imagery of the incident, identifying locations suitable for staging areas and incident command posts, and analyzing critical infrastructure (facilities essential for the operation and sustainability of health services, food services, and government operations) to help decision makers understand the scope of the damage.

All EOC staff should be aware of the proper procedures for relaying information for inclusion in the common operating picture. The Planning/Intelligence Section will also post procedures for developing the common operating picture for reference during the process.

INFORMATION MANAGEMENT SYSTEM

Each section in the EOC will be provided with a laptop computer. Posting of information, such as the status of the situation, use of resources and significant events during emergency response operations will be done through MS Outlook Profiles established for each position unless there is degradation of power or connectivity, and then information posting will be completed manually.

Development of the common operating picture is a continuous process during the emergency response. The EOC Director and Planning/Intelligence Section Chief will develop and post procedures for information collection and dissemination for all EOC staff. Situation briefings will be conducted during the shift change and at regular intervals during the operational period.

EOC staff will coordinate information updates through their Section Chiefs to the Situation Analysis Unit and Resource Status Unit at regular intervals. The Situation Analysis Unit and Resource Status Unit will collect, validate and combine this information into a single-source document with the Planning /Intelligence Section Chief. Validated information is then released by the Planning/Intelligence Section Chief for dissemination to all users on boards in the EOC.

The EOC Director has final approval authority for the release of all situation report documents to the EOC for incorporation into the common operating picture.

MANUAL DISPLAY OPERATIONS

Situation and resource status will also be done using display boards and various charts mounted on the walls in the EOC which may vary based on incident needs. The information provided on the display boards and charts will track the situation status, resource status and other emergency activities so that all EOC responders can see the current situation. All EOC sections must maintain display devices so that other sections can quickly comprehend what actions have been taken, what resources are available, and to track the damage in the city resulting from the disaster. The Situation Analysis Unit will coordinate the display and dissemination of information to include, but not limited to:

- Personnel status information
- Relevant maps
- Records of situation information
- Current location and status of resources

The Situation Analysis Unit must ensure that all displays are frequently and accurately updated to ensure information conflicts do not arise.

Messages sent from section to section in the EOC will be done using Outlook and the user groups. Hard copy message forms may be used as backup if computer systems are temporarily not operational. . The Documentation Unit in the Planning/Intelligence Section is responsible to run the operations of a Message Center in the EOC. Messages will be sent and received in the following manner:

- The sender will transcribe information onto an EOC Messaging Form.
- The sender will then forward a copy of the EOC Messaging Form to the appropriate EOC staff (receiver) and the Documentation Unit.
- The receiver will relay the message and a verbal update about the actions taken to his or her EOC supervisor.
- The receiver will follow up with the sender on the status of the message and send an updated EOC Messaging Form to the Documentation Unit.
- The EOC Supervisor will forward a copy of the original EOC Messaging Form with the information about actions taken to the Situation Analysis Unit.
- Situation Analysis Unit will file the completed EOC Messaging Form according to the established procedure and update status boards accordingly.

EOC messages can also be sent outside of the EOC as follows:

- Time and date the message was received must always be indicated.
- Priority must be indicated (Immediate, High, or Routine).
- Messages coming from outside the EOC will most likely be via telephone. Any Clovis EOC staff person transcribing an incoming message must indicate their EOC section and from where the message came.

RESOURCE MANAGEMENT

When activated, the Clovis EOC establishes priorities for resource allocation during the emergency. All City resources may be allocated by the EOC to fulfill priority missions. Each department retains control of its non-assigned resources until released for an emergency assignment by the EOC.

Resource requests will be made through one of the following processes:

- Discipline-specific (usually Fire and Law) mutual aid systems: requests for resources that are normally within the inventories of the mutual aid system will go from local coordinator to OA Mutual Aid Coordinator to the Regional Mutual Aid Coordinator.
- All other resource requests will be made through the logistics function at each level (field and EOC).

Resource requests will be verbally requested from the ICP(s) through the DOCs and then documented on a hard copy form to capture what logistics requests have been made, or what resources have been requested, or tracking of assignments.

Available resources will be allocated to the requesting department or jurisdiction. If requests for a specific resource exceed the supply, the available resources will be allocated consistent with the priorities established through the action planning process. The EOC Section Chiefs are responsible for ensuring that priorities are followed.

Resource Requests

During the incident response phase, the real-time tracking of incidents and response resources is critical. Resources may be in short supply, and multiple requests for services can occur. Resource requests from the field will be coordinated to determine if the resource is available or needs to be purchased, rented, or requested from other agencies or sources within the EOC through the established mutual aid system, when appropriate. The Logistics Section will attempt to fill the requests by procuring the necessary services or supplies first from within existing City of Clovis resources, and then from OA member cities, the private sector, or other non-governmental sources. The Operations Section Chief will be kept informed of the status of resource requests and allocations through the EOC.

Resources that are not available within the OA will be requested through the Fresno County OES. The Resource Status Unit in the Planning Section, in coordination with various Operations Branches, is responsible for tracking resource requests.

Discipline-specific mutual aid (e.g., fire service and rescue, law enforcement, and medical health) will be handled through the designated discipline based Mutual Aid Coordinator.

Resource Ordering Process

All resource requests to the EOC will be directed to the Operations Section to be verified. The Operations Section is responsible for assessing the resource request to determine:

- What is needed and why
- How much is needed – quantity
- Who needs it and relevant contact information
- Where is it needed – specific location(s) and recommended routes
- When is it needed
- Duration of need if known
- Any special resource support requirements such as setup, operators, fuel, housing, feeding, maintenance, etc.

Once the resource has been assessed and prioritized, the request is forwarded to the Logistics Section for acquisition.

Resource Tracking

The Resource Status Unit in the Planning Section of the EOC is assigned the responsibility for tracking the status of all incident resources under the control of the EOC, including those reporting to a field Incident Command. This status should include:

- Required Resources
- Ordered Resources
- Enroute Resources
- Available Resources
- Assigned Resources
- Demobilized Resources

The EOC Operations Section, Logistics Section, and Finance & Administration Section are responsible for closely coordinating with the Resource Status Unit to provide updated resource status information. Incident Command Posts are responsible for ensuring the EOC Operations Section is kept apprised of the status of resources under their control.

Fiscal Tracking

The EOC Cost Unit in the Finance & Administration Section is responsible for documenting the cost of all resources committed to the event. The Cost Unit will coordinate closely with the Operations Section, Planning & Intelligence Section, and Logistics Section to track and document costs.

EOC INCIDENT ACTION PLANNING

The EOC Incident Action Plan is the foundation for all operations conducted in the EOC, and is the vehicle through which the EOC coordinates and executes emergency management functions. EOC action planning is the structured process and method used to develop the priorities, objectives, and course of action for the EOC Incident Action Plan.

EOC Incident Action Plans

At local, regional and state levels, the use of EOC Incident Action Plans (IAP) provide designated personnel with knowledge of the objectives to be achieved and the steps required for achievement. IAPs not only provide direction, but they also serve to provide a basis for measuring achievement of objectives and overall system performance. IAPs can be extremely effective tools during all phases of a disaster.

EOC action planning is done through collaboration and development of a consensus of the Policy Group (City Council), the EOC Management Staff, and all EOC sections to develop the EOC priorities. These priorities serve as guidance for the allocation of resources and enable the EOC to sufficiently coordinate requests for support from DOCs using the Multi-Agency Coordination Center concept.

EOC IAPs provide designated EOC staff with knowledge of the objectives to be achieved and the steps required for their achievement. EOC IAPs also provide a basis for measuring achievement of objectives and overall system performance. Action planning is an important management tool that involves:

1. Identification of emergency response priorities and objectives based on situational awareness.
2. Documentation of established priorities and objectives as well as the associated tasks and personnel assignments.

The Planning Section is responsible for developing the EOC IAPs and facilitating action planning meetings. EOC IAPs are developed for a specified operational period, which may range from a few hours up to 24 hours. A reasonable timeframe is then determined for the accomplishment of those actions. EOC IAPs should be sufficiently detailed to guide EOC elements in implementing the priority actions, but do not need to be complex.

Essential elements of the planning process include: EOC action planning processes, and planning meeting procedures. The EOC action planning process provides a measurable method for setting objectives, strategies, tactics, managing resources, setting priorities, maintaining situational awareness; status and communications with relevant agencies and organizations for a given event.

The Incident Action Planning process should involve the EOC Director and EOC Section Chiefs, along with other EOC staff, as needed, and representatives from special districts or other agency representatives as appropriate. The initial EOC Incident Action Plan may be a verbal plan that is developed during the first hour or two following EOC activation. A verbal plan may also be utilized for incidents involving a limited scope, short duration (less than 12 hours) and a limited number of response personnel, but an EOC Incident Action Plan must be developed whenever the EOC is activated, either partially or fully.

An ICS 201 Form or other customized template can serve as the EOC IAP format. A written EOC Incident Action Plan is required whenever:

- Two or more agencies are involved in the response.
- The incident overlaps more than one operational period.
- All EOC functions are fully staffed.

The EOC Incident Action Plan addresses a specific operational period (not to exceed 24 hours). The plan should be regularly reviewed and evaluated throughout the operational period and revised or updated as warranted. The elements to be included in the EOC Incident Action Plan include:

- Operational period covered by the plan.
- Identify parts of EOC organization that have been activated on an organization chart.
- Assignment of primary and support personnel and material resources to specific tasks and locations.
- Describe any logistical or technical support to be provided and by whom.
- State the objectives (attainable, measurable and flexible) to be accomplished.
- Establish the current priorities to meet the objectives.
- Describe the strategy to be utilized to achieve the objectives.
- Specific departmental mission assignments.
- Policy and/or cost constraints.
- Any inter-agency considerations.

Information from the field level IAPs will also be used to develop the EOC IAPs, including a current situation analysis and information regarding incident communications, safety, and any other significant details. The situation status report is the single most important document used to develop, update, and prepare the EOC IAP. The situation status report provides incident-specific background that provides the basis to develop the objectives and priorities in the EOC Incident Action Plan.

The Planning Section facilitates the EOC action planning process and develops the EOC IAP with the active participation of the EOC Director, the Management Staff, and the Operations Section. When necessary, the Planning Section Chief will request specific technical experts to provide input to the plan.

The EOC Director is responsible for approving the IAP. Specific EOC IAP responsibilities include the following:

TABLE 3. INCIDENT ACTION PLAN RESPONSIBILITIES

<p>EOC Director and Management Staff</p>	<ul style="list-style-type: none"> • Ensures that EOC Incident Action Planning is accomplished by the EOC • Develops objectives, strategies, tactics, and policies • Defines the operational period to be covered by the EOC Incident Action Plan • Assigns objectives to specific Section Chiefs • Provides legal advice as necessary • Approves the completed EOC Incident Action Plan
<p>Planning & Intelligence Section Chief</p>	<ul style="list-style-type: none"> • Facilitation of the EOC action planning process • Establishes planning timelines • Coordinates preparation, review, revising and distribution of the EOC Incident Action Plan • Conducts the EOC Operational Briefings
<p>Operations Section Chief</p>	<ul style="list-style-type: none"> • Provides situational status on DOC operations • Facilitates information and resources requests from DOCs,
<p>Logistics Section Chief</p>	<ul style="list-style-type: none"> • Anticipates supply, equipment and personnel needs • Establishes/confirms procedures for resource ordering and tracking • Ensures that resource ordering procedures are communicated to EOC Responders • Ensures the Logistics Section can support the EOC Incident Action Plan
<p>Finance & Administration Section Chief</p>	<ul style="list-style-type: none"> • Provides cost assessment of incident objectives • Establishes cost tracking, emergency contracting procedures, and appropriate records management for reimbursement consideration, fiscal accountability and incident/event history • Ensures adequate financial approvals are in place for implementation of the EOC Incident Action Plan • Coordinates all required official policy documentation in support of EOC objectives such as Proclamations, curfews, and Council Motions as applicable

EOC Incident Action Planning

In developing the EOC IAP a number of issues should be considered, as outlined in the table below. The process and steps involved in planning for an incident have been summarized in a guide called the EOC Planning P.

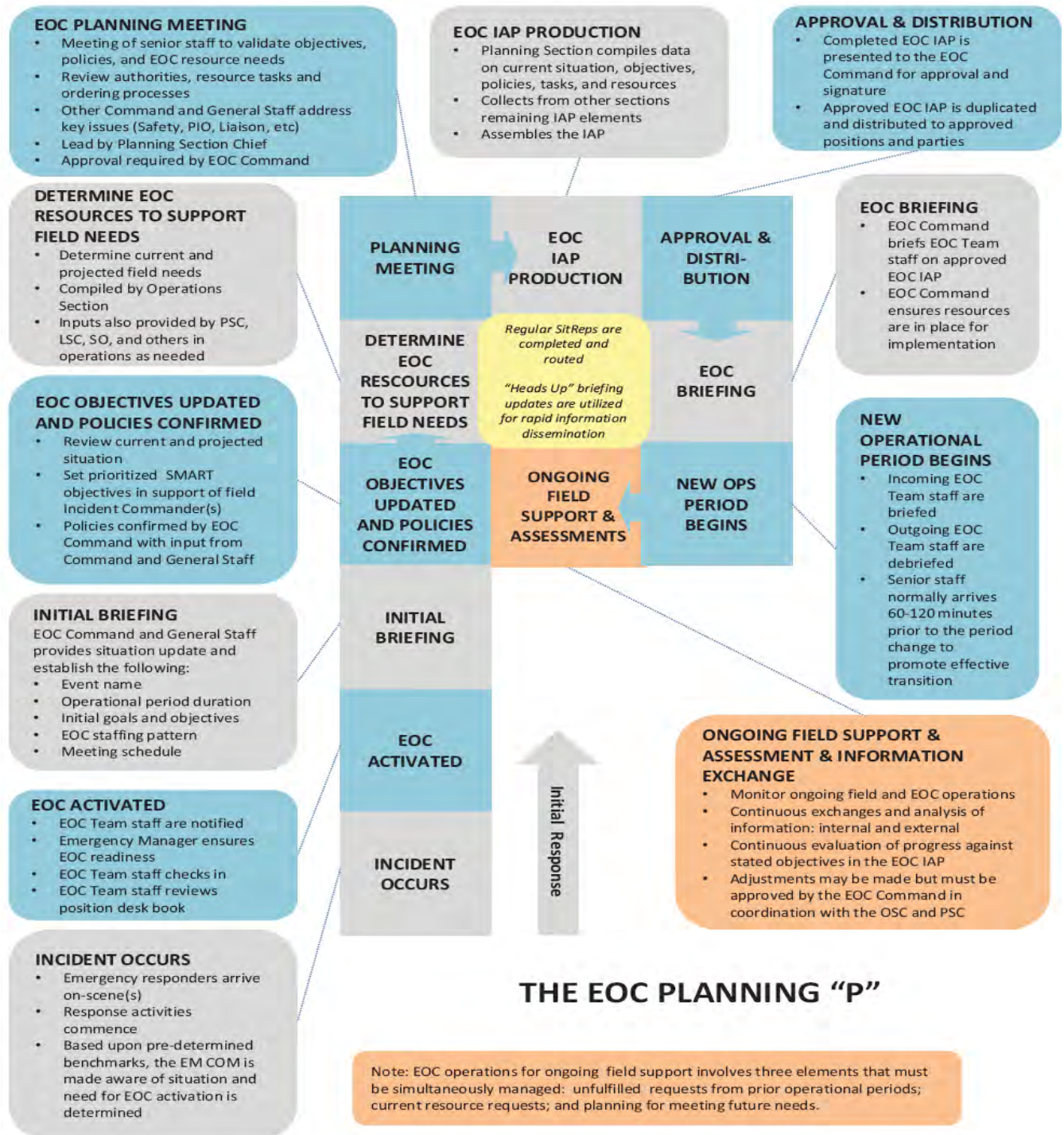


FIGURE 11. EOC PLANNING "P"

The Planning P illustrates the NIMS/ICS planning process used in the EOC. The process begins with the leg of the P and then follows a clockwise sequence.

The steps in the Planning P are as follows:

TABLE 4. PLANNING “P” STEPS

Incident Occurs:	An emergency or disaster occurs and emergency responders anticipate the activation of the EOC will be necessary. A request for EOC activation is made.
EOC Notifications:	The notification process will begin as field responders continue to assess the incident and begin response activities. The EOC Director is notified as well as additional stakeholders, as necessary. The Emergency Services Coordinator makes notifications to the EOC Team of the EOC activation.
EOC Activation:	The EOC is activated and Emergency Services Coordinator sets up the EOC according to the type and level of incident. The EOC Director will verify and validate the initial incident information from the notification phase, confirms the required EOC staffing level, sets initial EOC objectives, and develops an Incident Briefing (manual form, such as an ICS 201 form).
EOC Incident Briefing:	An initial briefing is conducted by the EOC Director to ensure EOC Management Staff has a clear understanding of the incident.
EOC Objectives Meeting:	<p>A meeting is held to formulate and prioritize objectives for the EOC Incident Action Plan. The EOC Director, Management Staff, and the planning section attend this meeting. In assessing current EOC objectives, the following questions should be considered:</p> <ul style="list-style-type: none"> • Is the incident stable, or increasing in size and complexity? • Are there any safety issues with the current objectives? • Are the objectives effective and achieving progress? • Is a change of course needed? • How long will it be until the objectives are completed? • What is the current status of resources? • Are there sufficient resources to support the objectives? <p>EOC objectives provide direction for the EOC’s overall support and coordination activities, and are not intended to direct the field level operations. The objectives will be posted on a status board or on a manual form, such as an ICS 202 form, and an announcement will be made to inform all EOC staff that the objectives have been set.</p>

<p>Strategies and Tactics Meeting:</p>	<p>A meeting is held to develop appropriate strategies and tactics to fulfill the objectives that have been developed. Strategies should be:</p> <ul style="list-style-type: none"> • Sensible, feasible, practical, and suitable • Within acceptable safety norms • Cost effective • Consistent with sustaining a healthy community • Within political considerations <p>Operations, Planning and Logistics should attend this meeting. The Situation Status board will be updated with the outcome of the meeting, or on a manual form, such as ICS 215 form.</p>
<p>Planning Meeting Preparation:</p>	<p>Each section or unit prepares their input to the draft EOC Incident Action Plan. The Planning & Intelligence Section should be prepared to provide an overall situation status report. Management Staff and Section Chief level positions should be prepared to address:</p> <ul style="list-style-type: none"> • The status of coordination activities in progress • Known challenges / issues with coordination • Methods to quickly overcome identified challenges or issues
<p>EOC Planning Meeting:</p>	<p>All sections and units provide their input to the draft and the EOC Incident Action Plan is finalized. The EOC Director, management and Section Chiefs attend this meeting.</p>
<p>EOC Incident Action Plan Preparation and Approval:</p>	<p>The final EOC Incident Action Plan is typically in the form of the a Situation Report, and if hard copies are necessary, the plan will be formatted, collated, and prepared to be distributed. The plan will include:</p> <ul style="list-style-type: none"> • Incident Objectives • Organization Assignment List • Incident Communications Plan • Operational Planning Worksheet • Safety Analysis Worksheet <p>An outline of the plan should be created for the oral briefing.</p>

EOC Operations Briefing:	<p>The EOC Director or Planning Section Chief delivers an oral briefing on the EOC Incident Action Plan. The action plan will be reviewed one final time in relation to recent incident developments and any adjustments will be made as necessary. These topics are delivered during the meeting as follows:</p> <ul style="list-style-type: none"> • Situation Update – Planning/Intel Section Chief • EOC Objectives – EOC Director • Update of Current Operations – Operations Section Chief • Update of Resource Status – Logistics Section Chief • EOC Policies and Operational Concerns – EOC Director • Planning Timeline and Meeting Adjournment – Planning/Intel Section Chief
Execute the EOC Incident Action Plan and Initiate Planning for Next operational period:	<p>The EOC IAP will be implemented once the Operations Briefing and shift change are complete. The EOC staff will execute the EOC IAP. The IAP will be assessed continually throughout the operational period to ensure it is meeting the objectives in the developed timeline.</p>
Assess On-scene Progress:	<p>Progress will be continually monitored to ensure the EOC IAP aligns with the incident status and Incident IAPs.</p>

ICS forms will be used in the Clovis EOC, and are available in the EOC as needed. The next step is to begin the planning process over again for the following operational period. An EOC IAP is executed at the beginning of each new operational period. Throughout the operational period, the EOC Director, Management Staff, and Section Chiefs constantly monitor progress or lack of progress. As required, the EOC Director may adjust the objectives and strategies based on the current situation status report from the field level.

EMERGENCY PERSONNEL ASSIGNMENTS

It is the responsibility of department directors and supervisors to assign employees to one of three emergency categories: essential, back-up, or stand-by. This applies, in particular, to those departments that do not have day to day emergency response roles or responsibilities. Considerations to be made when assigning personnel to one of the three categories should be based on the assigned role during an emergency, miles traveled to work, and family care.

Essential personnel are those employees who are needed at work to provide City emergency services and support immediately after a major emergency or disaster. Personnel should be assigned specific reporting locations and roles in advance, if possible. Essential personnel

should report to work immediately following an emergency or as soon as the situation at home allows. Work shifts will fall within an Operational Period that is determined in the EOC IAP. The Operational Period is typically 12 hours in length, but may be as many hours as necessary to complete the objectives in the EOC IAP.

Back-up personnel are those employees specifically assigned to fill in for an essential person who is unable to report to work or to relieve an essential person. They should be assigned specific work locations and roles in advance, and be prepared to report to work as soon as possible after being notified they are needed. Staff assigned to this category may require extra time for traveling to work.

Stand-by employees are those who are not needed immediately at work to provide emergency services, but may be needed to continue the day to day operations of the department. Stand-by employees may be used to work in the EOC or support other departments in their emergency operations. If they are at work when disaster strikes, they may be released to go home, when conditions permit and there is no work for them to perform. Stand-by employees may not be required to report to work immediately, but should report for duty as scheduled.

Emergency Reporting Procedures

Staff will be notified of emergencies according to their level of authority and responsibility during an emergency or disaster. The Emergency Services Coordinator, or designee, will ensure the appropriate notifications are made once authorized to do so by the City Manager or an official. Communications personnel may initiate immediate notifications, if needed. The Emergency Services Coordinator shall also be alerted to cancel any previously scheduled meetings in the facility coinciding with the EOC activation.

If a disaster occurs during the regular work day, all staff should contact their immediate supervisor for instructions or return to the office and await further instructions.

It is the responsibility of each City department to develop specific procedures for notifying employees when they are to report for work following a disaster. Before an emergency occurs, employees should be informed of when and where they should report for duty following a disaster. Employees reporting for duty from outside the City should be aware that routes through disaster areas may be closed and be prepared to show proper City identification and explain the purpose for gaining entry to the area upon request by any law enforcement official.

Employees recalled for duty following a disaster should report immediately to their normal department or alternate location as designated for emergency instructions. Employees with assignments in the EOC should report to the EOC or alternate EOC, whichever is activated.

If telephones are not operating, employees should listen to the radio for emergency information to determine the extent of damage. If reports indicate extensive damage within the City of Clovis, employees should report to work. Generally, during these situations, an

employee will be contacted by a supervisor or an assigned member of their department who will provide emergency instructions. The City of Clovis will attempt to establish a recorded message line, if phones are functioning.

Self-Deployment Procedures

Previous emergencies have led to the recognition that there are certain conditions requiring EOC designated personnel to self-deploy to the EOC. While this is contrary to the conventional emergency management practice to not self-deploy during a disaster, in the absence of an automated notification system or functioning communications systems (landline phones, cell phones, internet, etc.), experience has shown that some emergencies warrant self-deployment to the EOC.

Self-deployment conditions would include an incident or event that renders alerting and warning communication methods inoperative or severely degraded. In the Clovis area, this could include an earthquake with extended power outage, or other disaster accompanied by a large-area or regional loss of power, or severely degraded infrastructure conditions with a wide-area internet failure, major telephone infrastructure damage or destruction, or regional radio, television and cable services outage. In this type of circumstance, primary EOC staff should self-deploy to the EOC, unless it is known that the facility or area is severely impacted by the incident, and then to the alternate EOC.

Emergency Work Provisions

The City may provide accommodations for employees required to report to the EOC following a disaster. Meals may be provided on a limited basis, and sleep areas may be designated for employees that need to rest. Special provisions required by emergency workers should be requested through supervisors in the EOC.

EOC FACILITY AND COMMUNICATIONS SYSTEMS

The Primary EOC (Fire Department) and Alternate EOC (Corporation Yard/Public Utilities) both have a diesel-powered back-up generator, should the power fail at either location. The generator starts automatically and will provide sufficient power to operate either location. The generator provides power to wall receptacles and designated lighting.

EOC Communications Systems

The City of Clovis has the following communications systems for use in the EOC:

Telephones

The Clovis EOC has analog phones for each section in the EOC. There is an EOC phone directory with the numbers of the EOC dedicated phone lines, along with additional agency and stakeholder phone numbers that may be needed in an emergency. Additional contact numbers for the ICP(s), EOC, assisting agencies, and public hotline will be provided by the Communications Unit upon EOC activation. Employees may also use cell phones in an EOC activation.

Computers

There are computers for each EOC Section in the EOC. The EOC computers are a part of the City's computer system. Wi-Fi is available throughout City Hall and provides internet connectivity in the EOC.

Fax

The Records copier machine outside of the EOC has a FAX available to send information via facsimile.

Two Way Radio

This system provides radio communications services to city and county law enforcement, fire services, and public works departments in Fresno County. It also allows for interoperability among the various disciplines. This system will be used in the EOC via handheld two-way radio.

Email

EOC staff can use their City email accounts while in the EOC.

Degraded Operations

Degraded modes of operation occur when technological systems fail to meet the levels of service that are expected by staff and managers under normal conditions. An emergency or

disaster may result in the failure of telephone service, electrical power, and other utilities, breaking the communications link between the EOC and City departments, DOCs, the OA EOC, and state and federal agencies. During a major disaster where the communications infrastructure is severely degraded, EOC staff must quickly develop a communications capability with the DOCs and EOC. It is imperative that EOC staff utilize manual document procedures to maintain an accurate record of EOC activities.

Catastrophic events such as a major earthquake could disable telephone, email and cellular communications. In this scenario, the primary means of communications will be via line-of-sight two way radios from the EOC. Field personnel carry narrow banded radios that include both UHF/VHF frequencies allowing multi-agency communication. The Communications Unit will develop a communications plan to maintain contact with required agencies until a primary system is functioning. The Situation Analysis Unit and Resource Status Units will track the emergency response and resource allocations for use by EOC staff.

The following options are available:

- The portable two-way public safety radios can be used in the EOC to contact Fire and Rescue, Emergency Medical Services, local city police departments, and the Sheriff's Department.
- Messages can be delivered between DOCs, the EOC, and City departments through the use of runners.
- Additional two-way radios are available through mutual aid within the region.
- The OA EOC is linked to the Operational Area Satellite Information System (OASIS) to communicate with the Cal EOC. Clovis can send a message to Cal OES through the OA.

EOC ACTIVATION CHECKLISTS

The Clovis EOC is compliant with the Standardized Emergency Management System (SEMS) as required by Government Code Section 8607(a). The SEMS functions represented in the EOC are Management, Operations, Planning/ Intelligence, Logistics, and Finance/Administration. The checklists in this section of the EOP includes instructions for setting up the EOC, a standardized position set up checklist for staff setting up the EOC, and an EOC checklist for all positions within the EOC.

EOC Activation/Setup Procedures

The following checklist is to be used for implementing and setting up the primary EOC:

- Confirm proper authority is delegated to activate the EOC
- Ensure the Safety/Security Officer position has been activated
- The Safety/Security Officer shall conduct a safety/damage assessment of the facility (depending on the type/severity of the situation) and document the following:
 - Structure checked for visible damage
 - Utilities checked for any damage, leaks, downed wires, etc.
 - If power failure, check that the generator is functioning
- Obtain a briefing on the situation and the level of activation necessary
- Use the EOC notification procedures to notify the necessary management personnel from City departments
- Ensure the Emergency Services Coordinator has been notified of the activation and is responding to the EOC
- Ensure staff is available and assigned to assist in setting up the room used for the EOC
- All staff will sign in at the check-in location (kiosk in the front lobby area of the Police Department). All EOC responders must sign in to register and document their response, position worked, and hours of their shift
- Each section will locate their dedicated cache of EOC supplies and equipment
- Set up the room using the existing tables and chairs, which should be configured according to the level of activation, expected number of EOC responders, and layout in Figure 4
- Plug in the EOC phones in the receptacles on the floor and ensure they are functioning. The phone extension will be displayed on the front of the phone

- Open up the white boards mounted on the walls of the EOC which will be used to visually display the situation status and resource status during the incident
- Once the EOC is set up, and the phones are tested, a television(s) should be turned on to a news channel covering the emergency or disaster
- The various supplies for the EOC can be set up at each work station. These include note pads, phone rosters, pens and pencils, ICS forms, etc., and the specific position checklist from Part II of the EOP
- Understand that it may take time for employees to respond to the EOC and the first person to arrive must begin set up procedures and registration of EOC responders
- Once the order to deactivate the EOC has been given, ensure that all EOC personnel have been informed of the deactivation, and EOC Sections are cleaned up and supplies put away
- Unplug all telephones and collect clerical supplies to place into storage. Ensure any forms or documents left over from the EOC activation are forwarded to the Documentation Unit.
- Reconfigure the room to the state it was in before the emergency

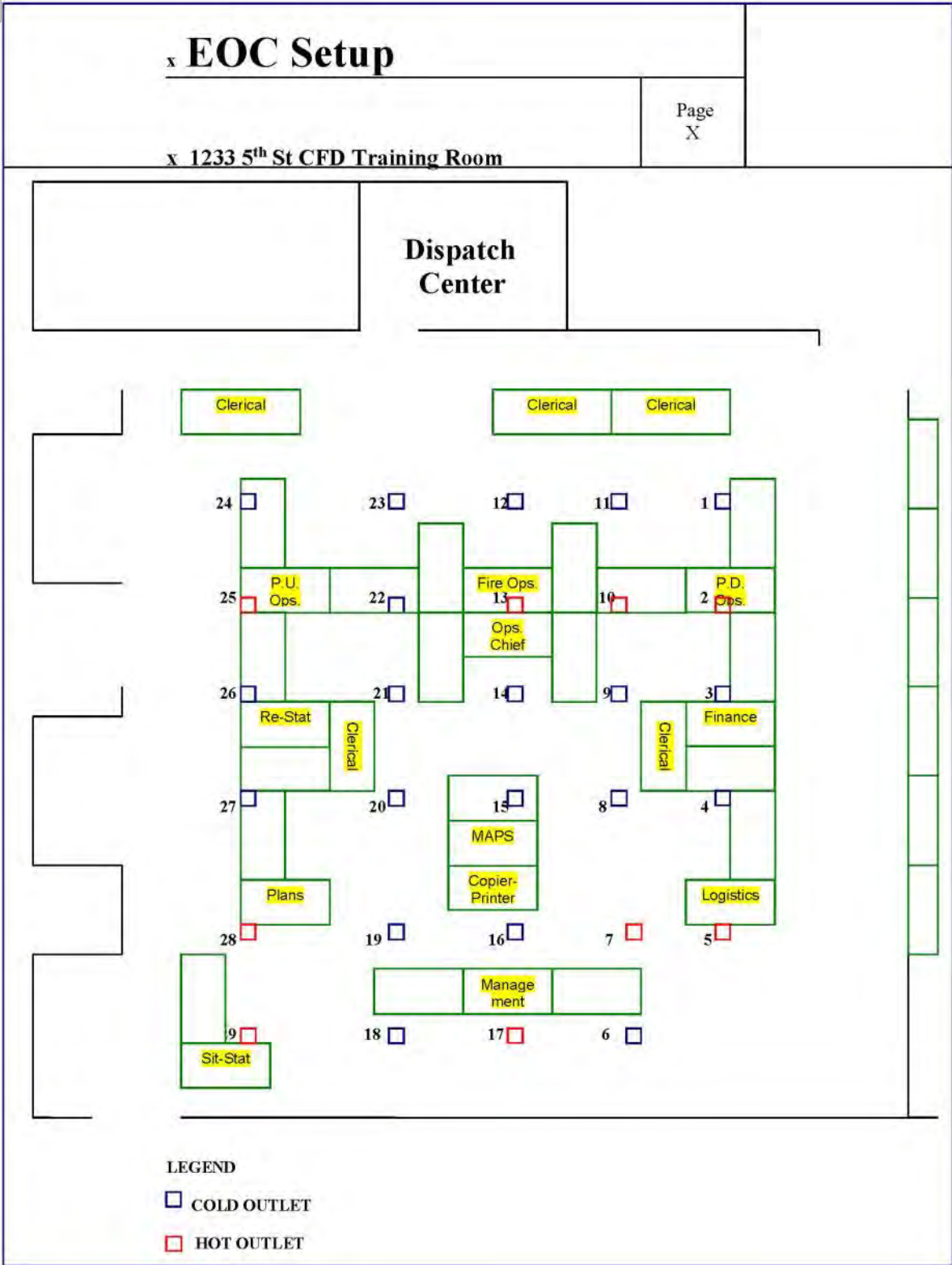


FIGURE 12. EOC SETUP

Voice	Data	
1.	V107	D087
2.	V112	D082
3.	V115	D095
4.	V122	D105
5.	V127	D107
6.	V131	D111
7.	V126	D106
8.	V121	D101
9.	V116	D096
10.	V111	D091
11.	V106	D086
12.	V105	D085
13.	V108	D088
14.	V117	D097
15.	V120	D100
16.	V125	D105
17.	V130	D110
18.	V129	D109
19.	V124	D104
20.	V119	D009
21.	V114	D094
22.	V110	D090
23.	V104	D084
24.	V103	D093
25.	V109	D089
26.	V113	D093
27.	V118	D098
28.	V123	D103
29.	V128	D108

ALL EOC RESPONDERS STANDARDIZED ACTIVATION PHASE LIST

The following standard tasks are performed by all EOC responders at the onset of the EOC activation, throughout the assigned shift, and when the position is demobilized. This standardized checklist has been developed for the Activation, General Operations, and Demobilization phases to be conducted during each shift worked according to the EOC position assignment in the EOC. This list will also be included in the checklist notebooks at each position within the EOC:

Activation Phase Tasks

- Check-in by signing the EOC roster. Confirm your assigned EOC position with the EOC Director or appropriate EOC Section Chief and report to your designated Supervisor.
- Obtain your approximate shift length, shift change times, briefing / meeting timelines and general EOC policies from your Supervisor.
- Report to your workstation and put on the appropriate EOC position vest.
- Start a position log that chronologically describes actions taken during your shift.
- Review your EOC Position Checklist; clarify any issues regarding your authority and assignment with your Supervisor.
- Ensure that all required supplies for your workstation are available and equipment is working properly, e.g. phones, radios, forms, lists, maps, computer, etc.
- Obtain initial incident briefing.
- Obtain contact information for counterparts in the EOC, at DOCs, and other relevant agencies. Establish lines of communications.

General Operations Phase Tasks

- Refer all media inquiries or contacts to the EOC PIO.
- Attend all meetings and briefings for your position.
- Maintain current status reports and displays for your position.
- Advise your Supervisor of any status/situation updates.
- Provide input to and review the EOC Incident Action Plan; execute the tasks of your section and monitor progress with the EOC Director's stated objectives.

- Maintain accurate records of personnel, equipment, and materials. Record all expenditures and forward to the Finance and Administration Section.
- Deposit all paper documents with the Planning and Intelligence Section's Documentation/Message Center at the end of your shift.
- Brief your relief at shift-change time. Ensure that activities in progress are identified and follow-up requirements are communicated and fully understood.

Demobilization Phase Tasks

- Begin demobilizing when authorized by your Supervisor.
- Ensure that any open actions are completed or transferred to other EOC elements, as appropriate.
- Ensure that all required forms and reports are completed; close out activity logs, return all checked out equipment, and provide all documentation to the Planning and Intelligence Section's Documentation Unit prior to your release and departure from the EOC.
- Inform counterparts at the EOC, any DOCs, and other relevant agencies that your position is being demobilized.
- Leave forwarding information, including cell numbers and email with the Planning and Intelligence Section's Documentation Unit.
- Participate in all scheduled debriefings and critiques of the emergency response. Be prepared to provide input to the After-Action Report.

ANNEX B: HAZARDS AND SPECIFIC THREATS

The City of Clovis is subject, in varying degrees, to the effects of the following:

- Drought
- Earthquake
- Flood
- Civil Disorder
- Dam Failure
- Hazardous Material Incident
- Nuclear Attack
- Power Failure
- Radiological Incident
- Urban Fire
- Aircraft Crash
- Excessive Heat
- Terrorism
- Epidemic

Additional Information can also be found in the Fresno County Multi-Hazard Mitigation Plan January 2009.

Actions to be accomplished in response to these incidents are contained in Part Two - Position Checklists of this plan and where appropriate, City and County departmental SOPs.

A synopsis of each hazard and its potential effects follows:

DROUGHT

Drought cycles appear to recur approximately every 11-12 years. Response actions include coordination with State and County authorities, water conservation measures, and adoption of land use regulations designed to enhance watershed management.

EARTHQUAKE

Earthquake is considered to be one of the most potentially destructive threats to life and property in Clovis. According to the California Division of Mines and Geology, no active faults exist in the City of Clovis, however, a moderate to severe seismic incident on any of several fault zones in relative close proximity to the city is expected to cause:

- Extensive property damage, particularly to pre-1930s un-reinforced masonry structures.
- Significant numbers of fatalities and injuries.
- Damage to water and sewage systems.

- Disruption of communication systems.
- Broken gas mains and petroleum pipelines, resulting in numerous fires.
- Disruption of surface transportation arteries.
- Competing requests for scarce mutual aid response resources.

FLOOD

Considered one of the more frequently occurring hazards, flooding accounts for the most damage sustained by a disaster during the past 5 years. Projected inundated areas and the severity of inundation are contained in the Flood Insurance Study and the Flood Insurance Rate Map (FIRM), compiled by FEMA and maintained in the office of the City Planning Department.

CIVIL DISORDER

Not considered a recurring threat. Response activities are contained in the departmental SOPs of the City Police Department.

DAM FAILURE

There are two main water detention basins within the city's sphere of influence.

- Pup Creek Detention Basin
- Alluvial Drain Detention Basin

HAZARDOUS MATERIAL INCIDENT

Hazardous materials likely to be involved in a spill or release within the City include herbicides, pesticides, chemicals in gas, liquid, solid, or slurry form; flammables; explosives; petroleum products; toxic wastes; and radioactive substances. The County Health Department is the designated administering agency for the Fresno County area hazardous material monitoring program. In the event of a spill or release, this agency should be notified immediately. Response actions are to follow Fire Department - Standard Operating Procedures.

NUCLEAR ATTACK

Federal and State studies indicate that Clovis is located in a high risk area with respect to the indirect effects of nuclear weapons, and low risk area with the respect to the direct effects of nuclear weapons. Response actions consist of in-place protection, upgrading of homes and existing shelters, construction of new shelters, expedient shelters and spontaneous evacuation (absent government coercion or direction).

POWER FAILURE

Power failure can cause a number of problems within the city, the most dangerous being a loss of water pressure. Water pressure/supply is essential to firefighting operations as well as human consumption. Backup power/systems are necessary to ensure an adequate water supply.

RADIOLOGICAL INCIDENT

Clovis is not located within the mandated planning zones of any nuclear power plant. Therefore, it is anticipated that a peacetime radiological incident would be the result of a transportation accident involving low level material used by hospitals, or in a more remote case, nuclear weapons.

URBAN FIRE

Not considered a recurrent problem. Most likely to occur as a result of some other major event (Earthquake, Explosion, etc.). Response actions would follow City Fire Department SOPs.

AIRCRAFT CRASH

The Fresno Yosemite International Air Terminal is located to the southwest of the City with flight patterns directly over the City of Clovis. Because of the airport's location and flight patterns, there is potential for an aircraft accident to occur within the City of Clovis. Response actions would follow City Fire Department SOPs.

EXCESSIVE HEAT

North American summers are hot; most summers see heat waves in one or more parts of the United States. Heat is one of the leading weather-related killers in the United States, resulting in hundreds of fatalities each year and even more heat-related illnesses. The City of Clovis begins to experience hot weather in May or June of each year and this heat continues throughout the summer months. *For more information refer to the City of Clovis Heat Emergency Contingency Plan*

TERRORISM

Terrorist attacks can occur anywhere, although high-profile locations and events are more likely to be targets. There is no template for a "typical" terrorist attack. Major incidents such as the attacks on the World Trade Center and the Pentagon on September 11, 2001, or the bombing of the Alfred P. Murrah Federal Building in Oklahoma City on April 19, 1995, are a reminder of our nation's vulnerability to these attacks, and highlight California's risk of similar attacks against its public officials, private and multi-national corporations, public infrastructure, and government facilities.

EPIDEMIC

An epidemic is when more than the expected level or number of cases of a disease in a particular location over a specified time period. Epidemics can be the result of human error, the introduction of a new microorganism into a susceptible population, evolution or change in a microorganism, changes in population that increase the number of changes in food production, sources of food, changes in where people live and their interactions with animal vectors, bioterrorism, or a confluence of multiple events.

TABLE 5.-CITY OF CLOVIS-HAZARD SUMMARIES

Hazard	Frequency of Occurrence	Spatial Extent	Potential Magnitude	Significance
Agricultural Hazards	Unlikely	Limited	Limited	Low
Avalanche	n/a	n/a	n/a	n/a
Dam Failure	Unlikely	Extensive	Critical	Low
Drought	Occasional	Extensive	Critical	High
Earthquake	Occasional	Extensive	Critical	Medium
Flood	Occasional	Significant	Critical	High
Landslide	Unlikely	Limited	Negligible	Low
Severe Weather:				
Extreme Cold/Freeze	Occasional	Extensive	Negligible	Low
Extreme Heat	Highly Likely	Extensive	Negligible	Medium
Fog	Highly Likely	Extensive	Negligible	Low
Snow	Unlikely	Extensive	Limited	Low
Tornado	Occasional	Limited	Critical	Low
Heavy Rain/ Thunderstorm/Hail/ Lightning/Wind	Highly Likely	Extensive	Limited	Medium
Soil Hazards:				
Erosion	Unlikely	Limited	Negligible	Low
Expansive Soils	Occasional	Limited	Negligible	Low
Land Subsidence	Occasional	Extensive	Negligible	Low
Volcano	Unlikely	Extensive	Critical	Low
Wildfire	Occasional	Limited	Limited	Low

Guidelines for Hazard Rankings

Frequency of Occurrence:

Highly Likely—Near 100% probability in next year
 Likely—Between 10 and 100% probability in next year or at least one chance in ten years
 Occasional—Between 1 and 10% probability in next year or at least one chance in next 100 years
 Unlikely—Less than 1% probability in next 100 years

Spatial Extent:

Limited—Less than 10% of planning area
 Significant—10-50% of planning area
 Extensive—50-100% of planning area

Potential Magnitude:

Catastrophic—More than 50% of area affected
 Critical—25 to 50%
 Limited—10 to 25%
 Negligible—Less than 10%

Significance (subjective):

Low, Medium, High

PART 3. APPENDICES

APPENDIX 1 RECOVERY ACTIVITIES

The Post-Emergency Period has at least six prime objectives, which may overlap. These objectives are:

- Reinstatement of family autonomy
- Provision of essential public services
- Permanent restoration of public and private property
- Identification of residual hazards
- Plans to mitigate future hazards
- Recovery of costs associated with response and recovery efforts

Recovery Overview

Recovery operations are all actions that will return systems (facilities, infrastructure, social services, etc.) to normal levels of service. There is no clearly defined separation between response and recovery activities, as recovery operations should begin as soon as response operations commence (ideally at the time the disaster occurs). Recovery personnel will continue to use the principles and procedures contained in the ICS/SEMS/NIMS framework. It can be helpful to establish a “Recovery Organization” to identify necessary resources as well as sources of personnel, equipment, and supplies before a disaster occurs. While response operations rely heavily on the Operations and Logistics Sections, recovery operations require greater activity in the Planning and Finance and Administration Sections. The Fresno County Operational Area (OA) may continue to act as an informational and coordination point for Clovis and other Fresno County jurisdictions, but local jurisdictions work directly with State and Federal programs during recovery operations rather than going through the Fresno County OA.

All City departments will be responsible for some recovery and reconstruction duties. Any City department may be called on to provide recovery assistance as needed, and all City departments and staff are expected to comply with reasonable requests for assistance from staff in the Recovery Organization. If a request interferes with the department’s or staff’s ability to meet regular primary and non-deferrable responsibilities, the department or staff shall coordinate with the Coordinator of Emergency Services, who will make the final decision on the request. Departments and staff may also be responsible for coordinating recovery functions between departments and/or external agencies and partners.

SEMS/NIMS regulations require any local jurisdiction that issues a local emergency proclamation, affirmed by the governor declaring a state of emergency, to complete and transmit an After-Action and Corrective Action Report to Cal OES within 90 days after the end of the incident. This report must specify the emergency response actions taken, necessary modifications to existing plans and procedures, any applications or suggested modifications to

the ICS/SEMS/NIMS framework, identified training needs, and any recovery actions taken to date. The Planning Section of the EOC/RCC develops the After-Action and Corrective Action Report and transmits it to the Fresno County OA, which will forward it to Cal OES within the necessary 90-day window. The After-Action and Corrective Action Report should provide a broad perspective of the emergency situation. It should include all documents that were generated by the response activities and contain data gathered from interviews with emergency response staff. Although it does not encompass the post-disaster hazard mitigation plan, Planning Section staff should coordinate the two documents to ensure consistency. Hazard mitigation efforts may be included in the After-Action and Corrective Action Report as part of the discussion of recovery actions taken to date.

If activated for the emergency situation, the City of Clovis’s EOC will generally remain active during recovery operations; however, it is not always advantageous for the EOC to remain at the site of recovery operations, as these operations may persist for months or years and the EOC may be needed for future emergency situations. Depending on the size and time frame of the recovery effort, the Coordinator of Emergency Services may shift recovery operations to a Recovery Coordination Center (RCC). Regardless of whether recovery operations are housed in the EOC or in a separate RCC, the organizations are structured similarly to an EOC during emergency response operations, including a Management Section that oversees four other sections (Operations, Logistics, Planning, and Finance and Administration). A Recovery Officer responsible for setting priorities and determining staffing. The EOC Director will determine who will serve as the Recovery Officer during recovery operations once lifesaving and immediate property protection actions are over. The Clovis recover organization is organized as depicted in the diagram below, with the command staff and individual sections staffed as needed:

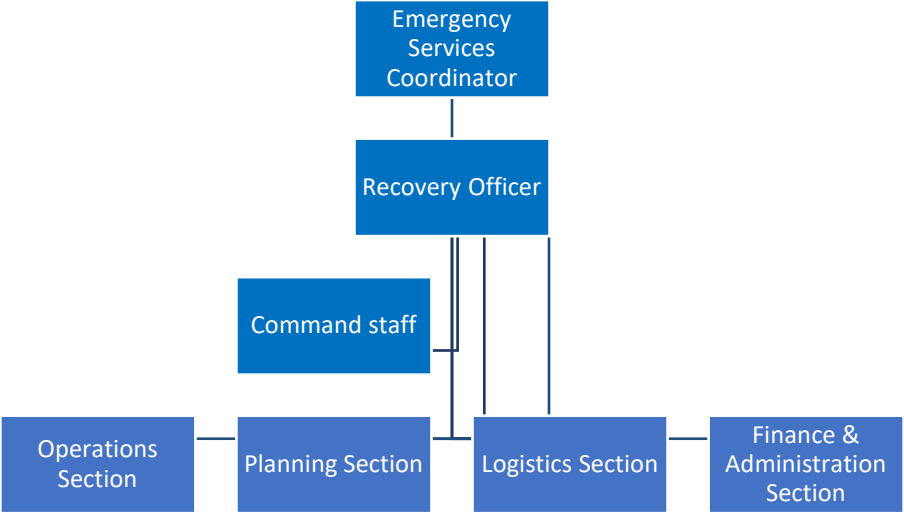


FIGURE 13. RECOVERY ORGANIZATION

Assistance Efforts

If the president issues a declaration of emergency or major disaster, FEMA may provide federal disaster relief funding, in coordination with CalOES. The disaster assistance funds provided by FEMA are not intended to fully replace individual losses, but to return living conditions to a “safe and habitable” state. Depending on the disaster, federal agencies may only provide certain types of assistance. There are three general categories of federal disaster assistance funds: individual assistance, public assistance, and hazard mitigation assistance. Most federal disaster assistance consists of loans from the US Small Business Administration, not grants, regardless of whether businesses are the applicants.

As soon as possible, the State OES Coordinator, operating through the State of California Emergency Operations Center (SOC), will bring together representatives of federal, state, Operational Area, and city agencies, as well as representatives of the American Red Cross (ARC), for the purpose of coordinating the implementation of assistance programs and establishment of support priorities.

Individual Assistance

Individual assistance is intended for private individuals, including residents, businesses owners, and families. All victims of a disaster wishing to obtain this assistance must register to establish their eligibility. FEMA or other applicable federal agencies will verify eligibility and determine the need before offering assistance. Individual assistance includes the following:

- Home repair assistance to repair damage or rebuild destroyed homes not covered by insurance.
- Individual and family grants for necessary expenses and to meet serious needs not filled by insurance or other forms of aid. These costs may include medical costs, clothing, household items, heating fuels, moving and storage expenses, or other costs that impacted individuals may incur.
- Mortgage and rental assistance.
- US Small Business Administration disaster loans to repair or replace disaster-related damages to homes or personal property, to repair or replace disaster-related damages to business properties (including inventories and supplies), or to provide capital to small businesses and small agricultural cooperatives to help them through the recovery process.
- Temporary housing assistance.

Other individual assistance programs include free legal assistance, crisis counseling through FEMA’s Crisis Counseling Assistance & Training Program, unemployment benefits and reemployment services, and support from nonprofit volunteer charities.

Public Assistance

Public assistance is intended to repair, restore, rebuild, or replace public facilities or pieces of public infrastructure that have been damaged or destroyed. This assistance is enabled by the Robert T. Stafford Disaster Relief and Emergency Assistance Act, also known as the Stafford Act. Applications for public assistance must be submitted to the state within 30 days after the area has been designated as eligible for assistance.

Applications are reviewed by FEMA; if approved, FEMA will provide 75 percent of the necessary costs to the state, which distributes the assistance to the local community. The state decides how to split the remaining 25 percent of the costs between the state and the local community. California's cost share, which is generally up to 75 percent of the remaining costs, is authorized under the Natural Disaster Assistance Act. It also covers any overtime and supplies used in the response, and is managed through CalOES.

Staff in the local Recovery Organization will be responsible for gathering information and submitting claims for reimbursement to CalOES and FEMA. CalOES and FEMA will host a post-disaster applicant briefing to describe the program, eligibility rules, filing procedures, and associated deadlines. It is very important for Recovery Organization staff to participate in this briefing, allowing for maximum participation and potentially minimizing future appeals proceedings.

Hazard Mitigation Assistance

FEMA's hazard mitigation assistance grants provide funding for activities that reduce loss of life and property from future disasters. FEMA currently offers three types of hazard mitigation assistance programs:

- The Hazard Mitigation Grant Program, which is open to state and local governments, tribal organizations, and private nonprofit organizations (individuals and businesses may apply through eligible entities). It is intended to fund hazard mitigation activities as part of a disaster recovery effort.
- The Pre-Disaster Mitigation Grant Program is open to state, territory, and tribal governments (local communities, individuals, and businesses may apply through eligible entities). It helps to fund mitigation activities prior to a disaster occurring.
- The Flood Mitigation Assistance Program provides funding for projects that reduce the risk of flood damage to buildings insured under the National Flood Insurance Program. State, local, and tribal governments are eligible to apply

Recovery documentation

Recovery documentation shall be a description of the emergency situation; any disaster declaration or proclamation; lists of recovery teams and resources, disaster recovery training documents; and other documentation as needed to ensure an effective submission. The Finance and Administration Section shall transmit this information to FEMA and Cal OES as appropriate.

APPENDIX 2 TRANSIT EMERGENCY PLAN

Situation

The evacuations of New Orleans and Houston in 2005 due to hurricanes Katrina and Rita were two of the largest evacuations in U.S. history and indicated a number of shortcomings such as the lack of planning to evacuate carless residents, particularly minority, low-income, elderly, and persons with disabilities. In most cases, methods for communicating evacuation options by modes other than personal vehicles were not well developed. Nationally, a number of jurisdictions may indicate locations where public transportation may be accessed, but many have no specific services identified to assist persons in getting to those designated locations. Additionally, emergency transport for low-mobility populations is a persistent and common problem. Despite this attention, relatively little has been done to improve the situation. Although some plans call for the use of local resources for the movement of these populations during times of emergency, the strategies remain questionable.

Local and regional transportation planners, emergency managers, and non-profit organizations face a range of challenges when designing a successful evacuation strategy for the general public and Transportation Needs Populations.

Clovis Transit Emergency Evacuation Database

In the event of a mass disaster, Clovis Transit will make available its Emergency Evacuation Database to Clovis Fire Department to assist in evacuation planning for residents who may require transportation assistance.

Any Clovis resident who may need transportation assistance in the event of an emergency requiring evacuation can call Clovis Transit at (559)324-2770 for more information. The information in the database will be used by emergency responders to determine what type, if any, of transportation is needed.

Public Communications and Preparedness

Successful evacuations hinge on effective communication between the Clovis departments responding to the emergency and the people directly affected by the emergency, particularly those being evacuated. In this case, communication with Transportation Needs Populations is critically important. The term Transportation Needs Populations covers a wide variety of individuals, with potentially very different transportation needs. As a result, communication

strategies vary. It is clear that just one communication method will not successfully reach each of these groups. Examples of various Transportation Needs Populations groups are:

- Low income, do not own a vehicle;
- Visitors to the area without access to a vehicle;
- Language barriers; in the Clovis area includes Hispanic or Latino, Asian, and Pacific Islander
- Physical or medical conditions affecting mobility but not ambulation (visually impaired, mental health, oxygen or other medical device dependent, etc.);
- Individuals who use a wheelchair;
- Individuals that are confined to a bed;
- Able-bodied individuals that own a vehicle but choose to not self-evacuate (based on fear or other reasons);
- Other able-bodied individuals who may not be able to self-evacuate; and
- Other carless individuals who do not need any support other than directions to the transfer/pick-up point (transit stop).

Assumptions

- During an emergency, the majority of people requested to evacuate will cooperate. However, some Transportation Needs Populations will refuse to evacuate even though they are at risk; this may include individuals without vehicles, tourists, and those who are homeless, etc.
- Because some Transportation Needs Populations suffer from mobility or sensory impairment, they will require specialized assistance in order to evacuate.
- Language barriers within the Hispanic or Latino, Asian, and Pacific Islander communities will hamper evacuation.
- Schools in the Clovis area have evacuation protocols that enable them to communicate effectively with both students and parents, and to utilize their available resources to evacuate students.
- Functional care facilities based in the area that serve unique populations, (e.g., hospitals, nursing homes, etc.) typically develop internal emergency response procedures. This includes evacuation procedures, protocols to communicate effectively with residents and families, and the ability to utilize available resources to evacuate residents.
- Persons commuting by private vehicle within the Clovis area are expected to evacuate in their own vehicles unless it is not possible due to the nature of the disaster. Similarly, persons commuting via transit are expected to evacuate via the same transit means.
- The Clovis Transit Service can take the lead during an evacuation to serve the Transportation Needs Populations. Their roles include:

- Evacuating individuals from transfer/pick-up locations to the designated drop-off locations. (Drop-off locations are designated areas that accommodate evacuees awaiting further instructions for sheltering. These are typically larger gathering areas that provide protection from inclement weather for four to eight hours).
- Notifying their paratransit services and any additional paratransit service providers about the evacuation. The paratransit agencies will coordinate the transportation of transportation needs evacuees from the designated drop-off locations to mass care facility shelters.
- Coordinating the routing, transfer/pick-up, and drop-off locations with regional transit agencies.
- Providing secondary routing for transportation needs evacuees from drop-off locations along established routes either back to the vicinity of their residence or to long-term shelters.

CONSIDERATIONS

Transportation Needs Populations within Functional Care Facilities

Hospitals, health care facilities, and senior care facilities located within the Clovis area will be evacuated in accordance with their own pre-planned internal procedures. In most cases, they will utilize their own available transportation resources. However, these plans are often inadequate when responding to an evacuation order that is more geographically widespread. Multiple institutions may be relying on the same set of transportation resources and, if coordination or pre-planning is lacking, some institutions may not be able to utilize the resources included in their plans. In addition to those residing in functional care facilities, there are persons with special needs who are otherwise independent in their daily living. Examples include individuals with significant immobility and those with sensory or cognitive/developmental impairments who may be assisted in their daily living by visiting nurses, home health aides, personal care attendants, medical equipment providers, or similar services.

Reentry for the Transportation Needs Populations

Reentry for the Transportation Needs Populations will be initiated by the Clovis Emergency Services Coordinator on clearance from the Incident Commander (IC). The clearance shall be based on a thorough assessment of the affected area and the conclusion that the affected area is sufficiently safe to permit reentry of residents and property owners. The Clovis Emergency Services Coordinator will appoint a Reentry Coordinator. The Reentry Coordinator is responsible for coordinating the reentry procedures with all involved agencies and ensuring effective communication. The IC, emergency management officials, and other relevant authorities must evaluate the factors identified above to determine if they meet prerequisite standards for reentry.

In order to meet such standards, the assessment of conditions preceding clearance for reentry shall include but is not limited to:

- Ensuring that the threat that caused the evacuation is over.
- Ensuring that hazardous conditions, including damaged structures, trees, infrastructure, roadways, and utilities, have been secured and no longer present danger.
- Determining that county services such as transit bus providers are sufficient to support the returning population.
- Coordinating the care of residents with disabilities who may need additional assistance in order to return home, particularly if the disaster impacted the area immediately surrounding their residence.

Checklist-Transit Emergency Evacuation

The following checklist covers operational tasks, duties, and responsibilities. This checklist supplements ICS Position Checklists covered in the EOP Part Two Annex. This checklist provides memory joggers for those operating within the EOC to assist/ensure the completion of critical transit evacuation tasks and is not necessarily in sequential order. This checklist does not supplant existing evacuation procedures or protocols.

Task	Oversight Provider	Yes/No
1. Acquire/provide Emergency Evacuation Database to assist in evacuation planning for residents who may require transportation assistance.	Fire/Clovis Transit	
2. Identify and select type and number of vehicles needed to meet emergency evacuation needs for the Transportation Needs Populations. Note: Hospitals, Nursing Homes, and like institutions must procure their own transportation resources and cannot rely on city-wide assets.	Fire	
3. Determine and mobilize qualified volunteers drivers to transport Transportation Needs Populations.	Clovis Transit	
4. Activate ramp equipped van/bus service for people with disabilities, elderly, and other populations with special needs.	Clovis Transit	
5. Mobilize on-duty bus drivers. Institute call-back for off-duty operators.	Clovis Transit	
6. Identify hospitals, assisted living facilities, senior living facilities, and nursing homes throughout the affected area and coordinate evacuation.	Emergency Services Coordinator	
7. Direct Transportation Needs Populations individuals to bus stop locations serving as transfer/pick-up and drop-off locations.	Police	
8. Instruct bus operators to immediately return to the affected area once Transportation Needs Populations evacuees are discharged at drop-off locations and to avoid picking up passengers attempting to travel inbound.	Clovis Transit	
9. Dispatch vehicles to return Transportation Needs Populations evacuees from drop-off points to take them as near as possible to their final destinations. Note: This service will continue until all evacuees are disbursed from drop-off points.	Clovis Transit	
10. Provide service to Transportation Needs Populations residents or other individuals to return to the impacted area as needed once the evacuation order has been lifted.	Clovis Transit	

CITY OF CLOVIS
PUBLIC UTILITIES

EMERGENCY FLOOD



CONTROL PROCEDURE

October 1, 2021



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PART I: Resources

COMMUNICATIONS/CONTACTS

PUBLIC UTILITIES DEPARTMENT

Telephone – 324-2600

	OFFICE	HOME	CELL
Scott Redelfs, Public Utilities Director	324-2648	299-7979	862-5123
Paul Armendariz, Assistant Public Utilities Director	324-2649		213-2540
Glenn Eastes, Assistant Public Utilities Director	324-2684		905-7322
Rob Rush, Utilities Manager	324-2611		977-3900
Eric Aller, Parks Manager	324-2616		250-6518
Ivette Rodriguez, Solid Waste Manager	324-2612		970-8528
Arthur Negrete, Streets Manager	324-2639		314-5323
Leon Penney, Water Production Manager	324-3038		593-6207
Kendall Cook, Fleet Maintenance Manager	324-2671		349-3445
Nick Torstensen, Supervising Civil Engineer	324-2662		385-8180
Michelle Johnson, Safety Officer	324-2640		341-4029
Kristen Freberg, Management Analyst	324-2601		836-8540

PUBLIC UTILITIES LEADWORKERS

	OFFICE	HOME	CELL
Dawyne Balch, Landfill	324-2637	355-3934	696-8248
Jesse Bravo, Water Service	324-2622		326-4131
Karyn Chilpigian, Parks	324-2651		355-2960
Gerald Conley, Commercial Waste	324-2631		696-8246
Roy Evans, Signs & Striping	324-2656	708-0574	916-4010
David Garcia, Wastewater	324-2624		304-9348
Victor Oliva, Parks	324-2652		567-8109
Robert Peralta, Fleet	324-2673		797-5206
John Pino, Street Maintenance	324-2660		320-5160
Jason Schneider, Residential Waste	324-2632		696-8247
Judith Sigala, Meters	324-2623		455-7957
James Stringfield, Fleet	324-2674		273-7556

Ronald Talley, Street Sweeping	324-2633		696-8249
Cohen Van Noy, Valves	324-2625		907-3995
Jack Wagner, Water Production	324-2621		470-9169
Barry Walzberg, Parks	324-2653		916-4007

CONSTRUCTION MANAGEMENT

	OFFICE	HOME	CELL
Mike Harrison, City Engineer	324-2365		281-3246
Travis Saether, Construction Manager	324-2313		765-6324
Matt Buller, Sr Eng Inspector	324-2389	243-6954	246-8621
Navjot Chahal, Eng Inspector	324-2353		513-9819
Kris Diaz, Sr Eng Inspector	324-2366		593-6823
Dan Lesmerises, Eng Inspector	324-2318		217-8500
Shawn Scott, Eng Inspector	324-2358		797-0031

GOVERNMENT AGENCIES

City of Clovis

Clovis Police Department – Dispatch – 324-2800 or 911 (Dial 9 before 911)

Fire Department – 324-2200 – 324-2228 (Dispatch Center) (911 – fire and medical emergency only)

Chad Fitzgerald – Emergency Preparedness Manager – 324-2218 or 593-3289

Professional Exchange Service Corporation – 244-2523 or 228-6140

Consolidated Mosquito District – Jodi Holeman (Superintendent of Operations) – 896-1085

Fresno Metropolitan Flood Control District - 456-3292

Fernando Tapia (Field Operations) – 341-4511

Mark Featherstone (Field Operations) – 260-5066 (cell)

Bret Phillips (Field Operations) - 301-8574 (cell)

Paul Allen (Facilities Manager) - 696-1035 (cell)

Pete Sanchez (General Manager) – 301-1058 (cell)

Brent Sunamoto (District Engineer) - 908-8307 (cell)

Jarrod Takemoto, (Operations Engineer) – 267-8676 (cell)

Dwayne Farrow (Construction Manager) - 696-1037 (cell)

Jared Shuman (Environmental Resources Manager) – 456-3292 (office)

Emergency on-call cell 981-0522

Fresno Irrigation District (FID) – 233-7161

221-3873 (24 hours)
 244-2523 (answering service)
 Bill Stretch, General Manager - 647-5722
 Jim Irwin, Water Master - 647-5569
 David Burrow, Assistant Watermaster 647-7771
 Murray Krum – Water Sup 647-5580
 Mike Peoples – Water Sup 647-5567
 Mike Prestridge – Construction & Maint. Supervisor 647-5570
 Phil Stanley – Water Sup 647-5568
 Lawrence Kimura – Chief Engineer 647-5579
 East Clovis Ditchtender - 647-5582

Cal Trans – 488-4067 (Elizabeth – 916-8183 cell)

Carlos Lomeli (Maintenance Area Superintendent) 240-0070
 John Liu (Deputy District Director) 488-4144
 Robert Gonzalez – (Highway Maintenance Supervisor - 168) 840-7483
 Mikey Sanders (Water Manager) 655-4571
 Tiffany Tempson (Lead Irrigation) 284-2526

Fresno County – Road Maint. Crew – 600-4240 or 600-4078 x5 (after hours Sherriff dispatch - 600-3111)

David Bookwalter (Auberry Supervisor) – 554-5439
 Carl Hall, (Eastside Superintendent) – 443-9319
 John McCormick (Supervisor Area 7 - Fresno/Clovis) – 545-5354
 Jonathan Ryan (Supervisor Area 8 - Sanger) – 317-9324
 Office of Emergency Services after hours – 600-4055
 Ken Austin – Office of Emergency Services Manager - 600-4065

Clovis Unified School District

Ralph Westcott – 327-9290 (office) / 908-5557 (cell)
 327-9777 (Supervisor on call 24 hours-on call) / 351-2773 (Friday 4:00pm – Monday 7:30am).
 Dean McCluskey (Plant Operations) 327-9535 (office) / 352-6958 (cell)
 Chris Petty (Director of Plant Operations) 327-9506 (office)

City of Fresno (emergency after hours) 621-1100

One Call Center - 621-2489
 City of Fresno – Emergency Preparedness Officer – Jeff Guynn Cell 970-8873 and 621-7796

Department of Public Utilities (DPU)

DPU Emergency Preparedness Manager – Martin Wendels – 621-5390; Cell 974-4132
 DPU Emergency Preparedness Coordinator – May Albiani – 621-8635; Cell 267-3181
 DPU Director, Michael Carbajal – 621-8610; Cell 907-3604
 Solid Waste Operations – Assistant Director – *Vacant*– 621-1801

Wastewater Operations (Sewer Collections and Maintenance) – Wastewater Manager – Art Alvarez 621-1270; Cell 994-2854
 Sewer Maintenance – 621-8249 Back up Tolbert Campbell 621-1260 (office) / 994-2853 (cell)
 Water Operations – Assistant Director – Bud Tickel – 621-5314; Cell 260-3055; Back up Chris Carroll 621-5481 (office) / 908-0594 (cell)

Public Works Department

Public Works Director – Scott Mozier 621-8811 (office) / 246-7348 (cell)
 Street Maintenance - 621-1492 - Brian Russell 621-1309 (office) / 908-5769 (cell)

UTILITIES

Pacific Gas & Electric

1-800-743-5000

EMERGENCY SERVICES

Food

Salvation Army -
 Clovis Food Pantry (Clovis only) – 298-6797
 Fresno Residents only - 233-0138

Bedding, food, medical

American Red Cross – 455-1000 (24 hrs).

Hospitals

Clovis Community – 324-4000
 2755 Herndon, Clovis

St. Agnes – 450-3000
 1303 Herndon, Fresno

Ambulance

If, in your opinion, an ambulance is needed, or the injured person requests an ambulance, call Clovis Police Department to dispatch the ambulance.

324-2800 / 911

SUPPLIERS/CONTRACTORS

Barricades	Alert-O-Lite – 2436 Foundry Park Ave	486-4570
	Safety Network – 1345 N Rabe	291-8000
Sand	Rosenbalm - 1745 N. Hughes	256-3900
	After 5 p.m. (Todd) cell:351-9404 or home:	297-5057
	Goodall Trucking	233-4120 Jerry
	Clovis Stone and Supply – 47 N. Sunnyside	299-9577
	Granite Construction - office	441-5700 / Jeff Grimm 318-6032
	Granite #'s: Mark Thorton – 318-6193 or Dan Tool	351-1813
	Vulcan Materials (07:00 – 3:00) 11099 Old Friant Rd. –	434-1202 or 434-0464
Sand Bags	Sacramento Bag Manufacturing	Gary916-893-3790
	Saddleback Materials	(800) 286-7263 – Riverside, CA
	White Cap – 5780 E. Shields	294-9000
	Constar – 200 Park Creek	297-6070
	Alert-O-Lite – 2436 Foundry Park Ave	486-4570
	An-Wil Bag Company	(951) 778-7798 – Riverside, CA
Hoses	Calif. Industrial Rubber – 2539 S. Cherry Av	268-7321
	After hours: Mikey	351-1251
Pump/Generator Rental	United Rentals – 5741 S. Toyota 834-6207	Todd Henry – 244-1292
	After hours: Todd Henry	559-244-1292
	Quinn Rentals – 3594 S. Bagley Ave.	268-8800
	After hours: Jason Gonzalez cell (308-6315)	
	Rain for Rent – office (pump & irrigation)	693-4315 - San Joaquin, CA
	Abe Ramirez or David Pinheiro	559-246-8324 / 907-0274
	Mike Bronze	559-907-8379
	Valley Power Systems - 2935 S. Orange	486-6900
	Alert-O-Lite – 2436 Foundry Park Ave	486-4570
	Gleim-Crown Pump Co. – 3087 S. Elm Ave.	266-0584 – 24hrs.
	Granite Construction – office 441-5700 or Jeff Grim	
	Granite #'s: Mark Thorton – 318-6193 or Dan Tool	351-1813
	Ahern Rental – 3591 E. Date Ave.	495-4000
Electrical Repair	Gleim-Crown Pump Co. – 3087 S. Elm Ave.	266-0584 - 24hrs.
	Industrial Electrical Co. – 2516 N Sunnyside	292-4714
	Valley Power Systems – 2935 S. Orange	486-6900
Pump Repair	Gleim-Crown Pump Co. – 3087 S. Elm Ave.	266-0584 – 24hrs.
	Valley Power Systems - 2935 S. Orange	486-6900
	Bogie's Pump Systems – 4916 E. Ashlan	291-9701
Heavy Equipment Rental	United Rentals – 5741 S. Toyota Ave.	834-6207
	After Hours: Todd Henry. (cell)	244-1292
	United Rental trench safety – 5704 S. Toyota	442-8989
	After Hour: (cell) 994-0611 (cell) 805-4022	
	Quinn Rentals – 3594 S. Bagley Ave.	268-8800
	After hours: Jason Gonzalez cell (308-6315)	
	Save Sum Rentals – 1475 Tollhouse Ave.	298-1713 - no after-hours #

Radio Repair	Vincent Communications-5773 E. Shields	292-7010
Vacuum Truck	Video Inspection Specialists- 4705 W Santa Ana	(559) 276-0186
	United Storm Water – City of Industry, CA	(626) 961-9326

Available Supplies to Public

Sand and sandbags – Clovis City*	155 N. Sunnyside	324-2600
Sand and sandbags – Fresno County	Biola Area, 12855 W G	600-4240
Sand and sandbags – Fresno County	Clovis area, 9400 N Matus	600-4240
Sand and sandbags – Fresno County	9525 E. Olive (McCall)	600-4240
Sand and sandbags – Fresno City	El Dorado & E Street	621-1492 or 621-1100

*Clovis area supplies will only be distributed to citizens residing within the city limits of Clovis. Amount of bags should be limited to ten (10) per residence unless evidence suggests otherwise.

CITY PERSONNEL

Utilities Section – Available Personnel – 39

Rob Rush, Utilities Manager — Cell 977-3900
 Leon Penney, Water Production Manager — Cell 593-6207

Water Section

Jesse Bravo, Leadworker	326-4131
Judith Sigala, Leadworker	455-7957
Cohen Van Noy, Leadworker	907-3995
Davy Arizmendez, SMW	577-7214
Shane Atkins, SMW	347-8615
Brent Brown, SMW	349-6021
Julio Castaneda, SMW	827-6703
Anthony Flores, MW	360-4828
Tom Fonville, SMW	476-6164
Ken Heard, Mtr/R	250-4597
Irene Mejia, Mtr/R	917-0556
Fernie Nino, Mtr/R	458-9914
Panha Pang, MW	312-7797
Scott Rentfrow, UW	353-1147
Chris Rodriguez, SMW	326-9245
Adam Stahl, SMW	286-7652
Alex Gaxiola, UW	355-1890
Bobby Larson, MW	800-1160

Sewer Section

Dave Garcia, Leadworker	304-9348
Chris Bridges, SMW	392-2568
Dustin Buckley, SMW	250-1551
Christopher Jensen, SMW	392-3354
Michael Montanez, SMW	305-7575
Robert Phipps, SMW	712-0571
Tom Wall, SMW	916-4034
John Torres, UW	285-8953
Jacob Gutierrez, UW	360-5340

Water Production

Jack Wagner, Leadworker	470-9169
Austin Castro, AWST	419-979-3143
Joseph Faurie, UW	970-2273
Claudio Garcia, TPO	346-1182
Nick Gasparini, MW	248-6520
Thomas Heather, TPO	916-4021
Erika Jacobo, AWST	593-9283
Alex Kudinovich, AWST	818-572-7765
Dave Mellberg, TPO	351-6733
Joshua Ross, AWST	593-8029
Aaron Van Noy, SMW	246-6975
Esteban Avila, UW	562-879-6552

Street Maintenance Section – Available Personnel – 13

Arthur Negrete, Streets Manager – 559-314-5323

Roy Evans, LW	916-4010/222-4020	John Pino LW	593-9861/320-5160
Marc Medina, MW	960-1553	Robert Peralta, MW	301-6900
Brent Westrick, SMW	349-5057	Loaland Brittsan	978-1695
Michael Allen, MW	474-5089	Ryan Kajitani, SMW	801-3638
Jason Corona, UW	408-706-6351	Joe Sanchez, MW	906-5135
		William Glass, UW	545-5138
		Darrick Woodall, MW	448-6689
		James Holocker, SMW	970-0525

Parks Section – Available Personnel – 19

Eric Aller, Parks Manager – Cell 250-6518

Karyn Chilpigan, Leadworker	355-2960
Victor Oliva, Leadworker	567-8109
Barry Walzberg, Leadworker	916-4007
Luis Valtierra, SMW	836-3375
Rickey Coleman, SMW	210-4167
Ricky Amparan, SMW	250-2997
Ryan Merkord, SMW	776-6228
Andrew Boyer, MW	862-7512
Cordey Madden, MW	394-6107
Marco Segovia, MW	577-4933

Victor Engle, MW	797-0839
Vacant MW	
LeAndre Steele, MW	412-3388
Ruben Zaragosa, UW	681-4142
Everett Weber, UW	906-2987
Zach Balch, UW	326-6967
Paul Castro, UW	286-5902
Ryan James, UW	349-0087
Brenden Christopher, UW	903-3306
Adrian Salas, EH-UW	348-7403

Solid Waste Section – Available Personnel – 46

Ivette Rodriguez, Solid Waste Manager – 559-970-8528

Gerald Conley, Ldwrkr	696-8246
Roger Dawyne Balch, Ldwrkr	696-8248
Ronnie Talley, Ldwrkr	696-8249
Jason Schneider, Ldwrkr	696-8247
Mitchell Albertson, UW	760-7473
Alex Arikian, SSO	975-9447
Lanny Bailey, SSO	960-4671
James Bennett, SSO	289-0530
Andy Burns, SSO	287-7382
Sonny Cervantes, UW	575-2168
Andres Barraza, UW	
Daniel De La Cruz, SweepOp	289-2142
Jeremy Hoff, UW	244-9594
Benjamin Echeverria, UW	708-9165
Logan Felix, SSO	930-4762
Jason Holland, UW	
Michael Gilbert, SSO	408-4116
Jose Grano, Equip. Op	798-4139
Nathan Gullidge, SSO	246-7692
Reginald Guzman, SSO	246-0760
Eric Hernandez, SSO	970-0624
Jordan Hernandez, UW	970-7157
Jeffrey Jensen, Sweep Op	779-6777
Donald Large, UW	681-6299
Mike Larkin, SSO	593-5558

Levy Lopez, SSO	393-3651
Martin Macias, UW	367-1530
James MacIsaac, SSO	593-3561
Jaime Maldonado, SSO	967-3508
Steve Mejia, SSO	824-4031
Jason Demler, MW	977-6599
Juan Najera, UW	269-3522
Ivan Marquez, UW	
Adam Garcia, UW	
Greg Paminto, SSO	260-0455
Barry Patton, Sweep Op	974-5847
Ermilio Perez, SSO	801-7422
Charles Putnam, UW	281-5788
Samuel Rivera, UW	312-4015
Sal Rizo, SSO	243-6779
Ed Rodriguez, SSO	353-1299
Julio Rodriguez, SSO	417-1920
Neil Ryan, UW	577-6113
James Simmons, SSO	283-0875
Ronnie Talley, SSO	307-7277
Erin Thomas, EO	800-0600
David Vega, SSO	916-9325
Pedro Vera, UW	567-8402
Jeromie Wood, UW	284-4324

Stanton Lewis, SSO	253-3294		
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Fleet Maintenance Section – Available Personnel – 15

Kendall Cook, Fleet Manager – Cell – 349-3445

James Stringfield, Leadworker	273-7556
Robert Peralta, Leadworker	797-5206
Vacant, Parts Runner	
Mark Bassett, Eq Mech	473-3229
Raymond Callahan, Parts Clerk PM	905-8674
Luis Baldi Cardona, Eq Mech	
Francisco Cordova, Eq Mec Ast	708-7603
Adam Ceccarelli, Eq Svc	903-6722

Austin Emrany, Parts Clerk AM	232-2560
Sean Gillespie, Eq Mech	940-1498
Manuel Martinez, Eq Mech Asst	276-8440
Wayne Mortensen, Eq Svc	907-0460
Nathan Porchas, Eq Svc	374-8057
Steven Schiedel, Eq Mech Asst	307-4847
Vincent Steele, Eq Mech	977-4014
Joey Guerrero, Serv Wrtr	217-0664

ADMIN/CLERICAL – Available Personnel – 16

	Home	Cell
Rey Empleo, Civil Engineer	299-3728	906-5067
Sarai Yanovski, Civil Engineer		
Kevin Tuttle, Civil Engineer		359-9149
James Dunkle, Senior Engineering Inspector		288-6792
Paul Dunn, Electrician		289-0517
Brian Sutterfield, Electrician	283-1575	765-1115
Cleveland Wardrick, Engineer 1		765-7515
Haya Qutob, Engineering 1		892-5221
Bret Johnson, Engineering Tech		871-6921
Dan Lumeya, Engineering Tech		475-4182
Administrative Assistant		
Liz Holguin, Principal Office Assistant		353-1867
Maria Andrade, Principal Office Assistant		408-836-9235
Lisa Morris, Principal Office Assistant	271-4576	385-6141
Sarah Najera, Principal Office Assistant		286-5993
Sarah Payne, Principal Office Assistant		301-5097
Aaron La Mattina, Principal Office Assistant		367-7780

CITY EQUIPMENT

Storm Control		
39005	Multiquip pump 4" 500 gpm	
39007	2006 Powerprime 6" 2000 gpm	
39012	2008 Powerprime 4" 780 gpm	

Water		
32003	2002 Chevrolet 3500 Pickup	SWTP
42011	2003 GMC 1-ton	C Garcia
42020	200 KW Generator	CORP Yard
42027	1997 Honda ATV	
42038	Small equipment trailer	
42040	2003 Backhoe	Brown
42045	2004 trail king backh trailer	42045
42047	2005 CAT #500L forklift	
42048	2009 Panther 5x8 dump trlr	
42049	2008 Ford 650 7 yd dump	Stahl
42052	2008 JD Mini excavator	Atkins
42053	2008 Jacobsen 18,000# tilt	
42059	2016 Ford minivan	Larson
42063	2008 1 ton service truck	Kudinovich
42070	2008 Bobcat Toolcat	
42072	2010 Ford F-150	Wagner
42073	2010 Ford F-150	Faurie
42111	2020 Chevy 1500 XTRA CAB	Sigala
42075	2011 Ford F-250	
42076	2011 Ford F-450 utility	Atkins
42077	2011 F-150	Van Noy
42078	2012 Ford F-350 stake bed	Gasparini
42079	2011 Ford F-650 utility	Arizmen dez
42082	2012 F-250	Gaxiola
42083	2013 F-150	Nino
42084	2014 Ford F-250	
42085	2014 Jacobsen trailer	
42086	2014 Int 15 yd dump	Brown
42087	2015 Signal Board	
42088	2016 Dodge 1500	SWTP
42089	2016 Nissan Frontier	Mejia
42090	2016 Dodge 1500	Johnson
42092	2016 CAT backhoe 420	Stahl
42097	2017 Chev 1 ton valve trk	Flores
42098	2017 Chev 1 ton valve trk	Fonville
42099	2017 Chev 1 ton valve trk	Larson
42100	2018 Chev 1500	Dunkle
42101	2018 Chevy 1500	Heard
42104	2019 Dodge 1500	Vacant

Parks		
51100	2017 Dodge Ram 1500	Eric Aller
51025	2014 Ford F250	Amparan
51041	2007 Vermeer tree chipper	
51002	2020 Ford F-250	Oliva
51055	2003 Dargo tilt trailer	
51059	2013 GEM	
51068	2005 Jacobsen tilt trailer	
51070	2007 Jacobsen tilt trailer	
51071	2008 Jacobsen brush trailer	
51077	2008 Ford F350 box dump (small tree truck)	
51003	2020 Ford F-250	Walzberg
51088	2011 Ford F250 PU	Salas
51086	2021 Ford F-150	Chilpugian
51090	2011 Chevy 1500	Christopher
51092	2011 Ford F-150 ex cab	James
51082	2021 Ford F-150	Coleman
51097	2016 Ford F250	Segovia
51018	2021 Altec	Amparan
51030	2002 Chevy 3500 small dump	
51053	2005 Kubota	
51058	2005 Dargo dump trailer	
51001	2018 Toyota Tacoma	Steele
51108	2017 Ford F-250	South Mow truck
51110	2018 Ford F-350	Merkord
51111	2018 Ford F-350	Castro
51112	2020 Ford F-250	Central Mow truck
	Wastewater	
41015	2013 International Camel	
41016	2013 Ford F-450	Buckley
41017	2016 Ford F-250 4x4	Jensen

41018	2016 Dodge 1500 pickup	Garcia
41019	2016 Ford Video Van	Phipps
41020	2019 Kenworth Vactor	Montanez
41021	2020 Kenworth Vactor	Wall

42105	2019 Dodge 1500	Pang
42107	2020 Ford F350 utility	Rodriguez
42109	2020 FordF350 crew cab 4x4	Stahl
42110	2020 FordF150 crew cab 4x4	Bravo
41006	2009 International Camel	
	Fleet Maintenance	
45018	Chevy service truck - FD	
51076	2007 Ford F250	

Streets Maint.		
32010	2015 Chevy 1 ton	Westrick, Evans, Medina, Allen, Corona
3202	2003 Chevrolet PU	Kajitani
32040	2016 GMC Stencil truck	Westrick, Evans, Medina, Allen, Corona
32008	2014 Chevy stencil truck	Evans, Westrick, Medina, Allen, Corona
32014	2007 Pace Cargo Trailer	Westrick, Evans, Medina, Allen, Corona
33025	2008 Airman Compressor	Street Maintenance crew
33042	2016 International Patch Truck	Holocker, Kajitani, Brittsan, Peralta, Glass, Pino
33044	2016 Ford F350	Street Maintenance crew
33037	2017 Bobcat Skid Steer	Sanchez, Kajitani, Holocker. Joe can operate it but he can't pull it to the job site.
33022	2007 Gem State Bobcat Trailer	Holocker, Kajitani, Brittsan, Glass, Pino
32016	MRL Pre-Melter Trailer	Evans, Westrick, Medina, Allen, Corona
33028	2014 Arrow Board	Street Maintenance crew
33032	2012 International dump truck	Holocker, Kajitani, Brittsan, Peralta, Glass, Pino

Landfill	
40033	Roll-off truck
40063	Ford F 250 4X4 pickup
40066	2015 CAT 420 F backhoe
40062	2002 Cat D-9
40094	2015 Cat scraper 623K
40096	2016 Int'l Ford water truck
40077	Ford lube truck int'l
40078	2018 Cat Grader
40079	1997 Aljon compactor
40093	2016 Int'l dump truck
40089	4" water pump with trailer
40090	6" water pump with trailer
40092	2010 Aljon compactor
40070	2016 Cat 972 loader
40061	D-8 Dozer
40091	F-350 Crew Truck

32013	2016 Chevy 1500		Street Sweeping	
			31007	2005 Tymco Sweeper
			31008	2005 Tymco Sweeper
33035	2015 Cement Mixer Trailer	Street Maintenance crew		
33036	2016 Thompson (traffic Control) Trailer	Street Maintenance crew	31013	2008 Elgin CNG Sweeper
			31014	2008 Elgin CNG Sweeper
33040	2011 Ford PU	Street Maintenance crew	31018	Tymco CNG Sweeper
33041	2015 Chevy flatbed	Street Maintenance crew	31019	Tymco CNG Sweeper
33047	2019 Ford F150	John Pino	31020	Tymco CNG Sweeper
33043	2016 Ford F350 Flat bed	Street Maintenance crew	31021	Tymco CNG Sweeper
			31022	Tymco CNG Sweeper
33046	2018 Case 217 tractor	Holocker, Kajitani, Woodall, Sanchez, Brittsan, Pino	Loaders	
			40055	Case Loader
3330	2000 Trail king lowboy trailer. The tractor goes with the trailer	Holocker, Kajitani, Brittsan, Glass, Pino	40058	Case Loader
			40059	2010 Case Loader
33039	2018 Case 621 Loader	Holocker, Kajitani, Woodall, Sanchez, Brittsan, Pino	Metal Truck	
			41056	2004 Int'l flatbed w/crane claw
33028 & 33045	Arrow Boards (2)	Street Maintenance crew		

PART II: Procedures & Forms

EMERGENCY FLOOD CONTROL PROCEDURES

The Public Utilities Department has established three (2) Storm Water Patrol teams, comprised of 22 Public Utilities field employees, to respond for emergency flood control measures. Each team has a FIELD LEADWORKER and a YARD LEADWORKER. The teams have been assigned on a rotating weekly basis during the rainy season from October through June. Each team composition includes two Leadworkers and a cross section of employees from various work sections. The advantage of this cross section allows access to each section's resources: shops, tools, equipment, and vehicles.

Each FIELD LEADWORKER should be prepared in advance to contact some alternate employees from the same section from which a member of his team is unable to respond in order to assure access to equipment.

PUBLIC NOTIFICATION

Certain events may require news and/or social media notification. Widespread street flooding and/or closures, evacuations, and opening of a full Incident Command Center are qualifying events for public outreach. The City's Public Affairs and Information Manager or department liaison shall be contacted to initiate and coordinate the public outreach, press releases, and social media notifications. Information and status updates should be directed to the City's Public Affairs and Information Manager, Chad McCollum, as well as Management Analyst Kristen Freberg in Public Utilities. Information provided should include location and severity of the situation, effects on City services and expected duration, and any information relevant to City response (including estimated time of service restoration).

<i>Chad McCollum, Public Affairs & Information Mgr.</i>	<i>476-6293</i>
<i>Kristen Freberg, Management Analyst</i>	<i>836-8540</i>

PROCEDURE

If there is only a light or moderate rain, the FIELD LEADWORKER should wait for a notification call/complaint from a manager, the after-hours answering service, or the Police Department. Upon arriving at the Sunnyside Avenue Corporation Yard, the responding FIELD LEADWORKER assumes the responsibilities of INCIDENT COMMANDER (IC). The FIELD LEADWORKER/IC should (1) notify the UTILITIES MANAGER of his location, (2) notify the Police Department that staff is on shift for storm related calls, (3) call the answering service and give them the number where he can be contacted for storm related calls, and (4) visit the problem locations reported by Clovis PD or the answering service. Based upon field observations, the FIELD LEADWORKER shall (5) call the YARD LEADWORKER, or other experienced staff, to

act as the YARD LEADWORKER, to report to the yard if the situation warrants. (6) Once the severity of an event requires a YARD LEADWORKER, the first action of the YARD LEADWORKER shall be to call in one or more field personnel to work under the direction of the FIELD LEADWORKER/IC.

The duties of the FIELD LEADWORKER shall be to check all reported areas of flooding, known drainage trouble spots and storm pump locations. The number of flooded areas and severity of street flooding shall determine if the YARD LEADWORKER and additional personnel are required. He shall keep the YARD LEADWORKER informed of the status so that personnel can be dispatched accordingly. He shall also report all unusual circumstances such as road closures, unusual flooding, signal lights out etc., to the YARD LEADWORKER who shall notify the Police Department and the Fire Department immediately.

The YARD LEADWORKER assumes the responsibilities of several functions within the Planning and Logistics Sections, including Resources, Situation Documentation and Supply Unit Leader. The YARD LEADWORKER's duties are to call in crews as needed by the situation. He shall also monitor and log all complaint calls and dispatch crews as needed, monitor staff locations, the availability of materials and equipment and order supplies as necessary. The YARD LEADWORKER will also complete the storm log and complete all necessary forms. The yard leadworker may call in yard assistance for monitoring and tracking activities as needed.

The FIELD LEADWORKER/IC shall notify the UTILITIES MANAGER (or Duty Manager) when the conditions warrant an expanded or extended response. In such case, the UTILITIES MANAGER shall report to the yard and assume IC responsibilities and notify the ASSISTANT PUBLIC UTILITIES DIRECTOR of heightened status. For any event where the UTILITIES MANAGER assumes IC responsibility or the storm response exceeds 24 hours in duration, an Incident Action Plan shall be prepared using the forms that are located on PWPub:STORMPAT/Incident Action Plan and are called Blank Incident Action Plan. The completed Incident Action Plan should be saved on the PWPub:STORMPAT/Incident Action Plan in a file called Incident Action Plan (date).

Communications between all individuals assigned to the event shall be via the Public Utilities radio system to allow all parties to remain apprised of activities, current status, as well as problems that may develop.

1. The first employee into the yard should be dispatched with barricades for streets that have been reported to be flooded and inspect areas known to have been impacted by recent storm events and common problem locations: (NOTE: In the event that a very intense, or several consecutive storms have occurred, the Leadworker should consider going immediately to the Pup Creek grate locations as the first order and then follow with this item).

COMMON PLACEMENT ORDER WITH ADVANCE WARNING SIGNS

1. Armstrong from Roberts to Bullard (2)
2. Sunnyside north of El Paso
3. Shepherd at Sunnyside (2)
4. Herndon at DeWitt
5. Locan at Nees (2) cross street drain – flows to south side then west
6. Minnewawa, north of Ashlan between Norwich and Swift (2)
7. Harlan Ranch Blvd. at DeWolf – De Wolf south of Shepherd & at Owens Mountain Parkway

NOTE: Additional barricades may be required, depending on rain, at:
 Old Town Clovis – Civic Center – City Hall – Senior Center
 Gettysburg between Minnewawa and Crescent
 Santa Ana and Minnewawa intersection
 Santa Ana from Minnewawa to Villa
 Temperance between Barstow and Bullard
 Peach south of Herndon
 Nees at DeWitt
 Timmy north of Nees

The placement order is the most efficient manner to place barricades; however, the priority ranking should be considered by the crews, taking into account the amount of rainfall with safety first and property damage second.

2. Pup Creek- check its entire length, and occasionally checking and clearing Dry Creek, west of Willow Avenue (behind Home Depot) and at Barstow Avenue west of Peach Avenue. (A call should be made to FID and FMFCD if it appears that Dry Creek will require continued cleaning). The crew must continually patrol Pup Creek to ensure that all culverts are clean of debris at Pup Creek Crossings: Stanford, Sunnyside and at the Rodeo Grounds. FMFCD should be contacted if problems exist. See Page 4 if assistance is needed.

If Dry Creek rises high enough to close the flapper gates on Pup Creek at Dry Creek, or when Pup Creek is at full pipe on the west side of DeWitt at 9th, consideration must be given to diverting Pup Creek into the Fowler/Bullard and Barstow/Villa storm basins or divert Pup Creek into the Villa Avenue Corporation Yard's storm drain basin. FMFCD is to be notified of these problems immediately so arrangements can be made. Another indicator that diversions will be needed is water backing out of the Pup Creek inlets on Peach north of Shaw south of Mitchell (access location from Barstow Avenue).

Alluvial Drain- during intense rain the drain should be checked at DeWolf and Harlan Ranch Boulevard following it west to Locan and then to Temperance. If there are any blockages contact FMFCD immediately. **Note- by design, excess water from Harlan Ranch will flow west out of Harlan Ranch Blvd. across**

DeWolf and flow into the drainage channel on the west side of DeWolf. Both streets will be completely submerged in a heavy rain event.

3. The barricade crew should return to the Sunnyside Avenue Corporation Yard after placing barricades for further assignments.

If additional pumping is required, a call for assistance should be made to the UTILITIES MANAGER or the supervisor on duty.

4. A two-man crew should also be dispatched to check and clear the grates and storm inlets and to place barricades as needed. Check all inlets on the problem drain list. During a large event, two crews should be committed to this activity and divide the City into North and South zones between Shaw Avenue and use the problem drain list on page 31.
5. If sand bagging is required to protect properties, a call should be made to the Director of Public Utilities regarding potential property damage including locations.
6. All temporary ponds and ponds requiring pumping should be monitored to determine if additional pumps should be rented or relocated; all the ponds have staff poles/gauges. If Fresno Metropolitan Flood Control District (FMFCD) ponds or Clovis Unified School District (CUSD) ponds are near full and need pumping, contact the respective agency (see page 4). If necessary, Public Utilities staff should do the work and request financial reimbursement. During extended or multiple events FMFCD basins can fill and spill to adjacent basin areas which will result in prolonged street flooding including major streets.
 - Basin 3G (Locan/Barstow) will spill across Temperance Ave. north of Barstow and continue west.
 - Basin 3F (Shaw/Burl) will fill along the Fowler frontage road north and south of Shaw and spill across Fowler.
 - Basin BX/ADB system (Temperance/Nees area) can back streets in the adjacent neighborhoods north, east, and south to the overflow inlet points.
7. During any year when extensive rainfall has occurred (in excess of 12" - 14"), the periodic monitoring of permanent basins, orchards, **fields, and rural residential areas is necessary to prepare strategies for handling basin relief and dealing with increased runoff impacting FMFCD basins which will result in severe street flooding. During prolonged, heavy thunderstorm events or during periods when multiple weather fronts are impacting the area monitoring of seasonal stream east of Clovis should be monitored.**

Such areas include:

- Big Dry Creek detention basin, and the Alluvial drain starting at DeWolf and Harlan Ranch running west to Temperance,

- Pup Creek tributaries along Dewolf and Locan from north of Hendon to Paul Ave,
 - Dog Creek north of Shaw, east of Leonard and along the west side of Leonard south of Ashlan,
 - Redbank Creek at Highland north of Dakota.
8. See page 30 for Temporary Basin Pumping locations.
 9. See page 31 for problem drain locations.

STORM DRAINAGE PROCEDURES

During the normal workday when rainfall exceeds 0.25 inch or when rainfall has occurred the night before, our regular work program must be altered to provide the necessary storm drainage safeguards.

Parks Section	-	Pup Creek patrol and trash rack clearance; haul debris and dispose. Clear plugged inlets. Assist in de-watering temporary basins.
Wastewater Section	-	Storm drain inlet and cross drain clearance; basin monitoring and pumping to retain one-inch (1") rainfall protection. Monitor Pup Creek.
Street Section	-	Monitor streets for flooding and plugged inlets, set street barricades and flooding signs, track locations and remove when the hazard is clear.
Water Section	-	Assist as needed to pump out street locations and sand bagging as required. Monitor Pup Creek.

After each emergency patrol and after each storm, the YARD LEADWORKER shall prepare a report (see attached sample) to include all pertinent facts and responses for future reference. This report shall be filed with the Assistant Director of Public Utilities at the earliest time, no later than the next day after the storm is over. If the storm lasts more than one day, a separate report should be filed for each 24-hour period. Any work performed for FMFCD should be noted on this report with a breakdown of the type of work performed, man-hours, equipment, materials, etc.

The YARD LEADWORKER will be responsible for any accident or injury reporting to the department Safety Officer.

OPERATING AND MAINTENANCE PROCEDURES

Routine Storm Drainage Maintenance and Nuisance Water

During the summer months, all temporary storm drain basins require weed control. Trees and brush are to be removed and weeds flail-mowed or removed. Labor to accomplish this task is handled through the Parks Section. Weed removal should begin in April of each year at the latest.

During the early summer months, it is necessary to contact the Mosquito Abatement office (896-1085) to assure they have all ponds on their routine list for spraying.

Complaints of nuisance water in gutters occur during the summer months. Persistent locations include:

1. Armstrong at Tollhouse
2. Helm at Holland
3. Sylmar north of Shaw
4. Nees at Locan

During the summer, the high velocity flusher units may be assigned to flush the gutters not more than once and then only if safety warrants (i.e., valley gutters, etc.) to reduce slime that has developed in the gutter. Street sweepers should be called out to reduce slime.

In the fall season, prior to major rainfall, all storm drains, inlets, and cross drains in the City are checked by the Wastewater Section.

West Nile Virus Info:

www.WESTNILE.CA.gov
 Mosquitoes: (559) 445-3324
 Dead birds: (877) 968-2473

Public Utilities Weather Station - Phone App

<https://www.myacurite.com/#/dashboard>
 Device Name: City of Clovis PU
 Device ID: 0B-57-40

STORM PATROL LOG

PUMPING PERFORMED

DATE _____

APPROXIMATE RAINFALL _____

No. of Barricades & Locations

PUP CREEK STATUS (times checked)

-] Minnewawa n/of Ashlan between Gettysburg and Swift (6)
-] Shepherd at Sunnyside (2)
-] Locan at Nees
-] Nees at DeWitt
-] Herndon at DeWitt
-] Armstrong – Roberts to Bullard
-] DeWolf at Owens Mtn Prkwy (4)
-] _____
-] _____

- :] [:]
-] [] Fowler and Bullard
-] [] Sunnyside n/of Celeste
-] [] West end of Pup Creek behind rodeo grounds

COMMENTS: _____

ADDITIONAL COMMENTS:

*Denotes contractor responsible pond. (Keep record of time and charges)

THIS LIST IS TO BE FORWARDED TO ON-DUTY LEADWORKER PRIOR TO START OF NEW SHIFT (REGULAR DAY OR STORM PATROL SHIFT (IF NEEDED)). IF A YARD LEADWORKER IS ON DUTY, IT IS HIS RESPONSIBILITY TO KEEP INFORMATION CURRENT AND COMPLETE. PROVIDE DUPLICATE COPY OF COMPLETED LIST AND GIVE TO ON-DUTY MANAGER.

LEADWORKER (Signing Out)	LEADWORKER (Signing In)	DATE	TIME
_____	_____	_____	_____
<hr/>			
ON-DUTY MANAGER			

PONDING BASINS

Below is a current list of all storm drain basins that handle City storm runoff and their status.

Fresno Metropolitan Flood Control District Basins:

<u>Plat</u>	<u>Location</u>	<u>Basin</u>		<u>FID Discharge</u>	<u>CFS</u>
Plat 7	Willow & W. Sample	(CL)	*	Y Helm Canal	5
Plat 9	Minnewawa and Third	(5B/5C)	*	Y Dry Creek	10
Plat 11	Hughes & Sierra	(6D)	*	Y to 5B5C	5
Plat 13	Fowler & Bullard	(4E)	*	Y Pup Creek	10
Plat 14	Fairbrook & Estabrook	(4D)		Y Pup Creek	10
Plat 16	Peach Alignm't at W. Ninth Alignm't	(4B)		Y Dry Creek Canal	12
Plat 20	Helm & W. Twain	(3A)		Y Big Dry Canal	40
Plat 23	Cole & Hoblitt	(3D)	*	Y Jefferson Canal	5
Plat 31	N. Winery & E. Euclid	(Q)		Y Gould Canal	2
Plat 35	Clovis & Gould Canal	(2D)	*	Y Gould Canal	5
Plat 36	Gould Canal @ Ashlan & Stanford	(1E)		Y Gould Canal	5
Plat 39	Laverne & Shaw	(3F)	*	Y Dawson Canal	4
Plat 41	Fowler & Vartikian	(5F)	*	Y Pup Creek	5
Plat 43	N. Fowler at Birch Alignment	(7D)			
Plat 46	N. Clovis & Alluvial	(7C)	*	Y Dry Creek Canal	10
Plat 50	N. Chestnut & E. Bedford	(CZ)	*	Y Maupin	5
Plat 54	N. Marion & E. Nees	(BT)	*	Y Dry Creek Canal	25
Plat 65	Temperance & Gould Canal	(1G)		Y Gould Canal	12
Plat 68	Phillip & Dakota	(BW)	*		
Plat 72	N. Winery & E. Dakota	(U)	*		
Plat 80	N. Temperance & E. Enterprise Alignment	(BX)		Y to BT	25
Plat 84	Pup Creek Retention basin	(PEB)		Y to Enterprise	
Plat 84	N. Coventry & Palo Alto	(7H)			
Plat 85	N. Temperance & E. Sierra	(PCRB)	#		
Plat 101	N. Willow & W. Teague	(BC)		Y Maupin Ditch	5
Plat 116	N. Locan & E. Barstow	(3G)			
Plat 119	Locan & Gould Canal	(DO)			
Plat 168	Dakota & Highland	(DP)			

Bold type are basins in the City of Fresno.

Italics are basins in the County of Fresno.

* May be used as recharge basin.

Pup Creek Retention basin.

CITY OF CLOVIS Basins

<u>Plat</u>	<u>Location</u>	<u>Basin</u>	
Plat 54	N. Marion and Alluvial	Recharge	
Plat 21	Villa and Barstow	(4C)	
Plat 33	Peach & W. Ashlan	S	*
Plat 84	N. Temperance and Sierra	(7H)	

Temporary Basins - Active

The locations marked with an asterisk have not supplied maintenance fees as indicated.

<u>Plat</u>	<u>Location</u>	<u>Amount</u>
Plat 37	2078 Austin (TR 5579)	\$30,000
Plat 59	2300 Palo Alto (Lot 9 Tr 3908)	\$2,000
Plat 76	APN 560-051-19 (Tr 5057) east of Dry Creek	
Plat 105	1677 & 1697 Teague (Lots 2 & Tr 6154)	\$10,000
Plat 110	Owen's Mountain & Kenosha (Lot 146 Tr 5472)	\$10,000
Plat 125	San Jose & Sanders Alignment (City Park Tr 6144)	\$10,000
Plat 125	3741 Leonard (Parcel A Pm 2018-14)	
Plat 139	Clovis & Enterprise Canal, w/o (Lot 176 Tr 6200)	\$10,000
Plat 163	Celeste & Leonard, sec (Lots 21/27, 128/130 Tr 6230)	\$10,000
Plat 163	Wrenwood & Hermosa, swc (Lots 144/153 Tr 6120)	\$10,000
Plat 164	Dennis & Soledad, Sec (Lots 77/81 Tr 6181)	\$10,000
Plat 164	Twain & Soledad, sec (Lots 136 & 137 Tr 6181)	\$10,000
Plat 165	Alamos & Junipero (Lots 160/166 Tr 6107)	\$10,000
Plat 165	Fairmont & Amanecer (Lots 34/38 Tr 6025)	\$10,000
Plat 165	Pico & La Canada (Lots 53/55, 72/75 Tr 6034)	\$10,000
Plat 165	Santa Ana & Junipero (Lots 192/197 Tr 6034)	\$10,000
Plat 172	4251 Rall (Lots 33, 34 & 38/40 Tr 6102)	\$10,000

Private basins - (on site).

<u>Plat</u>	<u>Location</u>
Plat 4	370 Herndon (Lithia Nissan SPR 2000-022)
Plat 4	156 N. Villa (UJC Church SPR 1993-009)
Plat 5	220 N. Peach (LDS Church SPR 1985-018)
Plat 12	2080 Tollhouse (First Baptist Church SPR 2005-009)
Plat 16	1011 Sylmar (Woods Mobile Home Park (SPR 1978-009)
Plat 25	2100 Fowler (Yosemite Gardens SPR 2003-031)
Plat 26	2543 Clovis (to be filled in by new construction)

Plat 44 750 N Fowler (Derrel's Mini Storage SPR 2003-019)
 Plat 46 493 Herndon (Derrel's Mini Storage SPR 1990-019)
 Plat 48 650 W Alluvial (Community Psychiatric Center SPR 85-076)
 Plat 48 525 W. Herndon (Halle Properties SPR 2018-22A)
 Plat 51 APN 561-020-54s (Behind 1005 N. Willow)
 Plat 58 2310 Tollhouse n/o Herndon

Caltrans basins

<u>Plat</u>	<u>Location</u>
Plat 9	207 Villa (Pcl A Pcl Map 2033)
Plat 19	APN 420-020-31t (west side Willow s/o Hwy 168)
Plat 46	APN 562-080-30t (west side N Rogers n/o Herndon)
Plat 83	N Temperance & Hwy 168 interchange north side
Plat 180	Shepherd & Hwy 168 interchange southwest side

POWER FAILURE - FMFCD Storm Pumps

Permanent FMFCD storm lift pumps should be checked to be sure they are working - in the event of failure or power outage, FMFCD should be notified immediately and the following should be considered:

- a) Villa Avenue Corporation Yard **(4B)** pump inoperative will flood the Barstow/Adler areas. Barricades and sand bagging will be required and it will be necessary to place a six-inch pump at Barstow and Sylmar Avenues into Dry Creek.
- b) Minnewawa Avenue south of Herndon Avenue **(5B/5C)** industrial tract pump inoperative - set up a three-inch pump and pump into Dry Creek. Pump is connected to Basin 5B/5C and is set to turn on only when storm drain system capacity is exceeded.
- c) Barstow/Villa basin inoperative **(4C)** - only need to empty pond - can wait for several hours.
- d) Cole/Hoblitt **(3D)** –Basin is tied into Basin 4C. The top 4' of basin can gravity feed to Basin 4C.
- e) Peach/Ashlan **(S)** – pump to Gould canal.
- f) Ashlan/Holland **(1E)** – pump to Gould canal.
- g) Bullard/Fowler basin inoperative **(4E)** - only need to empty pond - can wait for several hours.
- h) Fairbrook/Estabrook **(4D)** – pumps to Pup Creek. Can set second pump and pump to Pup Creek. Install Pump Station 2014/2105.
- i) Clovis/Gould basin 2D pump **(2D)** - only need to empty pond.
- j) Nees/Marion **(BT)** - Pump to stand to Big Dry Creek. Discharge line is independent of recharge line to recharge site.
- k) Shaw/Laverne **(3F)** – will flood Fowler south of Shaw at Santa Ana – set pump in SE corner and pump into standpipe.
- l) Sierra/Hughes **(6D)** – will flood on Sierra and Herndon at DeWitt. Can pump Herndon to Cal-Trans basins on Rogers Ave. Contact Cal-Trans. Basin is connected to Basin 5B/5C. The top 6.25' of basin can gravity feed to Basin 5B/5C.
- m) Temperance/Gould **(1G)** – will flood Hampton Way to Armstrong. Set pump in basin and pump into canal.

- n) Willow/Sample (CL) – Set pump in basin and pump into standpipe irrigation main.
- o) Temperance/Enterprise (BX) – set pump on trail, pump into Alluvial Drain standpipe.
- p) Clovis/Alluvial (7C) – set pump on trail pump into dry creek standpipe.
- q) Fowler/Vartikian (5F) – pump to standpipe in basin.
- r) Minnewawa and Third (5B/5C) – pump to standpipe in Basin
- s) Helm and Twain (3A) – Pump to standpipe in Basin
- t) Teague and Timmy (BC) – Pump to standpipe in Basin

City of Clovis

In the event of a power outage, the following sewer lift station will not function with the existing by-pass. Holding time is approximately 24 hours.

- a) Gettysburg and Phillip

NOTE: *Dry wells must be pumped before station is put back in operation, or arrangements can be made to place a portable generator at these locations. (See Page 6 - Electrical Repairs).

If power is out for any period of time, the Wastewater Leadworker or Utility Manager should be called about this lift station immediately.

- b) Old Town Trail locations with Pump Stations:
 - Clovis Ave. @ Lowe's entrance (south of Shaw)
 - Clovis Ave. @ Scott Ave.
 - Herndon Ave. @ N. Minnewawa Ave.
 - Nees Ave. @ N. Timmy Ave.
 - Willow Ave. north of Nees Ave.

These locations must be checked for proper drain system operation and drain cleaning. Each location has several slotted drain inlets. If pumps are not operational, the affected trail crossing should be closed and barricaded.

TEMPORARY BASIN PUMPING

<u>POND LOCATION</u>	<u>PUMP SET UP</u>
PALO ALTO CUL-DE-SAC	3" PUMP - Set pump inside fencing in the northwest corner. Run hose under fence into field west of the pond. Lock gates. 4" PUMP - Set over slotted grate in street. Place barricade over manhole. Pump to field west of the pond. Lock trailer tongue.
CLOVIS/MUNCIE ALIGNMENT (North of Nees)	4" PUMP- Set pump on inlet on east side of Clovis Ave. and pump to Dry Creek.
Plat 125 Basin San Jose/Visionary	4" PUMP – Set pump in basin and pump to Jefferson canal.
Plat 129 Clovis/Baron	4" pump to Enterprise.
Plat 163 Wrenwood/Hermosa & Celeste/Leonard	4" pumps. Pump Celeste to Enterprise. Pump Wrenwood west down Finchwood.
Plat 165 Basins	4" PUMP- Set up on DI on corner of Agua Dulce and Gettysburg and pump to Dog Creek.
Plat 172 4251 Rall	4" pump – pump west towards Gettysburg.

PROBLEM DRAINS

This is not a list of all drains, only drains that easily plug up with leaves or debris.

DRAIN LOCATION	DESCRIPTION
71 N. Peach	6" culvert
202 Peach	2 large slotted
Peach North of Stuart	large slotted
Barstow at Sylmar N.E. corner	small slotted
647 W. Barstow at apt. walkway	small slotted
Holland at Winery N.E. corner	small slotted
East side Winery at Rialto	small slotted
Gettysburg at Fine S.W. corner	small slotted
2820 Willow at church driveway	small slotted
2929 Pierce at Indianapolis	small slotted
2914 Pierce at Indianapolis	small slotted
2855 Adler at Norwich	small slotted
Gettysburg at Willow S.E. corner	small slotted
Gettysburg at Willow N.W. corner	small slotted
698 Gettysburg south side at Adler	small slotted
699 Gettysburg north side at Adler	small slotted
3080 Peach west side of street	large slotted
3080 Peach east side	large slotted
Swift at Minnewawa	open throat
Keats at Minnewawa S.E. corner	large slotted
Crescent at Gettysburg east and west	large slotted
Shaw at Sylmar N.E. corner	large slotted
Shaw at Helm N.E. corner	large slotted
Shaw at Home Depot entrance	large slotted
Shaw at Minnewawa S.W. corner	large slotted
Keats and Cherry Lane S.E. corner	large slotted
Minnewawa west side between Barstow and Shaw	open throat
2664 Harvard	small slotted
1400 Pollasky east side	small slotted
1735 Pollasky east side	small slotted
Keats at Sunnyside	large slotted
Barstow and Sunnyside S.W. corner	large slotted
Sunnyside at Scott N.E. corner	large slotted
Sierra north side west of Cypress	slotted street drain
Bullard dead end off Clovis near DMV	small slotted
Sierra at Villa N.E. corner	large slotted
Home Town Buffet behind building S.W. corner	small slotted
Bullard at Armstrong in grass area off N.E. corner	slotted street drain
Bullard at Armstrong S.E. corner	large slotted
N. Armstrong at Spruce east side of street N. of booster	large slotted
Fowler and Barstow 3 corners	open/large slotted
N. E. corner Shepherd at Willow	slotted street drain
North side of Shepherd west of 168	slotted street drain
Peach 100' south of Herndon	2 slotted street drains
CITY HALL AREA	
P D parking lot west end	small slotted
Library parking lot at Russell entrance	small slotted
5 th Street at bus stop	2 small slotted
5 th Street south side at Clark entrance	small slotted
5 th Street at Music S.E. & S.W. corners	small slotted

4 th Street/Hughes parking lot S.W. corner	small slotted
5th Street at Hughes	large slotted
OLD TOWN TRAIL	
200' N. of Third St. E. side of trail	small slotted
Bullard Alignment (behind Jensen & Pilegard)	2 slotted street drains
Ninth St. Alignment (behind Car Quest)	2 slotted street drains

2021 - 2022 STORM WATER PATROL

October 13 – October 19, 2021	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
October 20 – October 26, 2021	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
October 27 – November 2, 2021	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
November 3 – November 9, 2021	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
November 10 – November 16, 2021	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
November 17 – November 23, 2021	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
November 24 – November 30, 2021	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
December 1 – December 7, 2021	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
December 8 – December 14, 2021	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
December 15 – December 21, 2021	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia

December 22 – December 28, 2021	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
December 29 – January 4, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
January 5 – January 11, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
January 12 – January 18, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
January 19 – January 25, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
January 26 – February 1, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
February 2 – February 8, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
February 9 – February 15, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
February 16 – February 22, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
February 23 – March 1, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
March 2 – March 8, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva

March 9 – March 15, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Garcia David Garcia
March 16 – March 22, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
March 23 – March 29, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
March 30 – April 5, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
April 6 – April 12, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
April 13 – April 19, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
April 20 – April 26, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
April 27 – May 3, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
May 4 – May 10, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
May 11 – May 17, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
May 18 – May 24, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva

May 25 – May 31, 2022	<u>TEAM 1</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia
June 1 – June 7, 2022	<u>TEAM 2</u>	<u>FIELD YARD</u>	David Garcia Victor Oliva
June 8 – June 14, 2022	<u>TEAM 1+2</u>	<u>FIELD YARD</u>	Victor Oliva David Garcia

Patrol Teams
LEADWORKERS

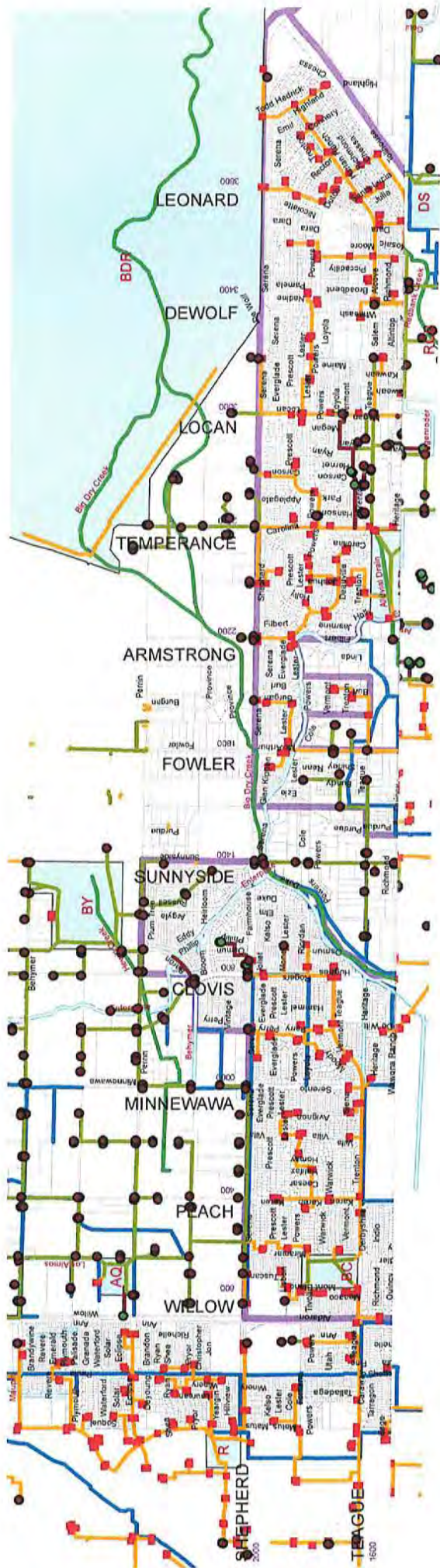
<u>Name</u>	<u>Radio #</u>	<u>Phone 1</u>	<u>Phone 2</u>
David Garcia	606	304-9348	
Victor Oliva	503	567-8109	

TEAM 1

<u>Name</u>	<u>Radio #</u>	<u>Phone 1</u>	<u>Phone 2</u>
Dustin Buckley	644	250-1551	
Adam Ceccarelli		903-6722	322-1538
Alexander Gaxiola	616	355-1890	
Jeremy Hoff	447	244-9594	
Robert Larson	586	800-1160	
Michael Montanez	645	305-7575	
Nathan Porchas		374-8057	243-6568
Scott Rentfrow	611	353-1147	
Adam Stahl	617	286-7652	
Everett Weber	523	906-2987	

TEAM 2

<u>Name</u>	<u>Radio #</u>	<u>Phone 1</u>	<u>Phone 2</u>
Davy Arizmendez	615	577-7214	
Brenden Christopher	592	903-3306	
Sean Gillespie		904-1498	
Jacob Gutierrez	647	285-8953	
Chris "CJ" Jensen	643	392-3354	
Nathan Lopez	612	321-5246	
Robert Phipps	642	712-0571	
Samuel Rivera	442	312-4015	
Steven Schiedel		307-4847	
Tom Wall	641	916-4034	341-2083



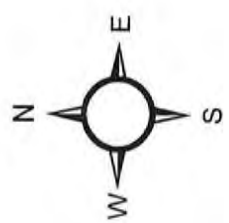
Legend

- mp_future_inlet
- design_inlet
- mp_exist_inlet
- mp_future_pipe
- design_pipe
- mp_exist_pipe
- creeks
- canals
- fdfacil
- basins
- street-outline
- CL_CLOVIS_VIEWS.CITY_LIMITS
- CL_CLOVIS_VIEWS.STREETS
- ⊗ Grate Cleaning
- Ⓡ Flapper Valve

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Created: 09/08/2021

City of Clovis

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APPENDIX 4 HEAT EMERGENCY CONTINGENCY PLAN

City of Clovis

Heat Emergency Contingency Plan

This plan describes City operations during heat related emergencies and provides guidance for City departments and personnel. It recognizes the need to communicate and coordinate with local agencies, mobilize and initiate actions in advance of local requests, and supports local actions according to the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).

Plan Goal

To reduce the incidence of morbidity and mortality associated with local extreme heat events.

Heat Plan Activation

Clovis City begins to experience hot weather in May or June of each year and this heat continues throughout the summer months. To ensure the safety of vulnerable segments of the population this plan provides a two phase approach to mitigate and reduce the effects of heat that exceed what is considered normal for the geographic locale.

Phase I - Seasonal Readiness

In anticipation of typical summer weather in the City where temperatures of 100 degrees are not uncommon, Phase I will be activated on May 1 of each year. During this phase, a heat awareness campaign will be initiated utilizing City departments and local media resources to distribute printed and spoken reminders about the heat and how to mitigate its effects. Preparations will also be made to activate Phase II of the plan. In an average temperature year Phase II of the heat plan may never be activated. That does not mean the heat is not dangerous or that precautions should not be taken.

Phase II - Heat Emergency

This is a City response to a heat emergency. The City Disaster Services Supervisor may determine that a Heat Emergency exists based on a combination of factors that may indicate a threat to public health and safety. This may include:

- National Weather Services (NWS) issues an Excessive Heat Watch or Warning.
- NWS predicts daily high temperature to be 105 degrees or greater.
- Heat related illnesses are above the average.
- Abnormal amounts of heat related deaths occur in local animal populations.
- Successive days when the daytime temperature exceeds 105 degrees ranges and night time temperatures do not drop low enough to allow for 3-4 hours of cooling (Temperatures dropping below 80 degrees).
- The California Independent System Operator (CALISO) issues a Stage 3 Electrical Emergency.
- High heat is accompanied by electrical blackouts or rotating power outages.
- County or other local jurisdictions within Fresno County "declare" heat emergencies.
- The state "declares" a heat emergency.

Activation

Phases of this Heat Emergency Plan will be activated in coordination with Fresno County Operational Area and the State Office of Emergency Services using the following guidelines to determine the most appropriate level(s) of response:

Phase I - Seasonal Readiness

Hot weather pre-season activities will begin on May 1st prior to the start of the summer season. The Seasonal Readiness Phase starts with the Fire Department organizing other City Departments and community organizations in preparation for the upcoming season.

Readiness preparations include:

- Creating educational materials about how to mitigate the effects of heat.
- Identifying and targeting vulnerable populations such as the elderly and special needs populations with educational materials.
- Identifying media and public resources to distribute the information.
- Initiating a heat related public awareness campaign.
- Identifying and preparing potential cooling centers for operation.
- Identifying transportation resources to get citizens to cooling centers.
- Coordinating community resources within Clovis for the heat related response.
- Requesting that the Senior Center who serves vulnerable populations contact their clients to ensure their safety and to provide them with heat related information.
- Encouraging the public to check on persons that might be affected by the heat.
- Initiating the collection of data on heat related deaths and illnesses by the Community Health Department Epidemiologist.

Phase I - Risk Communications**Internal Communications**

The Fire Department Public Information Officer (PIO) will distribute heat preparedness reminders and warnings to appropriate City departments. Weekly updates will be sent out by email to keep staff updated on the preparations.

External Communications

The Fire Department Public Information Officer (PIO) in coordination with the Police Department PIO will distribute heat related educational materials through local media resources, local community organizations and at local events. Organizations with vulnerable clients will be asked to distribute the educational material through their regular distribution system such as the mail, email, and by fliers handed out at public events.

Phase II - Heat Emergency

This phase is implemented when the Disaster Services Supervisor determines that a heat emergency exists. Initiation of this phase may include any of the following responses:

- Opening of cooling centers
- PIO releases heat response information to mass media, local organizations and community groups.
- Providing transportation resources for people unable to reach cooling centers.
- Coordinate local heat related resources, donations and volunteers.

- Monitoring the health of vulnerable populations using City personnel resources and community groups
- Monitoring medical reports of heat related illnesses and deaths.
- Providing information to the public regarding available utility bill assistance resources.

Phase II - Risk Communications

Internal Communications

This may include:

- Notifying City departments regarding the Heat Emergency.
- Providing general information to City staff regarding measures to reduce the effects of heat.
- Activating the City Emergency Operations Center (EOC).

External Communications

This may include:

- Notifying local business, NGO's and faith-based organizations regarding the Heat Emergency.
- Facilitating communications between the Clovis and the County EOC.
- Providing guidelines to personnel responsible for establishing and operating cooling centers.
- Participating in conference calls among local agencies and potentially affected communities.

National Weather Service Heat Index Program Alert

One of the factors used to determine if a Heat Emergency exists are the heat related forecasts from the National Weather Service in Hanford. The National Weather Service issues three types of heat related messages. These messages are based on four factors-temperatures, humidity, amount of cloudiness and the expected duration of these conditions. The combination of these factors will trigger one of the heat-related messages. These heat related messages are:

Heat Advisory-Issued when the temperature is forecast to be unusually hot but not life-threatening.

Excessive Heat Watch-Issued when conditions are likely to result in a life threatening heat emergency within the next 24 to 48 hours.

Excessive Heat Warning-Issued when a life-threatening heat emergency exists or is imminent.

The average high and low temperatures for Clovis in July is 98.6 degrees and 65.1 degrees. Temperatures that are 10 degrees above average are considered excessive temperatures (*CDC Extreme Heat, A Prevention Guide to Promote Your Personal Health and Safety*). Based on data from the National Weather Service and the average temperatures for this area, a daytime temperature of 110 degrees or above during the day and a night time temperature of 80 degrees or above for two consecutive days is considered above normal and will trigger an Excessive Heat Watch and or a Excessive Heat Warning. A copy of the Heat Index is included as Attachment "A"

The City Disaster Services Supervisor will consider announcing a Heat Emergency when the National Weather Service issues a Heat Watch or a Heat Warning. The Heat Emergency will trigger activation of Phase II of the City Heat Plan. The services and activities provided as part of this activation will continue at the discretion of the Disaster Services Supervisor, typically for 48 hrs after the expiration of the excessive heat warning.

Post Event Evaluation

The Fire Department will collect statistics of heat related deaths and illnesses. They will also collect data on Cooling Center populations, distribution of educational materials, contacts with vulnerable persons, effectiveness of internal and external communications and City activation of the Plan. This information will be used to create a post event report.

Since more than one Heat Emergency may occur during a given summer, an evaluation shall be performed after each event so that improvements to the plan can be made as soon as feasible.

A final evaluation of Phase I and Phase II responses will be completed at the end of the season. The evaluation will be used to improve the plan for the following year.

Heat Emergency Tasks and Responsibilities

Disaster Services Supervisor

1. Determine if a local Heat Emergency exists and implement the Heat Emergency Contingency Plan as necessary.
2. Approve media releases to the public.
3. Activate the EOC if necessary.
4. Collect information from cities and other jurisdictions regarding their actions during the emergency. Ensure that the state, other jurisdictions and City departments are aware of those actions.
5. Request emergency assistance from County EOC if necessary.

Fire Department Public Information Officer

1. By May 1st of each year, initiate an awareness campaign for the public, alerting them of the potential dangers of the upcoming summer heat season and the actions they should take to prepare for it. The awareness campaign should be coordinated with the awareness campaigns of local jurisdictions throughout the City. The educational materials are to be multi-lingual so that they reach out to both English and non-English speaking members of the community.
2. Upon the determination that a Heat Emergency exists, provide news releases giving the public guidance about how to deal with the heat wave emergency. These news releases will be coordinated with similar news releases with other jurisdictions and emphasize out reach to non-English speaking persons within the community. The news release should emphasize the following:
 - What portion of the population is the most at risk?

Page 4 of 9

- Indicate how to recognize heat related illnesses
- Provide information on how to mitigate the effects of heat.
- Communicate the importance of getting at least 2-4 hours of cooling per day.
- Identify where cooling centers are located.
- Emphasize the need to look out for family members and neighbors.
- Identify where to call for more information.

PD Watch Commander, Fire Battalion Chief

1. Increase surveillance efforts pertaining to heat-related deaths, injuries and illnesses.
2. Advise area hospitals of the Heat Emergency and urge them to consider the extreme weather conditions when treating and releasing their patients.
3. Provide assistance to the PIO in the development of news releases as they relate to health.
4. Collect data and statistics about the citizen response to warnings and heat awareness information and viability of the Heat Plan
5. Prepare post event evaluation.
6. Assist in setting up phone bank with heat related emergency information if needed.
7. Assist in setting up the EOC if needed.

Community Services Manager

1. Post and distribute excessive heat warnings and guidance materials at all City offices and affiliated locations.
2. Utilize available staff to assist with communication and welfare checks for at risk populations including the elderly, disabled and home bound individuals through home visits and phone calls.
3. Distribute excessive heat related information to clients by mail or during home visits.
4. Open and operate cooling centers.

General Services Director

1. Coordinate transportation to cooling centers if it is determined necessary.
2. Provide logistical support to cooling centers.
3. Maintain a list of potential cooling centers and staff to operate them.
4. Provide cooling center locations if required.

Police Department

1. Maintain security at cooling centers.

Attachment "A"
National Weather Service Heat Index

		Relative Humidity (%)																					
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
122		107	112	119	126	135																	
119		106	109	115	121	128																	
116		104	107	112	117	123	130	138															
113		102	105	109	112	116	123	129	137	145													
110		99	102	105	108	112	117	123	130	137	143	152											
107		96	99	101	104	107	112	117	122	128	134	141											
104		94	96	99	101	104	107	111	115	120	126	132	138	144									
101		92	94	97	98	100	102	105	109	113	118	123	130	135									
98		89	91	93	94	95	98	100	103	106	109	113	118	123	130	137							
95		87	88	90	91	92	93	95	98	99	103	106	110	114	119	124	130	136					
92		85	85	87	88	90	90	92	93	95	98	99	103	106	109	116	118	124					
89		82	83	84	84	85	87	88	90	91	93	95	96	99	101	104	106	110	114	119			
86		79	80	82	82	83	85	86	87	89	90	90	92	93	94	96	98	101	104	107			
83		76	77	78	79	80	81	82	83	84	84	86	86	88	88	90	91	94	95	96	99	103	
80		73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86	87	88	89	91	
77		71	71	72	73	74	74	75	75	76	77	77	78	79	79	80	81	82	83	84	84	85	

Attachment "B"
2007 Cooling Center Locations

SUMMER 2009 HEAT PLANNING - COOLING CENTERS

City Name:	City of Clovis
Contact Person:	Chad Fitzgerald
Phone Number:	559-324-2218
Email Address:	chadf@ci.clovis.ca.us
Does your city have a Heat Contingency Plan?	Yes
What events or forecasts would trigger an heat emergency response in your city?	High Temps of 105 or above for two consecutive days or Low Temps of 80 or above for two consecutive days. Requests from citizens or political appointees may trigger such an event, but we would attempt to mitigate those instances through the temperature benchmarks.
Has your city identified any facilities that could function as cooling centers, if needed:	Yes.
Name and Address of cooling center(s):	Public Safety Community Room – 1233 Fifth Street
Capacity of cooling center(s):	25 (estimated)
Hours of operation:	12pm – 10pm (approximate)
Does your cooling center(s) have air conditioning:	Yes.
What provisions can be made available: cots, water, food, etc.:	cots, water, food
Will your city provide transportation to the cooling centers?	Yes.

Attachment "C"
Cooling Center Contact List

Chad Fitzgerald, Emergency Preparedness Manager

559-324-2218 (work)

559-593-3289 (cell)

Responsibilities: Cooling Center Opening/Closing (conditions that trigger opening); Volunteer Staffing 5pm – 10pm; Logistics coordination and support; Public Information

Amy Hance, Transit Supervisor

559-324-2769 (work)

559-259-4518 (cell)

Responsibilities: Transit Vehicles; Transit personnel; Movement of individuals to/from Cooling Centers at no-cost

Police Department Watch Commander, (Varies)

559-324-2428 (work)

559-324-2429 (work)

Responsibilities: Cooling Center Security

Police Department Dispatch, (Varies)

559-324-2800 (work)

Responsibilities: Emergency Contact for law enforcement or fire support; cooling center information for staff and 9-1-1 callers

Fire Department Battalion Chief, (Varies)

559-324-2220 (work)

Responsibilities: Cooling Center Support; Fire Suppression

Attachment "D"
Cooling Center Code of Conduct

Cooling Center Code of Conduct

Welcome! The City of Clovis has provided the Cooling Center as a community service to those impacted by high temperatures in the valley. In order to ensure your safety and others using the Cooling Center, we ask that you read and acknowledge through your signature that you understand and agree to comply with the following conditions:

1. The Cooling Center will be operational from 12pm – 10pm only on days predicted to be 105 degrees or greater by the National Weather Service. At 10pm, all individuals using the Cooling Center are required to vacate the facility for the evening.
2. Individuals using the Cooling Center are eligible to receive one (1) round-trip to the Cooling Center per day if they are unable to secure their own transportation.
3. The Cooling Center offers free refreshments while at the center. Refreshments are not available to take off-site.
4. Staff and individuals using the Cooling Center are expected to remain courteous and respectful of others at all times. Cooling Center staff will ask an individual to leave for:
 - a. Verbal or physical abuse of staff or other Cooling Center individuals
 - b. Individuals fail to follow directions from staff
 - c. Smoking or use of smoking materials
 - d. Illegal substance use

We hope you remain comfortable at the Cooling Center and welcome any feedback or suggestions you might have.

Name (printed)

Date

Signature



APPENDIX 5 PANDEMIC RESPONSE PLAN



City of Clovis | EOC ACTION PLAN

Event Name: COVID19

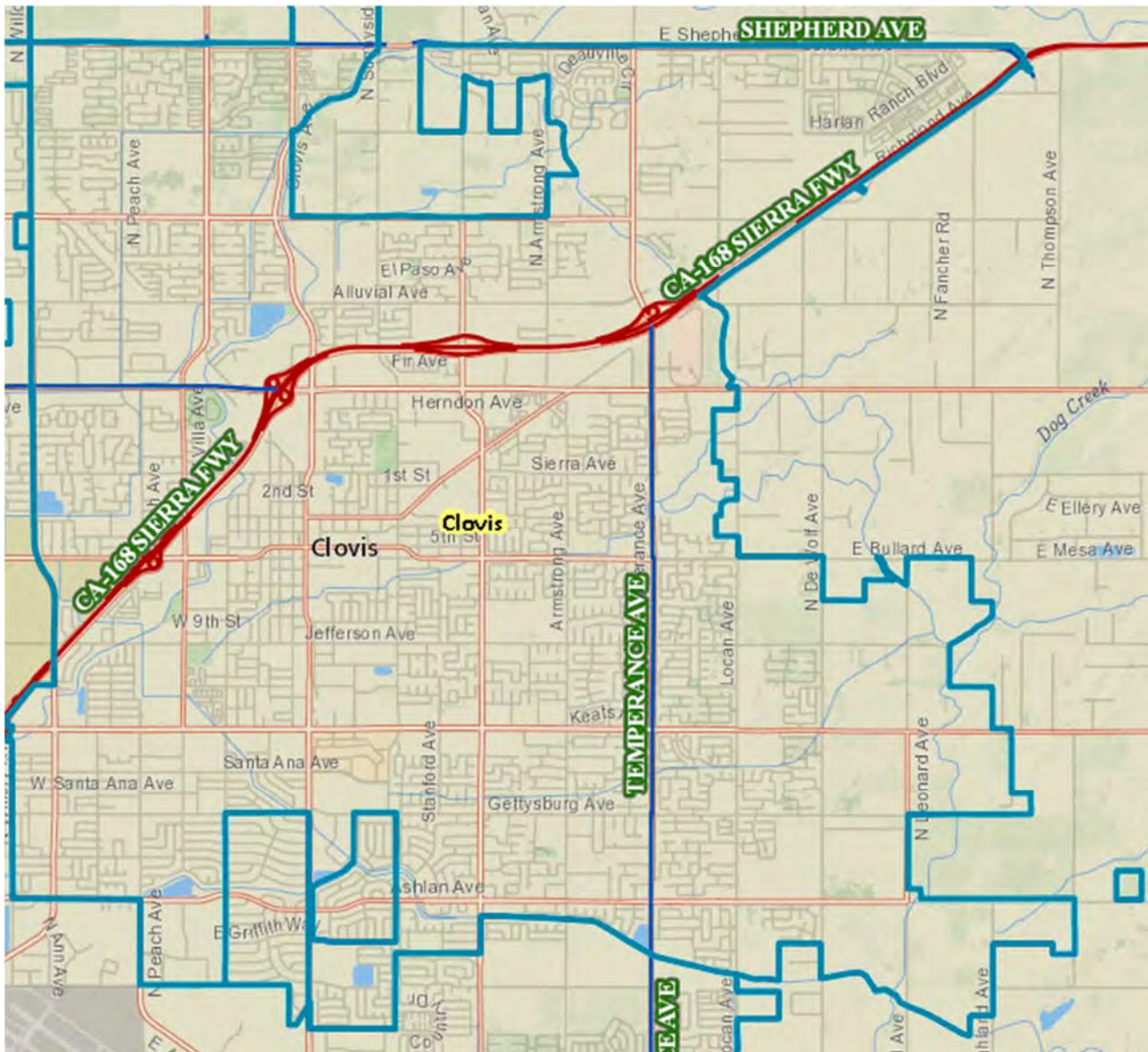
Operational Period: 3/19/20 – 3/23/20

Jurisdiction Type: City

Date Prepared: 03/19/20

Time Prepared: 12:19pm

MAP SKETCH:



Prepared By: Emergency Services Coordinator, Chad Fitzgerald

Approved By: EOC Director, Luke Serpa



City of Clovis | EOC ACTION PLAN

SUMMARY OF PRIORITIES, OBJECTIVES AND ACTIONS

Overall Event Priorities

1. Continuity of Essential Operations
2. Public Safety
3. Maintain Level 2 Continuity of Operations Plan protocols by Department
4. Enforce Order 2020-01 and 2020-02
5. Continue Internal and External Messaging regarding applicable COVID19 protocols

Management Section Objectives

1. Establish personnel policies and procedures that maintain essential services while providing consistent application of time off from work
2. Continue messaging to employees and general public regarding COVID-19
3. Coordinate with event coordinators and business community regarding enforcement of CDC recommendations
4. Identify Essential Services and necessary staffing in the event Level 3 is implemented.

Operations Section Objectives

1. Maintain Level 2 Continuity of Operations Plan protocols by Department
2. Provide department listing of essential services and necessary staff

Planning Section Objectives

1. Circulate current EOC IAP and begin planning cycle for the next operational period based on new conditions, Federal, State and County guidelines or mandates

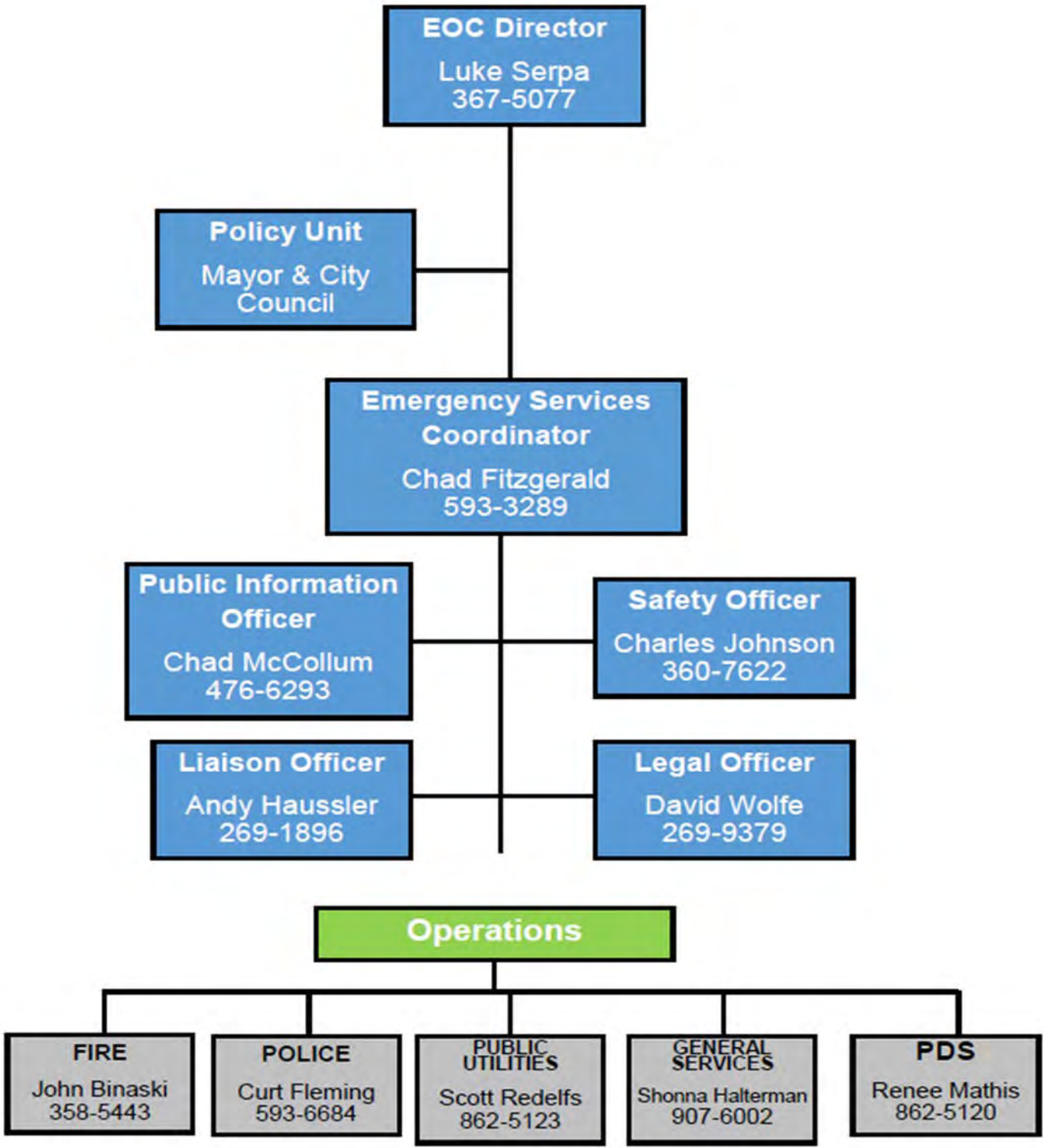
Finance/Administration Section Objectives

1. Maintain and collect event specific (COVID-19) costs for personnel overtime and logistic purchases.



City of Clovis | EOC ACTION PLAN

Organizational Chart:





City of Clovis | EOC ACTION PLAN

Weather Impacts on Operations:

None are forecasted.

Additional Attachments:

Emergency Proclamation 20-20

Order 2020-01 – Closing bars and restaurants including media release

Order 2020-02 – Closing gyms, theaters and places of entertainment including media release

Essential Services by Department

EOC Briefing 03/19/20

Citywide email update (3/19/20)

City Event Status

CITY OF CLOVIS

RESOLUTION NO. 20-20

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS
PROCLAIMING THE EXISTENCE OR THREATENED EXISTENCE
OF A LOCAL EMERGENCY (COVID-19)

WHEREAS, California Government Code section 8630 and Clovis Municipal Code section 4.2.06 empowers the City Council to proclaim a local emergency when the City of Clovis is affected or likely to be affected by the actual or threatened existence of conditions of disaster or of extreme peril to the safety of persons within the City; and

WHEREAS, as empowered by Clovis Municipal Code section 4.2.06, the City's Director of Emergency Services has requested that the City Council proclaim the existence or threatened existence of a local emergency as a result of the COVID-19 pandemic and the resulting public health emergency; and

WHEREAS, the City Council has reviewed and considered the request from the Director of Emergency Services, dated March 15, 2020, and the findings stated therein, which request is incorporated herein by reference as though set forth in full; and

WHEREAS, conditions of disaster or of extreme peril to the safety of persons within the City have arisen within the City of Clovis caused by the threatened spread of COVID-19, and the conditions warrant and necessitate proclaiming the existence or threatened existence of a local emergency.

NOW, THEREFORE, the City Council of the City of Clovis resolves as follows:

1. Proclaims that a local emergency now exists throughout the City.
2. During the existence of this local emergency, the powers, functions, and duties of the Director of Emergency Services and the Emergency Organization of the City shall be those prescribed by state law, ordinances and resolutions of the City, and by the City of Clovis Emergency Operations Plan.
3. The need for continuing this local emergency shall be reviewed as required by Government Code section 8630, and the City Council shall proclaim the termination of this local emergency at the earliest possible date that conditions warrant.

* * * * *

The foregoing resolution was introduced and adopted at a special meeting of the City Council of the City of Clovis held on March 16, 2020, by the following vote, to wit:

AYES: Councilmembers Ashbeck, Flores, Mouanoutoua, Whalen, Mayor Bessinger

NOES: None

ABSENT: None

ABSTAIN: None



Date: March 16, 2020.

Drew M. Bessinger
Drew Bessinger, Mayor

Attest:

John Holt
John Holt, City Clerk

CITY OF CLOVIS

**DECLARATION OF THE DIRECTOR OF EMERGENCY SERVICES OF THE CITY OF
CLOVIS CLOSING CERTAIN TYPES OF BUSINESS AND PLACES OF PUBLIC
ASSEMBLY DETERMINED AS NECESSARY TO
SAFEGUARD LIFE AND PROPERTY**

WHEREAS, there exists a local emergency in the City of Clovis ("City") pursuant to Resolution 20-20, approved by the City Council on March 16, 2020, where the City declared a local emergency due to the increase in confirmed cases of COVID-19, including those confirmed cases within Fresno and Tulare Counties; and

WHEREAS, under the authority of Government Code sections 8610 and 8634, and Clovis Municipal Code section 4.2.06, I am empowered, upon declaration of a local emergency, to make and issue regulations on matters reasonably related to the protection of life and property as affected by such emergency; and

WHEREAS, on March 16, 2020, the California Department of Public Health ("DPH") released guidelines to prevent transmission of COVID-19 relating to retail food, beverage, and other related service venues (DPH Guidance); and

WHEREAS, under conditions of the emergency, it is deemed necessary in the interest of public safety to restrict the use of certain public areas of the City as recommended in the DPH Guidance; and

WHEREAS, the City's citizens' health and safety is deemed to be in peril and time is of the essence.

THEREFORE, I, Luke Serpa, as Director of Emergency Services, declare effective 2:00 p.m. on March 17, 2020, the following closures/restrictions in the City of Clovis:

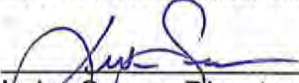
1. Bars, wineries, breweries and pubs shall be closed. Exception: Venues that are currently authorized to provide off sale beer and wine to be consumed off premises are allowed to continue with off consumption sales.
2. Restaurants shall be closed for in-restaurant seated dining. Exception: Drive through service and pick-up/delivery options are permissible.
3. For bars, breweries, pubs and wineries that include meals provided by a full kitchen, drive through service and pick-up/delivery options are permissible.
3. Food trucks shall: (a) follow social distancing of 6 feet per person for non-family members; (b) limit the number of people in lines.

NOW, THEREFORE, BE IT RESOLVED, that the law enforcement forces of this City, along with other law enforcement authorities cooperating with the City, are hereby authorized and charged, to the extent provided by law, with the responsibility of enforcing this regulation. Any violation of this regulation shall be punished as provided in section 4.2.10 of the Municipal Code.

BE IT FURTHER RESOLVED that this regulation shall remain in effect until such time as it is terminated by the Director of Emergency Services or the City Council of the City of Clovis.

* * * * *

DATE AND TIME: March 17, 2020 at 2:00 p.m.



Luke Serpa, Director of Emergency Services

ATTEST:



John Holt, City Clerk

**CITY OF CLOVIS
DIRECTOR OF EMERGENCY SERVICES ORDER 2020 – 02
GYMS, HEALTH CLUBS, AMUSEMENT PARKS, THEATERS**

**DECLARATION OF THE DIRECTOR OF EMERGENCY SERVICES OF THE CITY OF
CLOVIS CLOSING CERTAIN TYPES OF BUSINESS AND PLACES OF PUBLIC
ASSEMBLY DETERMINED AS NECESSARY TO
SAFEGUARD LIFE AND PROPERTY**

WHEREAS, there exists a local emergency in the City of Clovis ("City") pursuant to Resolution 20-20, approved by the City Council on March 16, 2020, where the City declared a local emergency due to the increase in confirmed cases of COVID-19, including those confirmed cases within Fresno and Tulare Counties; and

WHEREAS, under the authority of Government Code sections 8610 and 8634, and Clovis Municipal Code section 4.2.06, I am empowered, upon declaration of a local emergency, to make and issue regulations on matters reasonably related to the protection of life and property as affected by such emergency; and

WHEREAS, on March 16, 2020, the California Department of Public Health ("DPH") released guidelines to prevent transmission of COVID-19 relating to gyms, health clubs, and other non-essential gatherings (DPH Guidance); and

WHEREAS, under conditions of the emergency, it is deemed necessary in the interest of public safety to restrict the use of certain public areas of the City as recommended in the DPH Guidance; and

WHEREAS, the City's citizens' health and safety is deemed to be in peril and time is of the essence.

THEREFORE, I, Luke Serpa, as Director of Emergency Services, declare effective 4:30 p.m. on March 18, 2020, the following closures/restrictions in the City of Clovis:


1. Gyms and health clubs.
2. Amusement parks, arcades, laser tag, trampoline parks, bounce houses.
3. Theaters.

NOW, THEREFORE, BE IT RESOLVED, that the law enforcement forces of this City, along with other law enforcement authorities cooperating with the City, are hereby authorized and charged, to the extent provided by law, with the responsibility of enforcing this regulation. Any violation of this regulation shall be punished as provided in section 4.2.10 of the Municipal Code.

BE IT FURTHER RESOLVED that this regulation shall remain in effect until such time as it is terminated by the Director of Emergency Services or the City Council of the City of Clovis.

* * * * *

DATE AND TIME: March 18, 2020 at 4:30 p.m.



Luke Serpa, Director of Emergency Services

ATTEST:



Diana Stice, Deputy City Clerk



News Release
March 18, 2020

Contact: Chad McCollum, Public Affairs & Information Supervisor
(559) 324-2436, ChadM@cityofclovis.com

Enforcement of State guidelines on gyms, trampoline parks, theaters

Effective immediately, the City of Clovis will begin enforcing California Department of Public Health's guidelines directing the closure of the following:

- Gyms and health clubs
- Amusement parks, arcades, laser tag, trampoline parks and bounce houses
- Theaters

These actions are in line with the COVID-19 guidelines provided by the State of California and follows the actions of multiple cities across the country.

Enforcement will remain in effect until such time that the guidance from the State changes.

The City of Clovis continues to work with our community partners to provide guidance on scheduled events.

To view the order in its entirety: <https://cityofclovis.com/enforcement-of-state-guidelines-on-gyms-trampoline-parks-theaters/>

For additional actions taken by the City of Clovis in response to COVID-19 please go to: <https://cityofclovis.com/covidinfo/>

Essential Services by Department

City Hall

- City Manager (1)
- Assistant City Manager (1)
- Public Affairs and Information Supervisor (1)
- Executive Assistant/Deputy City Clerk/Management Analyst (1) - Rotational

Fire Essential Service/Staffing

Fire Operational Essential Services

- Fire/EMS/HazMat Response
 - 21 Firefighters
 - 15 Engineers
 - 15 Captains
 - 3 Battalion Chiefs
 - 1 Deputy Chief

Fire Emergency Management

- 1 Fire Chief
- 1 Life Safety Enforcement Manager
- 1 Management Analyst

Fire Prevention

- Plan reviews and inspections for fire access and fire/life safety systems
 - 1 Code Enforcement Officer
 - 1 Deputy Fire Marshal (work from home option due to high risk categorization)



CITY *of* CLOVIS

POLICE DEPARTMENT

1233 FIFTH STREET • CLOVIS, CA 93612

To: Curt Fleming, Police Chief
From: Katy Benham, Police Captain
Subject: Essential Personnel for PD coverage related to COVID 19
Date: March 18, 2020

Police Chiefs Office:

1-Administrative Assistant

- Payroll
- Accounts payable

Administrative Staff:

- 3/4 Command Staff Members including Police Chief

Records Division:

2-Principal Office Assistant (POA) or (1) Administration Assistant & (1) POA

- Receive Officer Subpoenas
- Impound releases
- Report releases
- Payable batches
- Process Civil or Criminal Subpoenas
- Receive Officer Subpoenas
- Case report filings
- Scan documents
- Background checks

1-PT Employee for facilities cleaning

Dispatch:

- 4/5 Dispatchers at all-times/alternate site

Investigations:

1-Management Analyst

- Payroll for Patrol function
- Cell Phone connectivity/department equipment
- Accounts payable

1-CSO assigned to Detectives

Patrol/Detectives:

- All Patrol Sworn Personnel

Crime Analyst:

1-on call

Both on call for Dispatch

Animal Services:

1-Police Service Manager

- Supervision and oversight of all of the above operations

1-Principal Office Assistant

- Dispatch calls for service
- Communicate with the public about what to do with stray animals
- Payroll/bills
- Data entry

2-Animal Services Supervisors

- Management of Animal Shelter and Miss Winkles Pet Adoption Center

4-Full time Animal Control Officer (2) each location

- Respond to urgent and emergency animal related calls
- Stray animals
- Pick-up dead animals
- Feed/clean/care

2-Part Time Animal Control Officer

- Feed/clean/care

2-Part Time Adoption Technician- Miss Winkles

- Feed/clean/care for animals

Youth Services:

1-Community Service Officer

- Parental guidance for youth who are committing criminal offenses and out of control.

1-Administrative Analyst

- Payroll, bills, coordination of graffiti abatement

2-Part Time Community Service Work Program

- Graffiti Abatement

Property/Evidence:

1-Evidence Technician

Jail:

3/4- Jail Officers- shift coverage/transport

Systems Video Technician:

1-on call

Digital Forensic Analyst:

1-Analyst

Police Chaplain:

1-Chaplain

COVID-19 – Public Utilities Dept. Essential Tasks/Persons

Solid Waste

1 Solid Waste Manager (Vacant) – Covered by Assistant Director

TASKS/PERSONNEL

- ❖ Residential collection (5 days/week)
 - 1 Leadworker
 - 9 Senior Sanitation Operators [*commercial license required*]
- ❖ Commercial collection (6 days/week)
 - 1 Leadworker
 - 6 Senior Sanitation Operators [*commercial license required*]
 - 6 Utility Workers [swampers]
- ❖ CCU and Sweeping Operations
 - 1 Leadworker
 - 4 Senior Sanitation Operators
 - 3 Utility Workers
 - 4 Sweeper Operators
- ❖ Landfill operation
 - 1 Leadworker
 - 2 Equipment Operators
 - 1 Maintenance Worker

Water & Sewer

1 Utilities Manager (D4 Required)

- ❖ Water Service
 1. Respond to water main/service leaks
 2. Fire hydrant repair
 3. Repair water main valves
 4. Repair water service valves
 5. Emergency temporary water connections
 6. Material hauling
 7. Setting large meters

Personnel

- 1 Leadworker
- 4 Senior Maintenance Workers
- 2 Utility Workers

❖ **Valves**

1. USA locating
2. Water tie-ins

Personnel

- 1 Leadworker
- 2 Senior Maintenance Workers
- 1 Maintenance Worker

❖ **Wastewater**

1. Lift station maintenance
2. Line cleaning
3. Customer complaint responses

Personnel

- 1 Leadworker
- 3 Senior Maintenance Workers
- 1 Maintenance Workers
- 2 Utility Workers

❖ **Meters**

1. Meter reading
2. Work orders from City Hall
3. New meter installation
4. Customer complaint responses

Personnel

- 1 Leadworker
- 3 Meter Readers
- 1 Maintenance Worker

Water Production/SWTP

1 Water Production Manager (T5 required)

❖ **SWTP**

1. SWTP monitoring (12 hours/day minimum)
2. Enterprise Canal patrol (6 days/week)
3. Material hauling

Personnel

- 2 Water Treatment Plant Operator
- 1 Senior Maintenance Worker
- 1 Utility Worker

❖ **Water Production**

1. Well site checks (1x per week)
2. Site sampling (wells, distribution system)
(system: 1x/week; wells: 1x/month)
3. Customer complaint response
4. Back up to SWTP operations

Personnel

- 1 Leadworker (Water Systems Technician)
- 4 Assistant Water Systems Technicians
- 1 Maintenance Worker (shares time with water services)

Fleet

1 Fleet Manager

TASKS

58% scheduled work orders, 42% unscheduled

1. Preventative maintenance of vehicles
2. DOT safety inspections
3. Major repair

PERSONNEL

- | | |
|---|--|
| <ul style="list-style-type: none"> ❖ DAY SHIFT (6 am – 2:30 pm <i>current</i>) ➤ 1 Leadworker ➤ 3 Mechanics ➤ 1 Mechanic Assistant ➤ 1 Parts Clerk | <ul style="list-style-type: none"> ❖ NIGHT SHIFT (2 pm – 10:30 pm) ➤ 1 Leadworker ➤ 3 Mechanics ➤ 1 Mechanic Assistant ➤ 3 Service Workers ➤ 1 Parts Clerk |
|---|--|

Traffic Signals & Street Lighting

TASKS

1. Emergency outage / accident response
2. Street light outages
3. USA marking

PERSONNEL

- 2 Electrician

Administration and Technical

1 Administration/Technical Group Manager

Administration

TASKS

1. Response to customer complaints / inquiries
2. Payroll
3. Accounts payable
4. Fleet administration

PERSONNEL

- 2 Management Analysts
- 2 Principal Office Assistants
 - 1 Fleet Admin.
 - 1 Solid Waste/Water Admin.

Technical

TASKS

1. Regulatory reporting and compliance (water, solid waste)
2. Coordinating & taking samples (water, sewer, solid waste)
3. Recording & analyzing system data (water, sewer)
4. Construction inspection and assisting in emergency maintenance operations
5. IT support for SCADA

PERSONNEL

- 1 Engineer
- 1 Engineering Technician
- 1 Senior Engineering Inspector
- 1 Senior IT Analyst

Parks

1 Parks Manager

TASKS

1. Bathroom cleaning (as long as bathrooms remain open)
2. Irrigation crew
3. Emergency tree response / removal
4. Trash receptacle dumping, playground inspection, picnic site cleaning
5. Corporation Yard cleaning

PERSONNEL

- 3 Senior Maintenance Worker and/or Leadworker *[commercial license needed]*
- 7 Maintenance Workers
- 4 Utility Workers

Streets

1 Street Maintenance Manager

TASKS

1. Respond to sign knockdowns
2. Sidewalk repair painting
3. Pothole response
4. Traffic control/emergency repairs
5. Water main pavement repairs

PERSONNEL

- 2 Leadworker [*commercial license needed*]
- 1 Senior Maintenance Worker
- 1 Utility Worker



CITY of CLOVIS

Information Technology
1033 FIFTH STREET • CLOVIS, CA 93612

Information Technology Division Essential Services

Service 1- Network / Telecom

- A. Network Infrastructure (Internet, VPN, Firewalls, Routers and Switches, V-center/Virtual Hosts)
- B. Telecommunications System (Circuits, Call Managers, Phones, Automated Call Handlers)

Service 2 – Communications and Enterprise Applications

- A. Communications (Exchange email, CRM, website, MS Teams)
- B. Enterprise Applications (Public Safety CAD system, Finance System, GIS, SCADA for SWTP, Wells, Recycled Water Plant, Transit Dispatch)

Service 3 – End User and On-call / Standby Support

- A. On-call (Mobile Data Computer Support, Dispatch, other emergency call-backs)

Five Person Onsite Rotation	
Week 1	Week 2
IT Manager	IT Supervisor
Senior IT Analyst	Senior IT Analyst
IT Specialist	IT Specialist
IT Technician	IT Specialist
Floater (Senior IT Analyst)	Floater (Senior IT Analyst)

General Services Essential Services Staffing

Personnel

- Two staff people to work in the office to answer phones. Balance can work from home.

Facilities Maintenance

- All technicians work on-call from home for immediate building repairs. Come into yard to get truck and needed equipment.

Senior Center

- Two staff people to answer phones and provide resources to seniors.

Recreation

- One staff person to answer phone. Can be forwarded to another line.

Transit

- Need varies depending upon ridership. However, a minimum includes:
 - Two dispatchers
 - One incoming phone person
 - 10-15 daily bus/van drivers
 - One Supervisor
 - Two Lead Drivers

Finance Essential Service/StaffingPayroll

██████████ - Accounting Sys Tech - Payroll Primary, has school age children and husband employed with Clovis in PD

██████████ - Accounting Sys Tech - Current Backup

██████████ - Management Analyst - Last line of processing - employed in Personnel

AP

██████████ - Principal Account Clerk - Primary, but at home due at risk

██████████ - Accounting Sys Tech = Backup acting as primary and also backup for Payroll. Current single point of failure risk

██████████ - POA - currently shadowing for limited processing ability if backup fails

AR

██████████ - Accounting Sys Tech - AR Primary

██████████ - Principal Account Clerk - Reassigned to Cashier but backup to AR currently

██████████ - Accounting Supervisor - Last line of minimal processing - Manager

Managers

Jay

Gina

Jeff

Susan

All functions rely on a manager to be able to complete processing

Budget

Budget can't be completed in current form without accountants being part of essential services in addition to manager

Utility Billing

██████████ – Accounting System Tech, Current single point of failure risk as ██████████ is at home due to risk and each would bill half the city. ██████████ is doing both with no full backup left.

██████████ – Senior Account Clerk

██████████ – Senior Account Clerk

██████████ – Senior Account Clerk (may be transferred to Accounts Payable)

██████████ – Senior Account Clerk – AR Primary but may be reassigned to support utility billing/customer support.

Accountant class

██████████

PDS Essential Service/Staffing

Planning Essential Services

- Process/intake/review development plans and applications received in hardcopy format
- Process/intake/review development plans and applications received in electronic format
- Review and approve building permits received by the Building Division
- Respond to phone and email inquiries
- Prepare environmental analyses, staff reports, and related documents for projects requiring approval by the Planning Commission and/or City Council
- Review and maintain progress on planning programs including VMT Guide and RHNA Overlay

Planning Skeleton Staff (In Office)

- 1 Member from Planning Division Management group [City Planner, Deputy City Planner, Senior Planner]
- 1 Member from Professional Planner group [Associate Planner, Assistant Planner]
- 1 Member from Support Staff group [Planning Technician II, Contract Planner, Planning Intern]
- Rotate members from each group

PDS Administration

- 1 x Supervisor
- 1 x GIS Staff
- 1 x Business Workflow Staff
- 1 x Principal Office Assistant (POA)

Building

- 1 Building Official
- 1 Sr Inspector
- 1-5 inspectors depending on work-load
- 1-2 Commercial Plans Examiners depending on work load
- 1-2 Residential Plans Examiners depending on work load
- 1 Permit Technician
- 1 Business Workflow specialist

Engineering

To support “Essential Services” for Engineering, summarized as maintaining the support of building and construction industries and basic citizen service, the following is recommended:

- 1 City Engineer
- 1 DRU Manager
- 1 CIP Manager
- 2-4 Engineering Inspectors (based on workload)
- 2 DRU Engineers
- 1-2 CIP Engineers
- 1 POA (Department wide?)

This list addresses minimum office staffing. It is anticipated that, what would be considered “non-essential” services will continue through staff working from home.

CITY OF CLOVIS CORONAVIRUS19 BRIEFING 3/19/20

Sit/Stat

1. Clovis still at 'Level' 2 for current operations
2. Added Order to close gyms, theaters, health clubs amusement parks and theaters (Order 2020-02)
3. Currently not in a 'shelter-in-place' status with communication going out to community and employees.
4. Most Departments submitted essential services and staffing in preparation for 'Level 3' activation
5. Bars and restaurants complying with Order 2020-02

EOC IAP (031620) Completed Objectives

1. Proclaim local emergency and enact supporting orders
2. Continued messaging to employees and general public on COVID-19
3. Coordinated with event coordinators and business community
4. Established account codes in Finance and distributed to Departments

EOC IAP (031620) Outstanding Objectives

1. Personnel policies/procedures

Change in conditions

1. Fresno issued 'Shelter in Place' order
2. 3rd confirmed 'travel' based case in Fresno County

****Supporting Attachments****

- Essential Services by Department
- Briefing notes of 3/18/20
- Order 2020-02 and media release
- Fresno City Emergency Order 2020-02 'Shelter-in-Place'
- City of Clovis employee email and media release regarding Fresno's Order

Chad Fitzgerald

From: Luke Serpa
Sent: Thursday, March 19, 2020 12:52 PM
To: The Entire City
Subject: Daily COVID-19 Briefing

With the uncertainty happening related to the COVID-19 health issue I wanted to send a note to all employees to share a few thoughts.

First off, please know that you are appreciated for the work you are doing during these challenging times. It's is commendable, but not surprising. The City of Clovis has, hands-down, the best employees in the region.

Second, I know that many of you have questions about what your work and life will look like in the days and weeks to come. With developments happening sometimes by the minute, it is impossible to predict the future. It also makes communication all the more crucial.

To help in that effort, please watch for a Daily Briefing email from me on each scheduled workday which will update you on ways we are responding to COVID-19 as a City. A couple of items for today's Briefing:

- The Fresno County Health Department is the lead agency in the County on all health related issues. They have the latest data regarding the disease and the professional experts that are best qualified to make decisions with that data. We will continue to follow their guidance on all matters COVID-19 related.
- Today we launched a new City of Clovis app called "Go Clovis" which replaces our "Go Request" app. Residents and employees can use the free app to find information on COVID-19 related impacts to City meetings, programs and services. You can find the app in the App store.
- A web page dedicated to the same content can be found on our City of Clovis website at:
<https://cityofclovis.com/covidinfo/>

If you have specific questions- please direct them to your immediate supervisor.

Again, thank you for the work you do!

Luke

Public Event Tracking

CANCELLED	CONTACTED - ASSESSING RISK		NOT CONTACTED	
Agency/Group	Event Date	Event Name	Location	Event Status
California Health Sciences University	3/20/2020	Scholarship Gala	CVMD	Contacted, Delayed
City of Clovis Senior Center	3/21/2020	Imperial Dove Court	Clovis Senior Center	Contacted, cancelled
City of Clovis Senior Center	3/26/2020	Tribute to Veterans	Clovis Senior Center	Contacted, delayed
City of Clovis Senior Center	3/27/2020	Birthday Celebration	Clovis Senior Center	Contacted, delayed
City of Clovis Senior Center	3/28/2020	Senior Prom	Clovis Senior Center	Contacted, delayed
Sierra Vista Mall	3/28/2020	Spring Fest	Sierra Vista	Contacted, canceled
BOOT	3/29/2020	Antique & Collectable Fair	Old Town Streets	Contacted, delayed
California Health Sciences University	3/31/2020	VIP Reception	Alluvial/Temperance	Contacted, Delayed
California Health Sciences University	4/1/2020	Ribbon Cutting	Alluvial/Temperance	Contacted, Delayed
City of Clovis Recreation	4/4/2020	Egg-stravaganza	Sierra Bicentennial	Contacted, cancelled
City of Clovis Senior Center	4/4/2020	Private Party	Clovis Senior Center	Contacted, cancelled
Clovis Chamber of Commerce	4/4/2020	Big Hat Days	Old Town Streets	Contacted - Rescheduled to 6/20
City of Clovis Senior Center	4/4/2020	Private Party	Clovis Senior Center	Contacted, assessing risk
Clovis Chamber of Commerce	4/5/2020	Big Hat Days	Old Town Streets	Contacted - Rescheduled to 6/20
City of Clovis Public Utilities	4/11/2020	City-wide Yard Sale	City	Delayed Until may
City of Clovis Senior Center	4/12/2020	Easter Luncheon	Clovis Senior Center	Contacte, cancelled
City of Clovis Senior Center	4/14/2020	Volunteer Banquet	Clovis Senior Center	Contacted, delayed
City of Clovis	4/15/2020	New Employee Orientation	Clovis Community Room	Contacted, delayed
BOOT	4/19/2020	Old Town Car Show	Old Town Streets	Contacted, assessing risk
Clovis Rodeo	4/22/2020	Rodeo	Rodeo Grounds	Contacted, assessing risk
Clovis Rodeo	4/23/2020	Rodeo	Rodeo Grounds	Contacted, assessing risk
Clovis Rodeo	4/24/2020	Rodeo	Rodeo Grounds	Contacted, assessing risk
Clovis Rodeo	4/25/2020	Rodeo Parade	Old Town Streets	Contacted, assessing risk
Clovis Rodeo	4/25/2020	Rodeo	Rodeo Grounds	Contacted, assessing risk
Clovis Rodeo	4/26/2020	Rodeo	Rodeo Grounds	Contacted, assessing risk
City of Clovis	5/1/2020	Employee Banquet	CVMD	Contacted, will be moved/cancelled
City of Clovis	5/1/2020	Trail Fest	City Trails	Contacted, will be moved/cancelled
City of Clovis	5/1/2020	Mayors Breakfast	CVMD	Contacted, will be moved/cancelled
BOOT	5/2/2020	Wine Walk	Old Town Streets	
City of Clovis Senior Center	5/7/2020	Rummage Sale	Clovis Senior Center	Contacted, will be moved/cancelled
Old Town Flea	5/9/2020	Old Town Flea	Rodeo Grounds	
Old Town Flea	5/10/2020	Old Town Flea	Rodeo Grounds	
City of Clovis	5/12/2020	Shred Fest	Old Town	
CUSD	5/15/2020	CIF Swim/Dive	ClovisWest	
CUSD	5/16/2020	CIF Swim/Dive	ClovisWest	
Car Show	5/16/2020	Car Show	Treasure-Ingmire Park	
City of Clovis Senior Center	5/23/2020	Memorial Run	Clovis Senior Center	
BOOT	5/24/2020	Glorious Junk Days	Old Town Streets	
CUSD	5/29/2020	CIF Track/Field	Buchannan	
CUSD	5/30/2020	CIF Track/Field	Buchannan	
Car Show	6/20/2020	Car Show	Treasure-Ingmire Park	
San Joaquin College of Law	None			Contacted, no events
City of Clovis Senior Center	Ongoing	Jolly Times	Clovis Senior Center	Contacted, cancelled
BOOT	Ongoing	Saturday Morning Farmers Market	Old Town Streets	Contacted, cancelled
Clovis Babe Ruth	Ongoing	Little League Baseball	CUSD fields	Contacted, cancelled
Clovis Veterans Memorial District	Ongoing			Contacted, cancelling march and april events & assessing risk
BOOT	Ongoing	May-October Friday Farmers Market	Old Town Streets	Contacted, assessing risk
Regency Event Center	Ongoing			Contact, cancelled events through early may
No Surrender	Ongoing			CLOSED

Updated 3/19/2020

City of Clovis Continuity of Operations By Department
COVID19 03/19/20

Changes:

3/19/20 - Level 3 Activation now includes Trigger of State and/or Fresno County Department of Public Health issuing Mandatory Quarantine or Shelter In Place



CITY OF CLOVIS FIRE DEPARTMENT

1233 Fifth Street, Clovis, CA 93612 · (559) 324-2200



AGENDA ITEM NO. 21.

COVID-19 – Fire Department Continuation of Operations Plan Protocols Based Upon Information as of March 13, 2020

LEVEL 1

TRIGGER POINT – Virus Detected throughout the State or Country.

Steps Taken:

1. Daily disinfecting of workspace and common areas for Administrative Staff.
2. Fire stations cleaned and disinfected every morning.
3. Extra cleaning of fire apparatus and EMS equipment.
4. Follow CCEMSA policy and CDC direction for patient care and first responder PPE. Memo sent to Fire Personnel with specifics on March 5 and 12, 2020.
5. Acquisition of needed containment products (disinfectants, PPE, food, water, etc)
6. Adjusting work spaces to provide social distancing, limit the amount of staff for meetings, allow when possible, for 6 feet of personal space.
7. Consulting Fresno Co. Health regarding personnel returning from international travel for a possible quarantine.

LEVEL 2

TRIGGER POINT – The virus has been confirmed with community spread within Fresno/Clovis area.

Steps Taken:

1. Cancel all station tours.
2. Cancel all FISE presentations.
3. Cancel all apparatus display events.
4. Cancel multi-company training and special teams trainings.
5. Cancel all non-essential travel outside Fresno County, per City Manager.
6. Shutdown training center to outside agencies.
7. Cancel company inspections.
8. No multiple companies at any non-emergency locations.
9. Reduce, with the goal to eliminate any outside visitors to all fire stations.
 - Answer the station front door but do not allow station access.
 - Limit visits from non-Department members to essential visitors only.
10. Limit all activities outside the Fire Station.

LEVEL 3

TRIGGER POINT – Fire employee becomes infected or multiple exposures.

Steps Taken:

1. Response to Priority 1 calls only.
2. Non-essential employees assigned to work from home.
3. Prevention activity limited to new construction permits and inspections only.

4. Cancel all Aramark deliveries.
5. Quarantine all exposed personnel by Fresno County Health.

LEVEL 4

TRIGGER POINT – 20-25% of CFD sworn personnel infected or not at work.

Steps Taken:

1. Fire response only for T/A, MVA, and rescues.
2. No non-Department members allowed station access.
3. Cancel all prevention activities except those that can be completed by working from home, ie. Plan checks, SPR review, etc.



CITY *of* CLOVIS

POLICE DEPARTMENT

1233 FIFTH STREET • CLOVIS, CA 93612

COVID- 19 Clovis Police Department Continuation of Operations Plan Protocols based on Information as of March 16, 2020

LEVEL 1

TRIGGER POINT- Virus detected throughout the State or Country.

Steps Taken:

1. Daily disinfecting of workspace and common areas within the police department.
2. Extra cleaning of police equipment.
3. Follow CCEMSA policy and CDC direction for patient care and law enforcement/first responder PPE. Memo sent to all PD Personnel with specifics on March 12, 2020.
4. Acquisition of needed containment products (disinfectants, PPE, food, water, etc).
5. Adjusting work spaces to provide social distancing, limit the amount of staff for meetings, allow when possible for 6 feet personal space.
6. Reduce any department travel to necessary only.
7. Consulting Fresno County Health regarding personnel returning from international travel for a possible quarantine.
8. Cancel- all out of County Travel/Training.
9. Youth Service Division will have signage for hand sanitization locations in their lobby.
10. Cancel- all ride along's.
11. Community room closed to public use.

LEVEL 2

TRIGGER POINT- Virus has been confirmed with community spread within Fresno/Clovis area.

Steps Taken:

1. Cancel- all community events.
2. Cancel- all hosted training/any training courses.
3. Transport inmates straight to Fresno County jail if they are displaying symptoms or cite out.
4. Separate inmates into their own pod when in our jail (limit interaction).

5. Cancel- all public education including station tours, school programs, ride along program and interviews.
6. Cancel- all scheduled training events, including travel for training.
7. Review calendar of events to decide on what should be canceled or reduced commitment by PD personnel for the safety of employees.
8. Briefings- held in Training room.
9. Records Department- limited contact with public/barrier.
10. Dispatch- telephonic calls/ (3) only upstairs/alternate center
11. Police Volunteers and Chaplains- staying home.
12. Student Interns- program closed.
13. Youth Services- closed telephone contact only.
14. Miss Winkles- appointment only.
15. Work program- closed.
16. PPT- telephone appointments only.
17. Property/Evidence room- appointment only.
18. Limit in-house meetings to Skype/FaceTime/Zoom.
19. Explorer program- closed.
20. Limiting Time-off

LEVEL 3

TRIGGER POINT- Police employee becomes infected or multiple exposures.

Steps Taken:

1. Non-First Responders will be assigned to work from home.
2. Briefings will be cancelled and all sworn PD personnel will go 10-8 from home.
3. Reduce response to Priority 1 and Priority 2 calls only.
4. Restrict all pro-active policing.
5. Telephonic calls only.
6. Adjusting Patrol Shifts:
 - a. 4 Shifts- 9/1
 - b. 12.0 hr. shifts
7. CSO Staff- ½ personnel working inside PD only.
8. Jail- mandatory bookings/violent felonies.
9. Records Division- closed.
10. Property/Evidence room- closed.
11. Youth Service Division- closed.
12. Department Training- minimal as necessary (SWAT/CNT/EOD/TRAFFIC).
13. Command Staff- ½ personnel will work (home).
14. Community room- closed.
15. Animal Services- closed (Miss Winkles/Shelter).
16. Quarantine exposed personnel.
17. Time-off/Vacation denied/approved by Chief



CITY *of* CLOVIS

PUBLIC UTILITIES

COVID-19 – Public Utilities Dept. Continuation of Operations Plan Protocols Based on Information as of March 13, 2020

LEVEL 1

TRIGGER POINT – Virus detected throughout the State or Country.

Steps Taken:

1. Daily disinfecting of workspace and common areas for Administrative Staff.
2. Section offices (Utilities, Parks, Solid Waste, etc.) cleaned and disinfected daily.
3. Review basic preventative measures (hand washing, covering of coughs, etc.) with all staff.
4. Stairwell and common doors propped to prevent unnecessary surface contact.
5. Inventory and acquisition of needed containment products (disinfectants, PPE, paper products, etc.).
6. Identification of essential tasks, functions, and staff for all section operations, as well as identification of activities that could be postponed or rescheduled.
7. Restriction of work-related travel to essential instances only.
8. Move meetings to larger spaces to allow for better social distancing between staff.
9. Temporarily suspend fitness classes in PUD gym & Leonardo Room.
10. Temporarily suspend reservations of picnic sites at parks.

LEVEL 2

TRIGGER POINT – The virus has been confirmed with community spread within Fresno/Clovis area.

Steps Taken:

1. Review participation in public events such as Rodeo parade, school site visits, etc. for possible withdrawal.
2. Cancel unnecessary meetings/contact with vendors and consultants.
 - a. Use of masks/gloves for essential contact with vendors and consultants.
3. Rescheduling of Department trainings to a later date, or assigning remote training via Target Solutions.
4. Release of individuals in Adult Offender (AO) program.
5. Release of individuals who are in at-risk categories (age, medical condition).
6. Work with I.T. to develop work-from-home capabilities for employees (network access, etc.).
7. Provide additional PPE for employees who must work with possibility of public contact (e.g. Parks crews cleaning bathrooms, etc.).

LEVEL 3

TRIGGER POINT – PUD employee becomes infected or multiple exposures.

Steps Taken:

1. Non-essential employees assigned to work from home.
2. Employee shifts broken up to minimize exposure to other employees.
3. Reduce services to essential functions and emergency response. Move qualified employees from sections with non-essential functions to sections with essential functions in order to address potential gaps in staffing.
4. Quarantine exposed personnel.
5. Possible closure of front office to public in form of in-person visits (while maintaining phone/online responsiveness to address emergency issues).



CITY *of* CLOVIS

PLANNING & DEVELOPMENT SERVICES

1033 FIFTH STREET • CLOVIS, CA 93612

COVID-19 – PDS Department Continuation of Operations Plan Protocols Based on Information as of March 13, 2020

CITYWIDE:

1. Departments need to identify their critical services-choke points. Prioritize work categories (must happen-inspections, could be delayed-plan reviews, unessential-scanning).
2. General Services / legal working on emergency policies and procedures impacting personnel related items.
3. Group meetings on-hold: Pinnacle Workouts, Toastmasters, etc.
4. Regular updates coming from City Administration / all correspondence vetted through Chad McCollum.
5. Telecommuting not directed or allowed as of now.

LEVEL 1

TRIGGER POINT – Virus detected throughout the State or Country.

Steps Taken:

1. Clean daily and disinfect workspace for all staff. Follow designated area map/rotation schedule.
2. Daily clean and disinfect general common areas in the Department-front counter, copy room, conference rooms, breakrooms, door handles, and bathrooms. Follow designated area map/rotation schedule.
3. Clean daily handles, wheel, main touch points of inspection vehicles.
4. Purchase additional disinfectants, sanitizer, wipes, sprays (see PD).
5. Adjust work spaces to provide social distancing, limit the amount of staff for meetings, when possible maintain 6 feet personal space.
6. Limit department travel to necessary meetings only.
7. Consult Fresno Co. Health regarding personnel returning from international travel for a possible quarantine.
8. Any employee deemed “sick” must go home, using their accrued time.
9. Discourage large group employee congregations.

LEVEL 2

TRIGGER POINT – The virus has been confirmed with community spread within Fresno/Clovis area.

Steps Taken:

1. Conference rooms closed for public use.
2. Limit staff meetings and number of staffing attending meetings to a bare minimum.
3. Restrict front counter contact with the public by a minimum of six feet (tape off, table, signs).
4. Cross train staff / plan for staffing shortages.

Planning Division:

1. Stop attending non-essential meetings and public gatherings. Such as neighborhood meetings, community gatherings.
2. Where possible, use electronic tools in place of in-person meetings. Such as DRC, current applications.
3. If attendance at meetings and public gatherings is essential, send minimum number of staff to accomplish core mission.
4. Cancel all travel.

Building Division:

1. Inspection staff to stagger their activity in the building to eliminate employee congestion and have inspectors work from their vehicle.
2. Plan Review staff to stagger their activity in the building to eliminate employee congestion.
3. Prioritize inspections - inquire about health of residents before performing in home/occupied inspection areas.

Engineering Division:

1. Stop attending non-essential meetings and public gatherings.
2. Where possible, use electronic tools in place of in-person meetings. Such as pre-submittal meetings, BIA, FCOG, FCTA.
3. Where attendance at meetings and public gatherings is essential, send minimum number of staff to accomplish core mission.
4. Cancel travel.

LEVEL 3

TRIGGER POINT – PDS employee becomes infected or multiple exposures.

Steps Taken:

1. Cancel formal in person management meetings. Communicate email, phone.
2. Extra help, interns, contract employees may be sent home without pay / may be reassigned to help other Divisions / Departments.

3. Technical staff may be required to cross train to assist in areas where personnel shortages area occurring.
4. Close downstairs gym to all staff.

Question: If staff office hours are modified (prior to 8, after 5 we may need IT support.

Planning Division:

1. Implement temporary staffing plan to include management employee, counter-service employee, and planner. Rotate staff as appropriate.
2. Discontinue weekly Planning staff meeting.
3. Discontinue attendance at public meetings where 6' separation between individuals cannot be maintained.

Building Division:

1. Discontinue weekly building staff meeting.
2. Inspection staff to stagger their activity in the building to eliminate employee congestion and have inspectors work from their vehicle.
3. Plan Review staff to stagger there activity in the building to eliminate employee congestion and have some plan reviewers work from home several days each week.

Engineering Division:

1. Discontinue weekly/monthly Engineering staff meetings.
2. Implement temporary staffing plan to be ½ staffing of each section (Admin, CIP, SPS, DRU, CM). Rotate staff as appropriate.
3. Discontinue attendance at public meetings where 6' separation between individuals cannot be maintained.

LEVEL 3.5 – Building Closed to Public

Steps Taken:

1. Direct staff to work from home per City Management direction.
2. Cancel public meetings. Hold virtual meetings if possible.

Building Division:

1. Permit technicians and office clerical will have less work therefore can stagger work hours, assist in other areas, or be sent home.
2. Inspection staff to stagger their activity in the building to eliminate employee congestion and have inspectors work from their vehicle.
3. Plan Review staff to stagger their activity in the building to eliminate employee congestion and have some plan reviewers work from home several days each week.
4. Matrix will be devised on what inspections have priority if inspection staff becomes unavailable due to illness.

FINANCE DEPARTMENT

LEVEL 1 - Virus detected throughout the State or County.

Steps Taken:

1. Daily disinfecting of workspace and common areas in department
2. Practice social distancing
3. Suggest employees who interact with the general public wear latex gloves
4. Discourage use of public restrooms in the building
5. Reinforce the importance of proper hand washing and keeping hands off the face
6. Minimize meetings and hold necessary meetings in large areas
7. Allow employees to self-quarantine

LEVEL 2 - Virus has been confirmed with community spread within Fresno/Clovis area.

Steps Taken:

1. Send employees home who appear to be sick

LEVEL 3 – City Hall employee becomes infected.

Steps Taken:

1. If employee goes home sick, disinfect that employees work area immediately

LEVEL 4 – City of Clovis declares a state of emergency.

Steps Taken:

1. Essential services only – payroll, accounts payable and one manager. Utility billing & business license area closed to public. All other employees are to stay home.

Continuation of Services in General Services Department

Tier 1 – Basic preparation but full operations:

- Additional cleaning of all facilities including touch surfaces such as door knobs, railings, counters, phones, vehicles, etc.
- Reduction of meetings with multiple staff members or change to electronic meetings.
- Limit meeting participants to only essential members.
- Social distancing: stay at least six feet away from others.
- Remind staff of proper techniques to prevent spread such as hand washing.

Tier 2 – Virus is more prevalent in the community requiring more aggressive separation of people. Example includes school closures impacting staffing and childcare needs of parents. Include Tier 1 plus:

- Allow for flexible work schedules to accommodate child care needs. May be able to work evenings or weekends.
- Request flexibility from staff to assist with coverage for those with child care issues (example Transit).
- Coordinate with all staff to adjust schedules in order to provide social distancing. This could include working from home part or all of the day.

Tier 3 – Closure of some non-essential City facilities. Include Tiers 1 and 2 plus:

- Closure of senior center programs with the exception of lunch program. Open one to two hours a day for lunch program. Increase number of tables for lunch to better distance the seniors from each other.
- Possible closure of Recreation Center, batting range, Skate Park if program exceeds state health recommendations. All programs cancelled or rescheduled.
- Senior Center and recreation full-time staff could continue to work at the office with social distancing in effect for approximately one to two weeks. After two weeks, we don't expect there to be sufficient work to keep them busy.
- Part-time and program staff would not report to work.
- Rescheduling of large events with 250+ attendees. Examples include: Easter egg hunt, Easter senior luncheon, Clovis Trail Fest, the Clovis Memorial Run, rummage sale, etc.

Tier 4 – Reduction in essential City services. Include Tiers 1, 2, 3 plus:

- Reduction in fixed-route transit services to holiday schedule headways.
- Provide transit services only for essential trips such as medical, groceries, prescriptions, work. (If ADA laws are loosened to allow.)
- Reduce facilities maintenance calls to only essential calls for service.
- Have most personnel/risk management staff work from home.

- No Senior Center or recreation staff working on site. Cancellation of all senior center programs including lunch programs.

Tier 5 – Emergency services only. Basically, the entire City is under quarantine. Include Tiers 1, 2, 3, 4, plus:

- All office and program staff works from home or is temporarily on unemployment.
- Fixed-route transit services suspended.
- Roundup transit services only for essential medical reasons such as dialysis.
- Facilities maintenance staff on-call for repairs only.



CITY *of* CLOVIS

Information Technology

1033 FIFTH STREET • CLOVIS, CA 93612

COVID-19 – Information Technology Division Continuation of Operations Plan Protocols Based on Information as of March 13, 2020

LEVEL 1

TRIGGER POINT – Virus detected throughout the State or Country.

Steps Taken:

1. Daily disinfecting and cleaning of workspace, door handles and common areas.
2. Personal hygiene reminders to wash hands often, avoid touching face, etc.
3. Adjusting workspaces and meetings to provide social distancing, limit the amount of staff for meetings, allow when possible for 6 feet personal space.
4. Using Remote Desktop sessions for end user support instead of onsite / in-person visits. Onsite visits only when necessary.
5. Wiping of keyboard and mouse for onsite / in-person support visits
6. Acquisition of cleaning supplies (Clorox spray, sponges, keyboard / screen cleaning wipes, regular cleaning wipes, etc.)
7. Limiting sub-division / team in-person interaction
8. Consulting Fresno Co. Health regarding personnel returning from travel for a possible quarantine.

LEVEL 2

TRIGGER POINT – The virus has been confirmed with community spread within Fresno/Clovis area.

Steps Taken:

1. IT Team Meetings – use MS Teams collaboration or conference calls.
2. Cancel all out of County Work-Related Travel/Training.
3. Postpone / Reschedule / Cancel Online training.
4. Establish contacts for escalation services and agreement(s) for network, communications, bandwidth support services.
5. Review calendar of events to decide on what should be canceled or reduced commitment by IT personnel for the safety of employees.
6. Sick employees are to stay home until they are fever-free for 24 hours and/or are released from the doctor to return to work.

LEVEL 3

TRIGGER POINT – IT employee becomes infected or multiple exposures.

Steps Taken:

1. Preventative maintenance activities will be stopped and rescheduled. Only automated processes will continue.
2. PC Replacements and Windows 10 Upgrades will be stopped and rescheduled.
3. Quarantine affected personnel. Follow Fresno County Health requirements for return to work.
4. Disinfecting of front door handles will occur after every visitor leaves.
5. Implement shift schedules for key IT personnel
6. On-call support limited to emergency call back and PD / Fire Mobile Data Computer (MDC) support services; staff will disinfect Mobile Data Computers and other equipment before commencing work. Limit in-person interaction with PD or Fire staff (pick-up and drop off at mutually agreed to site).

APPENDIX 6 GLOSSARY OF TERMS

A

Incident Action Plan

The plan prepared in the EOC containing the emergency response objectives of that SEMS level reflecting overall priorities and supporting activities for a designated period. The plan is shared with supporting agencies. Also see Incident Action Plan.

After Action Report

A report covering response actions, application of SEMS, modifications to plans and procedures, training needs, and recovery activities. After action reports are required under SEMS after any emergency which requires a declaration of emergency. Reports are required within 90 days.

Agency Representative

An individual assigned to an incident or to an EOC from an assisting or cooperating agency that has been delegated authority to make decisions on matters affecting that agency's participation at the incident or at the EOC. Agency Representatives report to the Liaison Officer at the incident or to the Liaison Coordinator at SEMS EOC levels.

Allocated Resources

Resources dispatched to an incident.

Area Command

An organization established to: (1) oversee the management of multiple incidents that are each being handled by an Incident Command System organization or (2) to oversee the management of a very large incident that has multiple Incident Management Teams assigned to it. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources based on priorities, ensure that incidents are properly managed, and ensure that objectives are met and strategies followed.

B

Base

The location at an incident at which primary logistics functions for an incident are coordinated and administered. There is only one Base per incident. (Incident name or other designator will be added to the term "Base.") The Incident Command Post may be collocated with the Base.

Branch

The organizational level at the SEMS Field Level having functional or geographic responsibility for major parts of incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section. Branches are identified

by the use of Roman Numerals or by functional name (e.g., medical, security, etc.). Branches are also used in the same sequence at the SEMS EOC Levels.

Branch Director

The ICS title for individuals responsible for supervision of a Branch at the Field Level. At SEMS EOC levels, the title Branch Coordinator is preferred.

C

Cache

A pre-determined complement of tools, equipment, and/or supplies stored in a designated location, available for incident use.

Camp

A geographical site, within the general incident area, separate from the Incident Base, equipped and staffed to provide sleeping, food, water, and sanitary services to incident personnel.

Chain of Command

A series of management positions in order of authority.

Check-in

The process whereby resources first report to an incident or into an EOC. Check-in locations at the SEMS Field level include: Incident Command Post (Resources Unit), Incident Base, Camps, Staging Areas, Helibases, Helispots, and Division Supervisors (for direct line assignments).

Community Emergency Response Team (CERT)

A fire program for training neighborhoods, schools and businesses in disaster preparedness. CERT volunteers who complete eight classes, totaling 32 hours in: Disaster Preparedness, First Aid, CPR, Fire Extinguisher Use, Search & Rescue, Care & Shelter, Communications, Damage Assessment, Security Issues, and Command Post Operations. They are trained to lead all emergency volunteers.

They will care for: (1) their families and homes, (2) their neighborhood, school, and/or business, and (3) report to the City to assist others.

Coordination

The process of systematically analyzing a situation, developing relevant information, and informing appropriate command authority of viable alternatives for selection of the most effective combination of available resources to meet specific objectives. The coordination process (which can be either intra- or inter-agency) does not involve dispatch actions. However, personnel responsible for coordination may perform command or dispatch functions within the limits established by specific agency delegations, procedures, legal authority, etc. Multi-agency or Inter-agency coordination is found at all SEMS levels.

Cost Unit

Functional unit within the Finance/Administration Section responsible for tracking costs, analyzing cost data, making cost estimates, and recommending cost-saving measures.

Command Post

The location at which the primary field command functions are executed, collocated with the incident base or other incident facilities.

Command Staff

The Command Staff at the SEMS Field level consists of the Information Officer, Safety Officer, and Liaison Officer. They report directly to the Incident Commander. They may have an assistant or assistants, as needed. These functions may also be found at the EOC levels in SEMS. At the EOC, they would report to the EOC Director but may be designated as Coordinators. At EOCs, the functions may also be established as Sections or Branches to accommodate subsequent expansion.

Communications Unit

An organizational unit in the Logistics Section responsible for providing communication services at an incident or an EOC. A Communications Unit may also be a facility (e.g., a trailer or mobile van) used to provide the major part of an Incident Communications Center.

Compensation Unit/Claims Unit

Functional unit within the Finance/Administration Section responsible for financial concerns resulting from property damage, injuries, or fatalities at the incident or within an EOC.

D**Delegation of Authority**

A statement provided to the Incident Commander by the Agency Executive delegating authority and assigning responsibility. The Delegation of Authority can include objectives, priorities, expectations, constraints, and other considerations or guidelines as needed. Many agencies require written Delegation of Authority to be given to Incident Commanders prior to their assuming command on larger incidents.

Demobilization Unit

Functional unit within the Planning Section responsible for assuring orderly, safe, and efficient demobilization of incident or EOC assigned resources.

Department Operations Center (DOC)

A facility used by a distinct discipline, such as flood operations, fire, medical, hazardous material; or a unit, such as Department of Public Works, or Department of Health. Department Operations Centers may be used at all SEMS levels above the field response level depending upon the needs of the emergency.

Disaster Service Worker

Includes public employees and any unregistered person impressed into service during a State of War Emergency, a State of Emergency, or a Local Emergency by a person having authority to command the aid of citizens in the execution of their duties.

Dispatch

The implementation of a command decision to move a resource or resources from one place to another.

Division

Divisions are used to divide an incident into geographical areas of operation. Divisions are identified by alphabetic characters for horizontal applications and, often, by numbers when used in buildings. Divisions are also used at SEMS EOC levels and are found organizationally between Branches and Units.

Division or Group Supervisor

The position title for individuals responsible for command of a Division or Group at an Incident. At the EOC level, the title is Division Coordinator.

Documentation Unit

Functional unit within the Planning Section responsible for collecting, recording, and safeguarding all documents relevant to an incident or within an EOC.

E**Emergency Alert System (EAS)**

Enables the President and Federal, State, and Local Governments to communicate with the general public through commercial broadcast stations in the event of a large natural disaster or war-related event.

Emergency Management Coordinator

The individual within each jurisdiction that is delegated the day to day responsibility for the development and maintenance of all emergency management coordination efforts.

Emergency Management Director (Emergency Services Coordinator)

The individual within each political subdivision that has overall responsibility for jurisdiction emergency management. For cities and counties, this responsibility is commonly assigned by local ordinance.

Emergency Medical Services

A local government (County) agency with the primary responsibility of coordinating the medical response to a disaster and facilitating the acquisition of additional resources to carry out the medical recovery mission.

Emergency Medical Services Authority - State of California

That agency within the State Health and Welfare Agency which is devoted to the coordination of policy and practice relative to emergency medical services throughout the State of California. This includes disaster mitigation and planning efforts.

Emergency Operations Center (EOC)

A centralized location where resources and personnel are managed and coordination between departments takes place in a disaster situation.

Emergency Operations Plan

The plan that each jurisdiction has and maintains for responding to appropriate hazards.

Emergency Response Personnel

Personnel involved with an agency's response to an emergency.

EOC Incident Action Plan

The plan developed at SEMS EOC levels which contains objectives, actions to be taken, assignments and supporting information for the next operational mode simplex radio system dedicated to provide emergency communications among County and municipal EOCs in Fresno County.

F

Finance/Administration Section:

One of the five primary functions found at all SEMS levels which is responsible for all costs and financial considerations. At the incident the Section can include the Time Unit, Procurement Unit, Compensation/Claims Unit and the Cost Unit.

Function

In ICS, function refers to the five major activities in the ICS, i.e., Command, Operations, Planning, Logistics and Finance/Administration. The same five functions also are found at all SEMS EOC levels. At the EOC, the term Management replaces Command. The term function is also used when describing the activity involved, e.g., "the planning function."

Functional Element

Refers to a part of the incident, EOC or DOC organization such as section, branch, group or unit.

G

General Staff

The group of emergency management positions comprised of the Incident Commander and Sections Chiefs, including the Operations Section Chief, Planning and Intelligence Section Chief, Logistics Section Chief and Finance and Administration Section Chief.

Groups

Groups are established to divide the incident into functional areas of operations. They are composed of resources assembled to perform a special function not necessarily in a single geographic division. Groups are located between Branches (when activated) and Resources in the Operations Section.

H

Hazard

Any natural source of danger or element of risk identified following a Major Disaster or Emergency.

I

Incident Action Plan

The plan developed at the field response level which contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period. The plan may be oral or written.

Incident Commander

In the EOC, the City Incident Commander works under the direction of the Director of Emergency Services, and is responsible for overall management of all activities related to the emergency. At the field level, the Incident Commander is the first officer on scene in charge of the overall incident.

Incident Command Post (ICP)

The location at which the primary command functions are executed. The ICP may be collocated with the incident base or other incident facilities.

Incident Command System (ICS)

ICS is a system for managing large-scale emergencies. It is one of the requirements under the Standardized Emergency Management System (SEMS) for all public agencies. Public agencies must use ICS to manage large-scale emergencies as well as for their field personnel during emergency responses.

Incident Communications Center

The location of the Communications Unit and the Message Center.

Incident Management Team

The Incident Commander and appropriate General and Command Staff personnel assigned to an incident.

Incident Objectives

Statements of guidance and direction necessary for the selection of appropriate strategy(s) and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

Information Officer

A member of the Command Staff responsible for interfacing with the public and media or with other agencies requiring information directly from the incident. There is only one Information Officer per incident. The Information Officer may have assistants. This position is also referred to as Public Affairs or Public Information Officer in some disciplines. At SEMS EOC levels, the information function may be established as a Coordinator or as a Section or Branch reporting directly to the EOC Director.

Initial Action

The actions taken by resources which are the first to arrive at an incident.

Initial Response

Resources initially committed to an incident.

L

Liaison Officer

A member of the Command Staff at the Field SEMS level responsible for coordinating with representatives from cooperating and assisting agencies. At SEMS EOC levels, the function may be done by a Coordinator and/or within a Section or Branch reporting directly to the EOC Director.

Local Government

Means Local agencies per Article 3 of the SEMS regulations. The Government Code 8680.2 defines Local agencies as any City, City and County, County, School District or Special District.

Local Emergency

The duly proclaimed existence of conditions of disaster or of extreme peril to the safety of persons and property within the territorial limits of a county, City and county, or City, caused by such conditions as air pollution, fire, flood, storm, epidemic, riot, or earthquake or other conditions.

Logistics Section

One of the five primary functions found at all SEMS levels. The Section responsible for providing facilities, services, and materials for the incident or at an EOC.

M

MACS

Multi-Agency Coordination System (MACS) is the combination of facilities, equipment, personnel, procedures, and communications integrated into a common system with responsibility for coordination of assisting agency resources and support to agency emergency operations.

Master Mutual Aid Agreement

An agreement, entered into by and between the State of California, its various departments and agencies, and the various political subdivisions, municipal corporations, and other public agencies of the State of California to assist each other by providing resources during an emergency. Mutual Aid, occurs when two or more parties agree to furnish resources and facilities and to render services to each other to prevent and combat any type of disaster or emergency.

Message Center

The Message Center is part of the Incident or EOC Communications Center and is collocated or placed adjacent to it. It receives, records, and routes information to appropriate locations at an incident or within an EOC

Mitigation

To alleviate by softening and making less severe the effects of a Major Disaster or Emergency and of future disasters in the affected areas, including reduction or avoidance.

Mobilization

The process and procedures used by all organizations, Federal, State and Local, for activating, assembling, and transporting all resources that have been requested to respond to or support an incident.

Multi-Agency Incident

An incident where one or more agencies assist a jurisdictional agency or agencies. The incident may be managed under a single or unified command.

Multi-Agency or Inter-Agency Coordination

The participation of agencies and disciplines involved at any level of the SEMS organization working together in a coordinated effort to facilitate decisions for overall emergency response activities, including the sharing of critical resources and the prioritization of incidents.

Multi-Agency Coordination System (MACS)

The combination of personnel, facilities, equipment, procedures, and communications integrated into a common system. When activated, MACS has the responsibility for

coordination of assisting agency resources and support in a multi-agency or multi-jurisdictional environment. A Group functions within the MACS. MACS organizations are used within the California Fire Services.

Multijurisdictional Incident

An incident requiring action from multiple agencies that have a statutory responsibility for incident mitigation. In ICS these incidents will be managed under Unified Command.

Mutual Aid Agreement

Written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.

Mutual Aid Coordinator

An individual at local government, operational area, region or state level that is responsible to coordinate the process of requesting, obtaining, processing and using mutual aid resources. Mutual Aid Coordinator duties will vary depending upon the mutual aid system.

Mutual Aid Region

A mutual aid region is a subdivision of State OES established to assist in the coordination of mutual aid and other emergency operations without a geographical area of the State, consisting of two or more county (operational) areas.

O

OASIS

The Operational Area Satellite Information System forms a key means of communication between Operational Area (County) EOCs and State Regional EOCs. OASIS consists of a communications satellite, a communications hub which controls the system, and remote sites which include operational area EOCs, Regional EOCs, the State Operations Center, and other selected sites. OASIS provides a disaster-resistant method of communications between the Operational Area and regional levels.

Office of Emergency Services (OES)

The Governor's Office of Emergency Services.

Operational Area

An intermediate level of the State emergency organization, consisting of a county and all political subdivisions within the county area.

Operational Period

The period of time scheduled for execution of a given set of operation actions as specified in the Incident or EOC Incident Action Plan. Operational Periods can be of various lengths, although usually not over 24 hours.

Operations Section

One of the five primary functions found at all SEMS levels. The Section responsible for all tactical operations at the incident, or for the coordination of operational activities at an EOC. The Operations Section at the SEMS Field Response Level can include Branches, Divisions and/or Groups, Task Forces, Teams, Single Resources, and Staging Areas. At the EOC levels, the Operations Section would contain Branches or Divisions as necessary because of span of control considerations.

P

Planning/Intelligence Section

One of the five primary functions found at all SEMS levels. Responsible for the collection, evaluation, and dissemination of information related to the incident or an emergency, and for the preparation and documentation of Incident or EOC Incident Action Plans. The section also maintains information on the current and forecasted situation, and on the status of resources assigned to the incident. At the SEMS Field Response level, the Section will include the Situation, Resource, Documentation, and Demobilization Units, as well as Technical Specialists. Other units may be added at the EOC level.

Planning Meeting

A meeting held as needed throughout the duration of an incident to select specific strategies and tactics for incident control operations and for service and support planning. On larger incidents, the planning meeting is a major element in the development of the Incident Action Plan. Planning meetings are also an essential activity at *all* SEMS EOC levels.

Procurement Unit

Functional unit within the Finance/Administration Section responsible for financial matters involving vendor contracts.

Public Information Officer (PIO)

The individual in the ICS responsible for communicating information to the public, the media, and outside organizations is the PIO. The PIO is part of the General Staff and works directly for the Incident Commander.

R

Recorders

Individuals within the ICS or EOC organizational units who are responsible for recording information. Recorders may be found in Planning, Logistics and Finance/Administration Units.

Region Emergency Operations Center (REOC)

Facilities found at State OES Administrative Regions. REOCs are used to coordinate information and resources among operational areas and between the operational areas and the state level.

Reporting Locations

Specific locations or facilities where incoming resources can check-in at the incident.

Resources

Personnel and equipment available, or potentially available, for assignment to incidents or to EOCs. Resources are described by kind and type, and may be used in tactical support or supervisory capacities at an incident or at EOCs.

S

Safety Officer

A member of the Command Staff at the incident or within an EOC responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.

Section Chief

The ICS title for individuals responsible for command of functional sections: Operations, Planning, Logistics, and Administration/Finance. At the EOC level, the position title will be Section Coordinator.

Situation Status Unit

Functional unit within the Planning Section responsible for the collection, organization, and analysis of incident status information, and for analysis of the situation as it progresses. Reports to the Planning Section.

Span of Control

The supervisory ratio maintained within an ICS or EOC organization. A span of control of five positions reporting to one supervisor is considered optimum.

Staging Area

Staging Areas are locations set up at an incident where resources can be placed while awaiting a tactical assignment. Staging Areas are managed by the Operations Section.

Standardized Emergency Management System (SEMS)

A system required by California Government Code for managing response to multi-agency and multi-jurisdiction emergencies in California. SEMS consists of five organizational levels which are activated as necessary: Field, Local Government, Operational Area, Regional, and State.

State of Emergency

The duly proclaimed existence of conditions of disaster or of extreme peril to the safety of persons and property within the State which conditions, by reason of their magnitude, are or are likely to be beyond the control of personnel, equipment, and facilities of any single Operational Area, City, or and require combined forces of mutual aid region or regions.

T**Task Force**

A combination of single resources assembled for a particular tactical need, with common communications and a leader.

Technical Specialists

Personnel with special skills that can be used anywhere within the ICS or EOC organization.

Time Unit

Functional unit within the Finance/Administration Section responsible for recording time for incident or EOC personnel and hired equipment.

U**Unified Area Command**

A Unified Area Command is established when incidents under an Area Command are multijurisdictional. (See Area Command and Unified Command)

Unified Command

In ICS, Unified Command is a unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility, or accountability.

Unit

An organizational element having functional responsibility. Units are commonly used in incident Planning, Logistics, or Finance/Administration sections and can be used in operations for some applications. Units are also found in EOC organizations.

Unity of Command

The concept by which each person within an organization reports to one and only one designated person.

APPENDIX 7 ACRONYMS

ADA: Americans with Disabilities Act

ARC: American Red Cross

Caltrans: California Department of Transportation

CCCS: Countywide Coordinated Communications System

CERT: Community Emergency Response Team

DAC: Disaster Assistance Center

DHS: Department of Health Services

DOC: Department Operations Center

EAS: Emergency Alert System

EMS: Emergency medical services

EOC: Emergency Operations Center

EOP: Emergency Operations Plan

FEMA: Federal Emergency Management Agency

GIS: Geographic Information System

IAP: Incident Action Plan

ICP: Incident Command Post

ICS: Incident Command System

JIC: Joint Information Center

JIS: Joint Information System

MACC: Multi-Agency Coordination Center

MACS: Multi-Agency Coordination System

NIMS: National Incident Management System

OA: Operational Area

OASIS: Operational Area Satellite Information System

OES: California Office of Emergency Services

PIO: Public Information Officer

REOC: Region Emergency Operations Center

SEMS: Standardized Emergency Management System

SOC: State of California Emergency Operations Center

SOP: Standard Operating Procedure

WEA: Wireless Emergency Alert

WMD: Weapon of mass destruction

TAB 1. EOC POSITION CHECKLISTS

The following EOC Position Checklists cover operational EOC tasks, duties, and responsibilities. These checklist provides memory joggers for those operating within the EOC to assist/ensure the completion of critical tasks and is not necessarily in sequential order. These checklists do not supplant training, education, and experience.

MANAGEMENT

EOC DIRECTOR

PRIMARY: City Manager

ALTERNATE: Assistant City Manager

SUPERVISOR: Policy Group (City Council)

GENERAL DUTIES:

- Serve as the Clovis Director of Emergency Services for the City of Clovis.
- Make executive decisions based on policies of the City Council.
- Develop and issue rules, regulations, proclamations and orders.
- Establish the appropriate level of organization, and continuously monitor the effectiveness of that organization. Make changes as required.
- Exercise overall management responsibility for the coordination of the response efforts within the affected area. In conjunction with the General Staff, set priorities for response efforts and ensure completion.
- Ensure that multi-agency or inter-agency coordination is accomplished effectively within the EOC.

RESPONSIBILITY:

Overall management of the City of Clovis' emergency response and recovery effort.

Action Taken: Time/Date/Comments

Activation:

- _____ Determine operational status and appropriate level of activation based on situation as known.
- _____ As appropriate, respond to EOC.
- _____ Mobilize appropriate personnel for EOC initial activation
- _____ Obtain briefing from whatever sources are available.

Start-up Actions

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

_____ Notify the Fresno County Operational Area that the City EOC is activated via the Fresno County Health Services Agency (County EOC activated) or Fresno County Sheriff's Department (County EOC not activated).

_____ Identify yourself as the EOC Director by putting on the vest with your title. Print your name on the EOC organizational chart next to your assignment.

_____ Initiate check-in list using ICS Form 211 Incident Check-In

_____ Ensure that the EOC organization and staffing chart is posted and that arriving team members are assigned by name.

Ensure that EOC is properly set up and ready for operations.

Appoint and ensure that General Staff are in place as soon as possible and are staffing their respective sections.

- Operations Director
- Planning Director
- Logistics Director
- Finance Director

Ensure that the Management functions are staffed as soon as possible at the level needed.

- Public Information Officer
- Assistant EOC Director
- Emergency Services Coordinator
- Safety
- Liaison
- EOC Security

Ensure that the field agency representatives have been assigned to other facilities as needed.

Ensure that telephone and/or radio communications with other facilities are established and tested.

Ensure that all Departments account for personnel and work assignments.

Schedule the first planning meeting.

Confer with the Operations Director and other EOC Management Team members to determine what representation is needed at the EOC from other agencies. (Clovis Unified, Fresno Irrigation, Military, Red Cross, etc.)

Request additional personnel support as needed for the organization.

Establish the frequency of briefing sessions.

Operational Duties:

- _____ Assess situation, work in progress, resources and estimate incident duration.
- _____ Confirm Level Two or Level Three EOC activation and ensure that EOC positions and ICS field positions are filled.
- _____ Direct the implementation of the City of Clovis- Emergency Operations Plan.
- _____ Develop overall strategy with the EOC Management Team.
- _____ Develop and issue appropriate rules, regulations, proclamations and orders.
- _____ Initiate Emergency Proclamations as needed.
- _____ Conduct periodic briefing sessions with the entire EOC Management Team to update the overall situation.
- _____ Conduct periodic briefing sessions with the Policy Group (City Council) to update the overall situation.
- _____ Monitor performance of EOC personnel for signs of stress
- _____ Establish and maintain contact with adjacent jurisdictions/agencies and with other organizational levels
- _____ In conjunction with the Public Information Officer, coordinate news conferences and review media releases as required.
- _____ Ensure Liaison Officer is providing for and maintaining positive and effective interagency coordination.
- _____ Approve and authorize EOC Incident Action Plan
- _____ Authorized release of information to the media.
- _____ Thoroughly brief relief upon shift change.

Deactivation:

Authorized deactivation of sections, branches or units when they are no longer required.

Deactivate the EOC and close out logs, when emergency situation no longer requires activation.

Notify Fresno County Operational Area via appropriate channels, adjacent facilities and other EOC's as necessary of planned time for deactivation.

Ensure that any open actions not yet completed will be taken care of after deactivation.

Ensure that all required forms or reports are completed prior to deactivation.

Proclaim termination of the emergency and proceed with recovery operations.

MANAGEMENT

ASSISTANT EOC DIRECTOR

PRIMARY: Assistant City Manager

ALTERNATE: City Department Head

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Serve as the Assistant Director of Emergency Services for the City of Clovis.
- Make executive decisions based on policies of the Policy Group/City Council.
- Develop and issue rules, regulations, proclamations and orders.
- Establish the appropriate level of organization, and continuously monitor effectiveness of that organization. Make changes as required.
- Assist with overall management and coordination of the response efforts within the affected area. In conjunction with the General Staff, set priorities for response efforts, and ensure that all agency actions are accomplished within the priorities established.
- Ensure that multi-agency or inter-agency coordination is accomplished effectively within the EOC.

RESPONSIBILITY:

Assistant management of the City of Clovis' emergency response and recovery effort.

Action Taken: Time/Date/Comments

Activation:

- _____ Determine operational status and appropriate level of activation based on situation as known.
- _____ As appropriate, respond to EOC.
- _____ Obtain briefing from EOC Director.

Start-up Actions

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Identify yourself as the Assistant EOC Director by putting on the vest with your title. Print your name on the EOC organizational chart next to your assignment.

Ensure that the EOC organization and staffing chart is posted and that arriving team members are assigned by name.

Coordinate the following EOC Management functions:

- Security and Safety
- Liaison
- Emergency Services Coordinator

Ensure that the field agency representatives have been assigned to other facilities as needed.

Ensure that telephone and/or radio communications with other facilities are established and tested.

Ensure that all Departments account for personnel and work assignments.

Request additional personnel support as needed for the organization.

Operational Duties:

- _____ Assess situation, work in progress, resources and estimate incident duration.
- _____ Confirm Level Two or Level Three EOC activation and ensure that EOC positions and ICS field positions are filled as needed.
- _____ Assist with the implementation of the City of Clovis-Emergency Operations Plan.
- _____ Develop overall strategy with the EOC Management Team.
- _____ Develop and issue appropriate rules, regulations, proclamations and orders.
- _____ Initiate Emergency Proclamations as needed.
- _____ Monitor performance of EOC personnel for signs of stress or under-performance; initiate Critical Incident Stress Debriefing as appropriate.
- _____ Establish and maintain contracts with adjacent jurisdictions/agencies and with other organizational levels as appropriate.
- _____ Ensure Liaison Officer is providing for and maintaining positive and effective interagency coordination.
- _____ Assist with the implementation of the EOC Incident Action Plan developed and prepared by the Planning Section and EOC Management Team.
- _____ Thoroughly brief relief upon shift change.

Deactivation:

- _____ Authorize deactivation of sections, branches or units when they are no longer required.
- _____ Ensure that any open actions not yet completed will be taken care of after deactivation.
- _____ Ensure that all required forms or reports are completed prior to deactivation.
- _____ Proclaim termination of the emergency and proceed with recovery operations.

MANAGEMENT

LEGAL OFFICER

PRIMARY: City Attorney

ALTERNATE: Deputy City Attorney

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Prepare proclamations, emergency ordinances and other legal documents and provide legal services as required.
- Maintain legal information, records and reports relative to the emergency.
- Commence legal proceedings as needed.
- Participate as a member of the EOC Management Team when requested by EOC Director.

RESPONSIBILITY:

Advise the EOC Director on the legal requirements of the City of Clovis during an emergency/disaster.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Legal Officer by putting on a vest or I.D. badge. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set up.

Clarify any issues regarding your authority and assignments.

Operational Duties:

Prepare proclamations, emergency ordinances and other legal documents required by City Council and EOC Director.

Develop rules, regulations and laws required for the acquisition and/or control of critical resources.

Develop emergency ordinances and regulations to provide a legal basis for evacuation and/or population control.

Commence civil and criminal proceedings as necessary and appropriate to implement and enforce emergency actions.

Advise EOC Director on areas of legal responsibility and identify potential liabilities.

Advise the City Council, EOC Director and management personnel of the legality and/or legal implications of contemplated emergency actions and/or policies.

Prepare documents relative to the demolition of hazardous structures or conditions.

Deactivation:

Deactivate the Legal Officer position and close out logs when authorized by the EOC Director.

Ensure that any required forms or reports are completed prior to your release and departure.

Determine any follow up assignments.

Leave forwarding phone numbers where you can be reached.

MANAGEMENT

EMERGENCY OPERATIONS CENTER COORDINATOR

PRIMARY: Emergency Services Coordinator

ALTERNATE: Battalion Chief

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Coordinate Emergency Operations Center internal management system.
- Assist and serve as advisor to EOC Director and General Staff.
- Ensure function ability of EOC; before, during and after incident.

RESPONSIBILITY:

Ensure that all EOC sections and functions are actively functioning; ensure compliance with all state and local requirements; assist the EOC Director in all aspects of emergency response and recovery; maintain contact with the Liaison Officer of the Fresno County Operational Area; provide guidance as needed to all members of the EOC Management Staff; ensure EOC is well supplied with any material needs before, during and after an incident.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Emergency Services Coordinator by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Assess emergency impacts and provide advice to the EOC Director as to the extent of EOC activation.

Assist the EOC Director in filling needed workstation assignments.

Provide assistance and information to General Staff as required.

Clarify any issues regarding your authority and assignments.

Operational Duties:

Working with the General Staff, assist the EOC Director in Development of overall strategy as follows:

- Assess the situation.
- Define the problem.
- Establish priorities.
- Estimate the incident duration.
- Determine if there is a need to make an “Emergency Declaration”.

Assist in preparing proclamations, emergency ordinances and other legal documents required

by the City Council and the EOC Director.

Assist the Planning Section in the development, continuous updating and execution of the EOC Incident Action Plan.

Ensure that all documentation is being properly maintained

Facilitate and attend periodic briefing sessions conducted by the EOC Director.

Liaison with other agencies (County, State, FEMA) as assigned. Ensure that all notifications are made to Fresno County Operational Area.

Assist in shift change issues.

Ensure that EOC facility has necessary compliment of supplies (food, water, stationary supplies, resource information).

Deactivation:

Deactivate the Emergency Services Coordinator position and close out logs when authorized by the EOC Director.

Make sure EOC is stocked and ready for any future activation.

Ensure that any required forms or reports are completed prior to your release and departure.

Determine any follow up assignments.

Leave forwarding phone numbers where you can be reached.

MANAGEMENT

LIAISON OFFICER

PRIMARY: Economic Development Director

ALTERNATE: Assistant City Department Head

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Coordinate with Clovis Agency Representatives assigned to the EOC as well as handle requests from other agencies for sending liaison personnel to other EOCs
- Function as a central location for incoming Agency Representatives, provide space and arrange for support personnel as necessary.
- Interact with other Sections and Branches within the EOC to obtain information, assist in coordination, and ensure the proper flow of information.
- Ensure that all developed guidelines, directives, Incident Action Plans (IAP) and appropriate situation information is disseminated to Agency Representatives.
- Ensure proper deactivation is accomplished when called for by the EOC Director.

RESPONSIBILITY:

The Liaison Officer is responsible for overseeing the communication and coordination with outside agency or special district representatives.

POSITION CHECKLIST

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Liaison Officer by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Arrange and coordinate VIP tours with PIO, City Council Members and EOC Director.

Contact all on-site Agency Representatives. Agency and Special Districts with City of Clovis include:

- Clovis Unified School District
- Clovis Memorial District
- Fresno Metropolitan Flood Control
- Fresno Irrigation District
- Cemetery District

Ensure:

- They have signed into the EOC
- They understand their assigned function
- They know their work location
- They understand EOC organization and floor plan

Determine if outside liaison is required with other agencies such as:

- Local/county/state/federal agencies
- Volunteer organizations
- Private sector organizations
- Utilities

Determine status and resource needs and availability of other agencies.

Brief Agency Representatives on current situation, priorities and Incident Action Plan.

Request Agency Representatives contact their agency, determine level of activation of agency facilities, and obtain any intelligence or situation information that may be useful to the EOC.

Notify and coordinate with adjacent jurisdictions on facilities and/or dangerous releases which may impose risk across boundaries.

Compile list of Agency Representatives (agency name, EOC phone, location, etc.) and make available to all Sections.

Provide periodic update briefings to Agency Reps as necessary.

Deactivation:

Release Agency Representatives no longer required in the EOC after coordinating with the EOC Director and rest of General Staff.

Deactivate the Liaison Officer position and close out logs when authorized by the EOC Director.

MANAGEMENT

POLICY GROUP

PRIMARY: Mayor and City Council Members

ALTERNATE: Mayor Pro-Tem and City Council Members

SUPERVISOR: Electorate

GENERAL DUTIES:

- Proclaim and/or ratify emergency/disaster declarations.
- Establish executive level policies for management of emergency.
- Obtain briefings from EOC Director and provide information to the public and media.
- Host and accompany VIPs and government officials on tours of the emergency/disaster.

RESPONSIBILITY:

Proclaim and/or ratify emergency/disaster declarations, approve emergency orders and serve as City Official.

POSITION CHECKLIST

Action Taken: Time/Date/Comments

Start-up Actions

	Check-in at the Clovis Fire Department Headquarters Conference Room.
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	Receive incident briefing from the EOC Director.
--	--

	Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.
--	--

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Call emergency meeting of the City Council to proclaim and/or ratify emergency/disaster declarations and approve emergency orders as needed.

- Three (3) members of the City Council are needed for an official quorum.
- Emergency/disaster proclamations must be ratified within (7) days of declaration.

In consultation with the EOC Director and General Staff, develop temporary emergency policies for managing the strategic aspects of the emergency.

Upon request of Liaison Officer, host and accompany VIPs and government officials on tours of the emergency/disaster area. Coordinate all tours with PIO.

Provide interviews to the media as arranged by the Public Information Officer.

MANAGEMENT

SAFETY OFFICER

PRIMARY: Risk Manager

ALTERNATE: City Department Head/Assistant

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Ensure that all facilities used in support of EOC operations have safe operating conditions.
- Monitor all EOC and related facility activities to ensure that they are being conducted in as safe a manner as possible under the circumstances that exist.
- Stop or modify all unsafe operations.
- Investigates and Documents all employee related deaths and injuries.

RESPONSIBILITY:

Ensure a safe working environment for EOC operations.

POSITION CHECKLIST

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director or Assistant EOC Director if staffed.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Safety Officer by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.
- _____ Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action

Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Ensure all personnel provided working conditions as safe as possible given the situation.

Investigate all employee related deaths and injuries.

Notify and coordinate with adjacent jurisdictions on facilities and/or dangerous releases which may impose risk across boundaries.

Coordinate with assigned safety monitors from each unit in the Operations Section if necessary.

Deactivation:

Deactivate the Safety Officer position and close out logs when authorized by the EOC Director.

Ensure that any required forms or reports are completed

prior to your release and departure.

MANAGEMENT

EOC SECURITY OFFICER

PRIMARY: Police Officer

ALTERNATE: Community Service Officer

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Provide 24 hour a day security for the EOC facility.
- Control personnel access to facilities in accordance with policies established by the EOC Director.

RESPONSIBILITY:

Provide security for the EOC facility and personnel. Control access to facility.

POSITION CHECKLIST

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Security Officer by wearing appropriate department uniform. Print your name on the EOC organization chart next to your assignment.
- _____ Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Determine what security requirements currently are, and establish staffing as needed.

Complete a radio or communications check with all on-duty security personnel as appropriate.

Provide executive security for key personnel as appropriate.

Provide security recommendations and conditions as appropriate to EOC Director.

Deactivation:

Deactivate the Security Officer position and close out logs when authorized by the EOC Director.

Ensure that any required forms or reports are completed prior to your release and departure.

Determine any follow up assignments.

MANAGEMENT

PUBLIC INFORMATION OFFICER

PRIMARY: Public Information Officer (Police Department)

ALTERNATE: Assistant City Manager

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Serve as the dissemination point for all media releases within the affected area. Other agencies wishing to release information to the public should coordinate through the Public Information function.
- Coordinate as necessary to ensure that the public within the affected area receives complete, accurate, timely, and consistent information about lifesaving procedures, health preservation instructions, emergency status and other information, and relief programs and services.
- Review and coordinate all related information releases.
- Maintain a relationship with the media representatives and hold periodic press conferences as required.

RESPONSIBILITY:

The Public Information Officer (PIO) ensures that information support is provided on request; that information released is consistent, accurate, and timely; that appropriate information is being provided to all required agencies.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the PIO by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Secure guidance from the Director regarding the information available and proper procedure for release under the initial conditions.

Interact with other sections to provide and obtain information relative to PIO operations.

Coordinate with the Situation Status Unit and define areas of special interest for PIO action. Identify means for securing the information as it is developing.

Develop an information release program.

Contact other Public Information Officers and ascertain any pertinent information.

-
- Establish a Media Information Center at a site away from the EOC, Command Post and incident for media use and dissemination of information. Provide necessary work space, materials, telephones and staffing.
Announce safe access routes to MIC for media.
-
- Schedule and post times and locations of news briefings in the EOC, Media Information Center and other appropriate areas.
-
- Maintain an up-to-date picture of the situation for presentation to media.
-
- Ensure that all departments, agencies and response organizations in the jurisdiction are aware that they must coordinate the release of emergency information through the PIO and that all press releases must be cleared with the EOC Director before releasing information to the media.
-
- Coordinate all media events with the EOC Director.
-
- Coordinate news releases about a particular organization/ agency with their PIO.
-
- If requested, establish content for state Emergency Broadcast System (EBS) or Emergency Alert System (EAS) releases. Provide this information through appropriate EBS or EAS links. Monitor releases.
-
- As required, periodically prepare briefings for the jurisdictional executives or elected officials.
-
- Ensure rumor control function is established as necessary, and has the means for identifying false or erroneous information. Develop procedure to be used to squelch such information.
-
- Arrange for meetings between media and city officials or incident personnel. Escort media and VIPs; arrange for tours and photo opportunities. Coordinate VIP tours with Liaison Officer, City Council and EOC Director.
-
- Respond to information request from the EOC Director

Ensure that, if necessary, announcements, information and materials are translated and prepared for special populations (non-English speaking, non-readers, elderly, the hearing, sight and mobility impaired; etc.).

Prepare materials that describe the health risks associated with each hazard, the appropriate self-help or first aid actions and other appropriate survival measures.

Prepare instructions for people who must evacuate from a high-risk area, including the following information for each threat: evacuation routes; suggestions on types and quantities of clothing, food, medical items, etc.

Issue timely and consistent advisories and instructions for life safety, health and assistance which may include:

- What to do and why.
- What not to do and why.
- Hazard areas and structures to stay away from.
- Evacuation routes, instructions and arrangements for persons without transportation or functional needs
- Location of mass care shelters, first aid stations, food and water distribution points, etc.
- Location where volunteers can register and be given assignments.
- Instructions from the coroner and public health officials pertaining to dead bodies, potable water, human waste, and spoiled food disposal.
- Weather hazards when appropriate.
- Public information hotline numbers.
- Status of Local Declaration, Governor's Proclamation, or Presidential Declaration.
- Local, state and federal assistance available; location and times to apply.
- Disaster Application Center (DAC) locations, opening dates and times.
- How and where people can obtain information about relatives/friends in the emergency/disaster area.
(Coordinate with Red Cross on release of information)

Ensure that file copies are maintained of all information released.

Provide copies of all releases to the EOC Director.

Keep the EOC Director advised of all unusual requests for information and of all major, critical or unfavorable media comments. Provide an estimate of the impact and severity and make recommendations as appropriate.

Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Prepare final news releases and advise media representatives of points of contact for follow-up stories.

Deactivation:

Deactivate the Emergency Public Information Officer position and close out logs when authorized by the EOC Director.

Ensure that any required forms or reports are completed prior to your release and departure.

Determine any follow up assignments.

Leave forwarding phone numbers where you can be reached.



PLANNING

PLANNING DIRECTOR

PRIMARY: Planning and Development Services Director

ALTERNATE: City Engineer, City Planner, Chief Building Official

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Coordinate all Planning activities in the EOC.
- Coordinate Documentation, Situation Status and Resource Status Units.
- Maintain communications with EOC Director and other Operational Branches (Fire, Police, Public Utilities).

RESPONSIBILITY:

The Planning Director is responsible for the coordination of Planning Section. The Planning Section collects, evaluates, processes, and disseminates information for use by the Command Staff within the EOC.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Planning Director by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.
- _____ Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Assess the impact of the disaster/emergency.

Contact the Fresno County Operational Area, Planning Section Chief at the County EOC if necessary.

Review intelligence information, determine credibility of data, and analyze its influence on the emergency.

Assign and brief unit leaders that include:

- Documentation Unit
- Situation Status Unit
- Resource Status Unit
- Message Unit

Supervise preparation of Incident Action Plan.

Incident Action Plan Considerations:

- Report information regarding significant events, activities, and occurrences to the EOC Director.
- Assemble information on alternative strategies.
- Provide periodic predictions on incident potential.
- Prepare summary situation reports of incident for transmission to Fresno County EOC, if necessary.
- Document all Situation Status and Resource Status information on EOC Status Boards. Establish special information collection activities as necessary, e.g., weather, environmental, toxics, etc.
- If there is little or no damage in the city of Clovis, be prepared to provide assistance to other mutual-aid jurisdictions.

_____ Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Deactivation:

_____ Deactivate the Planning Director position and close out logs when authorized by the EOC Director.

_____ Ensure that any required forms or reports are completed prior to your release and departure.

_____ Determine any follow up assignments.

_____ Leave forwarding phone numbers where you can be reached.

OPERATIONS

OPERATIONS DIRECTOR

PRIMARY: Police, Fire or Public Utilities Administrative Staff

ALTERNATE: Police, Fire or Public Utilities Administrative Staff

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Coordinate all Operational activities in the EOC.
- Coordinate Police, Fire/EMS and Public Utilities Branches.
- Coordinate all operational responsibilities involving: Alerting & Warning, Fire & Rescue, Access Control, Law Enforcement, Medical, Public Health, Coroner, Care & Shelter, Evacuation, Building & Engineering Safety, Utilities, Hazardous Materials, Communications.
- Maintain communication with EOC Director, Department Operations Centers (DOC/Dispatch) and other Operational Branches (Fire, Police, Public Utilities).

RESPONSIBILITY:

The Operations Director is responsible for the coordination of the Police, Fire/EMS and Public Utilities Branch operations. Protect lives and property. Restore city services.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Operations Director by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for Reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Assess the impact of the disaster on the City's operational capability.

Contact the Fresno County Operational Area, Operations Section Chief at the County EOC if necessary.

Coordinate with the Situation Status Unit to determine progression of emergency.

Develop an action plan. Set operational priorities based on the nature and severity of the disaster/emergency.

Incident Action Plan Considerations:

- Coordinate operational priorities with Branch Directors.
- Review Incident Action Plan Considerations of Operational Branch positions that are not filled.
- Coordinate resource needs with Logistics Section.
- Maintain liaison with special districts, county, state, military, and federal agencies.

- If there is little or no damage in the city of Clovis, be prepared to provide assistance to other mutual-aid jurisdictions.

_____ Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Deactivation:

_____ Deactivate the Operations Director position and close out logs when authorized by the EOC Director.

_____ Ensure that any required forms or reports are completed prior to your release and departure.

_____ Determine any follow up assignments.

_____ Leave forwarding phone numbers where you can be reached.

OPERATIONS

FIRE BRANCH DIRECTOR

PRIMARY: Fire Chief

ALTERNATE: Chief Officer

SUPERVISOR: Operations Director

GENERAL DUTIES:

- Coordinate all Clovis Fire Department activities in the EOC.
- Maintain liaison with County EMS.
- Coordinate all operational responsibilities involving: Fire, Rescue, Medical and Hazardous Materials.
- Maintain communications with Operations Director, Department Operations Center (DOC/Dispatch) and other Operational Branches (Police, Public Utilities).

RESPONSIBILITY:

The Fire Branch Director is responsible for all operational activities required to; protect lives and property, coordinate fire field forces in providing firefighting, hazardous material response, and rescue. Provide liaison between city EOC and County EMS.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to Operations Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Fire Branch Director by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Assess the impact of the disaster on the Fire Department’s operational capability.

Contact the Operational Area - Fire/Rescue Operations Coordinator at the County EOC if necessary.

Coordinate with the Situation Status Unit to determine progression of emergency.

Develop an action plan. Set Fire Department priorities based on the nature and severity of the disaster/emergency.

Incident Action Plan Considerations:

- Develop staffing needs for emergency response and rehab.
- Use existing Mutual Aid agreements to augment response.
- Hazardous Materials-Heavy Rescue Teams.
- Water supply.

- Response routes.
- Develop 12 hour shift schedule.
- Advise fire/rescue field commanders of any operational plans.
- Relay any employee death or injury information to EOC Safety Officer.
- Conduct selective and voluntary evacuations if necessary.
- Coordinate evacuations with Care and Shelter Unit.
- If there is little or no damage in the city of Clovis, be prepared to provide assistance to other mutual-aid jurisdictions.

_____ Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Deactivation:

_____ Deactivate the Fire Branch Director position and close out logs when authorized by the Operations Director.

_____ Ensure that any required forms or reports are completed prior to your release and departure.

_____ Determine any follow up assignments.

_____ Leave forwarding phone numbers where you can be reached.

OPERATIONS

POLICE BRANCH DIRECTOR

PRIMARY: Police Chief

ALTERNATE: Police Officer

SUPERVISOR: Operations Director

GENERAL DUTIES:

- Coordinate all Police Department activities in the EOC.
- Maintain liaison with Fresno County Coroner’s Office.
- Coordinate all operational responsibilities involving: Alerting & Warning, Access Control, Communication, Evacuation, Law Enforcement and Animal Control.
- Maintain communications with Operations Director, Department Operations Center (DOC/Dispatch) and other Operational Branches (Fire, Public Utilities).

RESPONSIBILITY:

The Police Branch Director is responsible for all operational activities required to; protect lives and property, enforce laws and proclaimed orders, control traffic, combat crime, coordinate population movement/evacuation.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to Operations Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Police Branch Director by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Assess the impact of disaster on the Police Department's operational capability.

Contact the Operational Area Law Enforcement Coordinator at the County EOC if necessary.

Coordinate with the Situation Status Unit to determine progression of emergency.

Develop an action plan. Set Police Department priorities based on the nature and severity of the disaster/emergency.

Incident Action Plan Considerations:

- Consider release or transfer of any prisoners in jail facility.
- Advise law enforcement field commanders of any operational plans.
- Relay any employee death or injury information to EOC Safety Officer.

- Consider unmarked field units to assist with disaster survey.
- Conduct selective and voluntary evacuations if necessary.
- Prepare to screen traffic coming into the city or dangerous areas.
- Coordinate evacuations with Care and Shelter Unit.
- Provide security in evacuated areas.
- Coordinate removal of dead bodies with Coroner.
- Initiate Animal Control measures as necessary.
- If there is little or no damage in the city of Clovis, be prepared to provide assistance to other mutual-aid jurisdictions.

Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Deactivation:

Deactivate the Police Branch Director position and close out logs when authorized by the Operations Director.

Ensure that any required forms or reports are completed prior to your release and departure.

Determine any follow up assignments.

Leave forwarding phone numbers where you can be reached.

OPERATIONS

PUBLIC UTILITIES BRANCH DIRECTOR

PRIMARY: Public Utilities Director

ALTERNATE: Assistant Public Utilities Director

SUPERVISOR: Operations Director

GENERAL DUTIES:

- Coordinate all Public Utilities activities in the EOC.
- Maintain liaison with Pacific Gas & Electric Co., Fresno Metropolitan Flood
- Control District, Fresno Irrigation District.
- Coordinate all operational responsibilities involving: Water, Power, Streets, Storm Drains and Sewer.
- Maintain communications with Operations Director, Department Operations Center (DOC/Dispatch) and other Operational Branches (Fire, Police).

RESPONSIBILITY:

The Public Utilities Branch Director is responsible for all operational activities required to restore and maintain essential city services.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to Operations Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Public Utilities Branch Director by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Assess the impact of the disaster on the Public Utilities Department operational capability.

Contact the Operational Area Public Works Coordinator at the County EOC if necessary.

Coordinate with the Situation Status Unit to determine progression of emergency.

Develop an action plan. Set Public Utilities Department priorities based on the nature and severity of the disaster/emergency.

Incident Action Plan Considerations:

- Establish priority list for reestablishing utility services and beginning necessary repairs.
- Provide updated information on road availability and closures to the Planning Section.

- Relay any employee death or injury information to EOC Safety Officer.
- Provide teams of personnel with equipment to accomplish heavy rescue and other operations as needed. Coordinate with Fire/EMS Branch.
- Ensure an adequate supply of water for firefighting operations. Check with Fire/EMS branch for priorities.
- Provide adequate supply of water. If necessary, coordinate with private sector.
- Provide emergency power, such as mobile generators.
- Construct emergency detours and access roads.
- Establish liaison with private heavy equipment operators for assistance. Coordinate with Logistics Section.
- Assist Police Branch with barricades.
- Remove, haul and dispose of debris that hampers emergency response.
- Repair or reinforce bridges and patch, clear, or reinforce repairable roads.
- Arrange for the distribution and installation of chemical toilets, as needed. Coordinate with Logistics Section.
- If there is little or no damage in the city of Clovis, be prepared to provide assistance to other mutual-aid jurisdictions.
- Provide and set up pumps in flooded areas.
- Clear clogged drains.
- Provide sand bags to residents before and during flooding.

_____ Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Deactivation:

_____ Deactivate the Public Utilities Branch Director position and close out logs when authorized by the Operations Director.

_____ Ensure that any required forms or reports are completed prior to your release and departure.

_____ Determine any follow up assignments.

_____ Leave forwarding phone numbers where you can be reached.

FINANCE

FINANCE DIRECTOR

PRIMARY: Finance Director

ALTERNATE: Deputy Finance Director

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Coordinate all Finance activities in the EOC.
- Responsible for; Cost Recovery, Time Recording, Compensation & Claims, and DSR Record Keeping.
- Maintain communication with EOC Director.

RESPONSIBILITY:

The Finance Director is responsible for the coordination of all financial and cost analysis aspects of the disaster/emergency and the supervision of the Finance Section within the EOC.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Finance Director by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Assess the impact of the disaster/emergency.

Contact the Fresno County Operational Area, Finance Section Chief at the County EOC if necessary.

Assign and brief unit leaders as follows:

- Time Keeping
- Compensation & Claims
- Cost Recovery
- DSR Record Keeping

Assist with preparation of Incident Action Plan.

Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Deactivation:

Deactivate the Finance Director position and close out logs when authorized by the EOC Director.

Ensure that any required forms or reports are completed

LOGISTICS

LOGISTICS DIRECTOR

PRIMARY: General Services Director

ALTERNATE: General Services Manager

SUPERVISOR: EOC Director

GENERAL DUTIES:

- Coordinate all Clovis logistical activities in the EOC.
- Responsible for; Transportation, Supply & Procurement, EOC Support and Personnel.
- Procures and provides people, material, and facilities.
- Maintain communications with EOC Director and other Operational Branches (Fire, Police, and Public Utilities).

RESPONSIBILITY:

The Logistics Director is responsible for the coordination of Logistics Section. The Logistics Section provides for all incident material and support needs.

Action Taken: Time/Date/Comments

Start-up Actions

- _____ Check-in upon arrival at EOC.
- _____ Report to EOC Director.
- _____ Obtain briefing on the situation.
- _____ Identify yourself as the Logistics Director by putting on the vest with your title. Print your name on the EOC organization chart next to your assignment.

Using activity log (ICS Form 214), maintain all required records and documentation to support the After-Action Report and the history of the emergency/disaster.

Document the following:

- Messages received
- Action taken
- Decision justification and documentation
- Requests filled
- EOC personnel and time on duty

Precise information is essential to meet requirements for reimbursement by the State and Federal Governments.

Review position responsibilities.

Determine personal operating location and set-up.

Clarify any issues regarding your authority and assignment and what others in the organization do.

Determine 24 hour staffing requirements and request additional support as required.

Operational Duties:

Assess the impact of the disaster/emergency.

Contact the Fresno County Operational Area, Logistics Section Chief at the County EOC if necessary.

Assign and brief unit leaders as follows:

- Personnel Unit
- Transportation Unit
- Supply/Procurement Unit
- EOC Support Unit

Assist with preparation of Incident Action Plan.

Incident Action Plan Considerations:

- Report information regarding significant events, activities, and occurrences to the EOC Director.
- If there is little or no damage in the city of Clovis, be prepared to provide assistance to other mutual-aid jurisdictions.

Conduct shift change briefings in detail. Ensure that in-progress activities are identified and follow-up requirements are known.

Deactivation:

Deactivate the Logistics Director position and close out logs when authorized by the EOC Director.

Ensure that any required forms or reports are completed prior to your release and departure.

Determine any follow up assignments.

Leave forwarding phone numbers where you can be reached.



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council
 FROM: General Services
 DATE: August 1, 2022
 SUBJECT: Consider Approval – Res. 22-____, Adopting Amendments to the Executive Management Salary Schedule.

Staff: Shonna Halterman, General Services Director
Recommendation: Approve

ATTACHMENTS: 1. Resolution 22-____, Salary Schedule

CONFLICT OF INTEREST

None

RECOMMENDATION

For City Council to approve a resolution adopting amendments to the Executive Management Salary Schedule.

EXECUTIVE SUMMARY

Recent adjustments to salaries in accordance with the compensation and salary survey have resulted in compaction, equity, and parity issues within the executive management classifications. Revisions to the executive management salary schedule are recommended.

BACKGROUND

Following the standards of the compensation and salary survey, recent changes to some salaries has resulted in equity, compaction, or parity issues within the executive management team. As a solution, adjustments to the monthly salary schedules of five classifications is recommended by adding a new Step 5, at 5% above the current step 5, and dropping the current Step 1.

The recommended changes include making all steps of the City Manager's classification higher than all steps of subordinate department heads. As a result, the new Step 1 of the City Manager classification will increase from the current Step 1 of \$19,158.00 to the new Step 1 of \$20,116.00 (which was previously the Step 2 salary). The salary for the City Manager will be effective

immediately in accordance with the terms of the City Manager Employment Agreement, which has City Manager Holt currently placed at Step 1 of the City Manager classification.

The Assistant City Manager classification salary schedule will be increased and brought into parity with the Public Utilities Director. The Planning and Development Services Director, General Services Director, and Finance Director classifications will also be increased by dropping the current Step 1 and adding a new Step 5. The current Assistant City Manager and the current employees in three other classifications, Director of Planning and Development Services, General Services Director, and Finance Director will be eligible for a performance-based merit increase to a higher step following an annual performance evaluation on the anniversary date of their position.

The proposed salary matrix for all executive management classifications can be found in Attachment A of Attachment 1.

FISCAL IMPACT

The changes result in approximately \$31,000 in increased costs for fiscal year 2022-2023 for the increase to the City Manager's position and potential merit increases for other eligible department heads. There are sufficient funds for the additional costs in the various budgets impacted.

REASON FOR RECOMMENDATION

Recent revisions to some salaries have resulted in equity and parity issues within the executive management classifications. These adjustments will result in more equitable salary levels within the executive management classifications

ACTIONS FOLLOWING APPROVAL

The City's salary schedules will be adjusted to reflect changes to executive management classifications.

Prepared by: Shonna Halterman, General Services Director

Reviewed by: City Manager 

RESOLUTION 22-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CLOVIS APPROVING AMENDMENTS TO THE CITY'S SALARY SCHEDULE FOR EXECUTIVE MANAGEMENT CLASSIFICATIONS

WHEREAS, it has been determined that amendments to the salary schedule for some executive management classifications are needed; and

WHEREAS, amendments to the classifications are necessary to solve compaction issues and to provide equity and parity within the executive management classifications; and

WHEREAS, modification of the executive management salary schedules requires authorization by City Council.

NOW THEREFORE, BE IT RESOLVED that the City of Clovis shall modify City's executive management salary schedules as specified in Attachment A.

* * * * *

The foregoing Resolution was introduced and adopted at a regular meeting of the City Council of the City of Clovis held on August 1, 2022, by the following vote to wit:

- AYES:
- NOES:
- ABSENT:
- ABSTAIN:

DATED: August 1, 2022

Mayor

City Clerk

Current as of 6-30-22					
Position	Step 1	Step 2	Step 3	Step 4	Step 5
City Manager	\$ 18,246	\$ 19,158	\$ 20,116	\$ 21,122	\$ 22,178
Assistant City Manager	\$ 13,899	\$ 14,594	\$ 15,324	\$ 16,090	\$ 16,895
Police Chief	\$ 13,899	\$ 14,594	\$ 15,324	\$ 16,090	\$ 16,895
Public Utilities Director	\$ 13,654	\$ 14,337	\$ 15,054	\$ 15,807	\$ 16,597
Fire Chief	\$ 13,090	\$ 13,745	\$ 14,432	\$ 15,154	\$ 15,912
Director of Planning & Development Services	\$ 13,037	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847
General Services Director	\$ 13,037	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847
Finance Director	\$ 13,037	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847
Community and Economic Development Director	\$ 13,037	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847

Current as of 7-1-22 - Includes 5% Cost of Living Adjustment and increases to Police Chief, Public Utilities Director and Fire Chief approved by Council on July 5, 2022

Position	Step 1	Step 2	Step 3	Step 4	Step 5
City Manager	\$ 19,158	\$ 20,116	\$ 21,122	\$ 22,178	\$ 23,287
Assistant City Manager	\$ 14,594	\$ 15,324	\$ 16,090	\$ 16,895	\$ 17,740
Police Chief	\$ 15,809	\$ 16,599	\$ 17,429	\$ 18,300	\$ 19,215
Public Utilities Director	\$ 15,324	\$ 16,090	\$ 16,895	\$ 17,740	\$ 18,626
Fire Chief	\$ 15,101	\$ 15,856	\$ 16,649	\$ 17,481	\$ 18,355
Director of Planning & Development Services	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639
General Services Director	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639
Finance Director	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639
Community and Economic Development Director	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639

Proposed Effective 8-1-22 - Includes adding a new Step 5 and dropping current Step 1 to City Manager, Assistant City Manager, Director of Planning & Development Services, General Services Director, and Finance Director

Position	Step 1	Step 2	Step 3	Step 4	Step 5
City Manager	\$ 20,116	\$ 21,122	\$ 22,178	\$ 23,287	\$ 24,451
Assistant City Manager	\$ 15,324	\$ 16,090	\$ 16,895	\$ 17,740	\$ 18,627
Police Chief	\$ 15,809	\$ 16,599	\$ 17,429	\$ 18,300	\$ 19,215
Public Utilities Director	\$ 15,324	\$ 16,090	\$ 16,895	\$ 17,740	\$ 18,626
Fire Chief	\$ 15,101	\$ 15,856	\$ 16,649	\$ 17,481	\$ 18,355
Director of Planning & Development Services	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639	\$ 17,471
General Services Director	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639	\$ 17,471
Finance Director	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639	\$ 17,471
Community and Economic Development Director*	\$ 13,689	\$ 14,373	\$ 15,092	\$ 15,847	\$ 16,639

Yellow indicates the current and proposed actual salary for the incumbent in that position.

* This title is pending retitling to Economic Development, Housing and Communications Director per Council's approval on 8-1-22



CITY *of* CLOVIS

REPORT TO THE CITY COUNCIL

TO: Mayor and City Council

FROM: Administration

DATE: August 1, 2022

SUBJECT: Consider Approval – Designation of Voting Delegate and Alternate for the League of California Cities’ Annual Conference and Business Meeting on September 7-9, 2022.

Staff: John Holt, City Manager

Recommendation: Approve

ATTACHMENTS: 1. Annual Conference Voting Procedures Report
2. Summary of Propositions 26 and 27

CONFLICT OF INTEREST

None.

RECOMMENDATION

That the City Council take action to designate a Councilmember as the City’s voting delegate for the League of California Cities’ Annual Conference for transacting business at the Annual Business Meeting, and that an alternate voting delegate also be designated.

EXECUTIVE SUMMARY

The Annual Business Meeting of the League of California Cities will be conducted in conjunction with the Annual League Conference held on September 9, 2022. In order for the City to cast votes on policy matters coming before the League, it must take action to designate a voting delegate and an alternate voting delegate who will be issued credentials for voting purposes. This authority may not be transferred unofficially and must be accomplished only by action of the City Council.

In years past Cal Cities would provide a number of resolutions for the City Council to consider and weigh in on to provide guidance to the voting member and alternate at the Annual Business Meeting. In 2022, there were no resolutions that were submitted. It is anticipated that positions on Propositions 26 and 27 may be considered. Attachment 2 was developed to provide some background on both initiatives. If considered at the Annual Business Meeting, staff is recommending the City voting delegate oppose both initiatives.

BACKGROUND

Voting on official business and policy matters of the League of California Cities occurs each year at the Annual Business Meeting, held in conjunction with the Annual League Conference. This year the Annual Business Meeting will be on Friday, September 9, 2022. The voting process for the Annual Business Meeting requires that a voting delegate be designated from each member city by action of the City Council. The attached report from the League of California Cities outlines the procedure to ensure integrity of the voting process.

FISCAL IMPACT

None.

REASON FOR RECOMMENDATION

In order for the City to exercise its membership responsibility for policy direction of the League of California Cities, it is necessary to vote on such matters at the Annual Business Meeting.

ACTIONS FOLLOWING APPROVAL

The League of California Cities will be advised in writing of the City Councilmember designated as the voting delegate, and the alternate voting delegate for the City of Clovis.

Prepared by: Rebecca Simonian, Executive Assistant

Reviewed by: City Manager *RS*



Council Action Advised by August 31, 2022

DATE: June 1, 2022

TO: City Managers and City Clerks

RE: DESIGNATION OF VOTING DELEGATES AND ALTERNATES
League of California Cities Annual Conference & Expo – September 7-9, 2022

Cal Cities 2022 Annual Conference & Expo is scheduled for September 7-9, 2022 in Long Beach. An important part of the Annual Conference is the Annual Business Meeting (during General Assembly) on Friday, September 9. At this meeting, Cal Cities membership considers and acts on resolutions that establish Cal Cities policy.

In order to vote at the Annual Business Meeting, your city council must designate a voting delegate. Your city may also appoint up to two alternate voting delegates, one of whom may vote if the designated voting delegate is unable to serve in that capacity.

Please complete the attached Voting Delegate form and return it to Cal Cities office no later than Friday, September 2. This will allow us time to establish voting delegate/alternate records prior to the conference.

Please view Cal Cities' [event and meeting policy](#) in advance of the conference.

- **Action by Council Required.** Consistent with Cal Cities bylaws, a city's voting delegate and up to two alternates must be designated by the city council. When completing the attached Voting Delegate form, please attach either a copy of the council resolution that reflects the council action taken, or have your city clerk or mayor sign the form affirming that the names provided are those selected by the city council. Please note that designating the voting delegate and alternates **must** be done by city council action and cannot be accomplished by individual action of the mayor or city manager alone.
- **Conference Registration Required.** The voting delegate and alternates must be registered to attend the conference. They need not register for the entire conference; they may register for Friday only. Conference registration will open by June 1 on the [Cal Cities](#) website. In order to cast a vote, at least one voter must be present at the Business Meeting and in possession of the voting delegate card. Voting delegates and alternates need to pick up their conference badges before signing in and picking up the voting delegate card at the Voting Delegate Desk. This will enable them to receive the special sticker on their name badges that will admit them into the voting area during the Business Meeting.



- **Transferring Voting Card to Non-Designated Individuals Not Allowed.** The voting delegate card may be transferred freely between the voting delegate and alternates, but *only* between the voting delegate and alternates. If the voting delegate and alternates find themselves unable to attend the Business Meeting, they may *not* transfer the voting card to another city official.
- **Seating Protocol during General Assembly.** At the Business Meeting, individuals with the voting card will sit in a separate area. Admission to this area will be limited to those individuals with a special sticker on their name badge identifying them as a voting delegate or alternate. If the voting delegate and alternates wish to sit together, they must sign in at the Voting Delegate Desk and obtain the special sticker on their badges.

The Voting Delegate Desk, located in the conference registration area of the Long Beach Convention Center, will be open at the following times: Wednesday, September 7, 8:00 a.m. – 6:00 p.m.; Thursday, September 8, 7:00 a.m. – 4:00 p.m.; and Friday, September 9, 7:30 a.m.–12:30 p.m. The Voting Delegate Desk will also be open at the Business Meeting on Friday, but will be closed during roll calls and voting.

The voting procedures that will be used at the conference are attached to this memo. Please share these procedures and this memo with your council and especially with the individuals that your council designates as your city's voting delegate and alternates.

Once again, thank you for completing the voting delegate and alternate form and returning it to Cal Cities office by Friday, September 2. If you have questions, please call Darla Yacub at (916) 658-8254.

Attachments:

- Annual Conference Voting Procedures
- Voting Delegate/Alternate Form



Annual Conference Voting Procedures

1. **One City One Vote.** Each member city has a right to cast one vote on matters pertaining to Cal Cities policy.
2. **Designating a City Voting Representative.** Prior to the Annual Conference, each city council may designate a voting delegate and up to two alternates; these individuals are identified on the Voting Delegate Form provided to the Cal Cities Credentials Committee.
3. **Registering with the Credentials Committee.** The voting delegate, or alternates, may pick up the city's voting card at the Voting Delegate Desk in the conference registration area. Voting delegates and alternates must sign in at the Voting Delegate Desk. Here they will receive a special sticker on their name badge and thus be admitted to the voting area at the Business Meeting.
4. **Signing Initiated Resolution Petitions.** Only those individuals who are voting delegates (or alternates), and who have picked up their city's voting card by providing a signature to the Credentials Committee at the Voting Delegate Desk, may sign petitions to initiate a resolution.
5. **Voting.** To cast the city's vote, a city official must have in their possession the city's voting card and be registered with the Credentials Committee. The voting card may be transferred freely between the voting delegate and alternates, but may not be transferred to another city official who is neither a voting delegate or alternate.
6. **Voting Area at Business Meeting.** At the Business Meeting, individuals with a voting card will sit in a designated area. Admission will be limited to those individuals with a special sticker on their name badge identifying them as a voting delegate or alternate.
7. **Resolving Disputes.** In case of dispute, the Credentials Committee will determine the validity of signatures on petitioned resolutions and the right of a city official to vote at the Business Meeting.



CITY: _____

2022 ANNUAL CONFERENCE
VOTING DELEGATE/ALTERNATE FORM

Please complete this form and return it to Cal Cities office by Friday, September 2, 2022. Forms not sent by this deadline may be submitted to the Voting Delegate Desk located in the Annual Conference Registration Area. Your city council may designate one voting delegate and up to two alternates.

To vote at the Annual Business Meeting (General Assembly), voting delegates and alternates must be designated by your city council. Please attach the council resolution as proof of designation. As an alternative, the Mayor or City Clerk may sign this form, affirming that the designation reflects the action taken by the council.

Please note: Voting delegates and alternates will be seated in a separate area at the Annual Business Meeting. Admission to this designated area will be limited to individuals (voting delegates and alternates) who are identified with a special sticker on their conference badge. This sticker can be obtained only at the Voting Delegate Desk.

1. VOTING DELEGATE

Name: _____

Title: _____

2. VOTING DELEGATE - ALTERNATE

Name: _____

Title: _____

3. VOTING DELEGATE - ALTERNATE

Name: _____

Title: _____

ATTACH COUNCIL RESOLUTION DESIGNATING VOTING DELEGATE AND ALTERNATES OR

ATTEST: I affirm that the information provided reflects action by the city council to designate the voting delegate and alternate(s).

Name: _____ Email _____

Mayor or City Clerk _____ Date _____ Phone _____
(circle one) (signature)

Please complete and return by Friday, September 2, 2022 to:

Darla Yacub, Assistant to the Administrative Services Director
E-mail: dyacub@calcities.org; Phone: (916) 658-8254

Propositions 26 and 27: Legalizing sports gambling, two ways: After the [U.S. Supreme Court struck down a federal law](#) banning state-regulated sports betting, two big-spending interests [stepped up with California legalization proposals](#).

Proposition 26

AUTHORIZES NEW TYPES OF GAMBLING. INITIATIVE CONSTITUTIONAL AND STATUTORY AMENDMENT. Allows federally recognized Native American tribes to operate roulette, dice games, and sports wagering on tribal lands, subject to compacts negotiated by the Governor and ratified by the Legislature. Beginning in 2022, allows on-site sports wagering at only privately operated horse-racing tracks in four specified counties for persons 21 years or older. Imposes 10% tax on sports-wagering profits at horse-racing tracks; directs portion of revenues to enforcement and problem-gambling programs. Prohibits marketing of sports wagering to persons under 21. Authorizes private lawsuits to enforce other gambling laws. Summary of estimate by Legislative Analyst and Director of Finance of fiscal impact on state and local governments: Increased state revenues, potentially reaching the tens of millions of dollars annually, from payments made by facilities offering sports wagering and new civil penalties authorized by this measure. Some portion of these revenues would reflect a shift from other existing state and local revenues. Increased state regulatory costs, potentially reaching the low tens of millions of dollars annually. Some or all of these costs would be offset by the increased revenue or reimbursements to the state. Increased state enforcement costs, not likely to exceed several million dollars annually, related to a new civil enforcement tool for enforcing certain gaming law ([19-0029A1](#).)

Proposition 27

ALLOWS ONLINE AND MOBILE SPORTS WAGERING. INITIATIVE CONSTITUTIONAL AMENDMENT AND STATUTE. Legalizes online and mobile sports wagering, which currently is prohibited, for persons 21 years and older. Such wagering may be offered only by federally recognized Indian tribes and eligible businesses that contract with them. Individuals placing bets must be in California and not located on Indian lands. Imposes 10% tax on sports-wagering revenues and licensing fees. Directs tax and licensing revenues first to regulatory costs, then remainder to: 85% to homelessness programs; 15% to nonparticipating tribes. Specifies licensing, regulatory, consumer-protection, and betting-integrity standards for sports wagering. Summary of estimate by Legislative Analyst and Director of Finance of fiscal impact on state and local governments: Increased state revenues, potentially reaching the mid-hundreds of millions of dollars annually, from online sports wagering-related taxes, licensing fees, and penalties. Some portion of these revenues would reflect a shift from other existing state and local revenues. Increased state regulatory costs, potentially reaching the mid-tens of millions of dollars annually, that would be fully or partially offset by the increased revenues. ([21-0017A1](#).)

Proposition 27 specifically includes language that says voters declare the two measures do not conflict, and that if both pass, they both can become law. However, if both pass there would likely be litigation to settle the matter.

Ballotpedia:

California **Proposition 26**, Legalize Sports Betting on American Indian Lands Initiative (2022). California Proposition 26, the Legalize Sports Betting on American Indian Lands Initiative is on the ballot in California as a combined initiated constitutional amendment and state statute on November 8, 2022.

A **"yes"** vote supports this ballot initiative to (i) legalize sports betting at American Indian gaming casinos and licensed racetracks in California; (ii) tax profits derived from sports betting at racetracks at 10%; and (iii) legalize roulette and dice games, such as craps, at tribal casinos.

A **"no"** vote opposes this ballot initiative, thus continuing to prohibit sports betting in California and roulette and dice games at tribal casinos.

Overview

What would Proposition 26 change? Proposition 26 would legalize sports betting at American Indian gaming casinos and licensed racetracks in California.^[1]

The ballot measure would define *sports betting* as wagering on the results of professional, college, or amateur sport and athletic events, with the exception of high school sports and events featuring a California college team. Individuals would need to be 21 years of age to engage in legal sports betting.^[1]

The ballot measure would enact a tax of 10 percent on profits derived from sports betting at racetracks. The state government would be required to distribute the revenue as follows: (a) 15 percent to the California Department of Health for researching, developing, and implementing programs for problem gambling prevention and mental health and providing grants to local governments to address problem gambling and mental health; (b) 15 percent to the Bureau of Gambling Control for enforcing and implementing sports wagering and other forms of gaming within the state; and (c) 70 percent to the General Fund.^[1]

The ballot measure would also legalize roulette and dice games, such as craps, at tribal casinos; however, tribal-state compacts would need to be amended before these games can be offered.^[1]

Who is behind the campaigns surrounding the ballot initiative?

See also: [Campaign finance](#)

The [Coalition to Authorize Regulated Sports Wagering](#) is leading the campaign in support of the ballot initiative. The coalition is supported by several American Indian tribes, including the top donors to the campaign—the Pechanga Band of Luiseno Indians, Yocha Dehe Wintun Nation, Federated Indians of Graton Rancheria, San Manuel Band of Mission Indians, and Agua Caliente Band of Cahuilla Indians. The campaign had raised \$30.58 million.

[Taxpayers Against Special Interest Monopolies](#) is leading the campaign against the proposal. The campaign, along with a terminated PAC [No on the Gambling Power Grab](#), raised \$25.54 million. The top donors to the opposition were gambling-related companies, including the California Commerce Club,

Hawaiian Gardens Casino, Park West Casinos, The Bicycle Hotel & Casino, PT Gaming LLC, and Knighted Ventures LLC.

Where else is sports betting legal?

See also: [States with sports betting](#)

As of April 15, 2022, sports betting was legal, or laws to legalize had been approved, in 30 states and D.C. Five of the states—[New Jersey \(2011\)](#), [Arkansas \(2018\)](#), [Colorado \(2019\)](#), [Maryland \(2020\)](#), and [South Dakota \(2020\)](#)—legalized sports betting through a ballot measure.^[2]

Ballot title

The official ballot title is as follows:^[3]

“ Authorizes New Types of Gambling. Initiative Constitutional and Statutory Amendment.^[4] ”

Petition summary

The summary provided for inclusion on signature petition sheets is as follows:^[3]

“ Allows federally recognized Native American tribes to operate roulette, dice games, and sports wagering on tribal lands, subject to compacts negotiated by the Governor and ratified by the Legislature. Beginning in 2022, allows on-site sports wagering at only privately operated horse-racing tracks in four specified counties for persons 21 years or older. Imposes 10% tax on sports-wagering profits at horse-racing tracks; directs portion of revenues to enforcement and problem-gambling programs. Prohibits marketing of sports wagering to persons under 21. Authorizes private lawsuits to enforce other gambling laws.^[4] ”

Fiscal impact

The fiscal impact statement is as follows:^[3]

“ Increased state revenues, potentially reaching the tens of millions of dollars annually, from payments made by facilities offering sports wagering and new civil penalties authorized by this measure. Some portion of these revenues would reflect a shift from other existing state and local revenues. Increased state regulatory costs, potentially reaching the low tens of millions of dollars annually. Some or all of these costs would be offset by the increased revenue or reimbursements to the state. Increased state enforcement costs, not likely to exceed several million dollars annually, related to a new civil enforcement tool for enforcing certain gaming laws.^[4] ”

Support

The **Coalition for Safe, Responsible Gaming** is leading the campaign in support of the ballot initiative.^{[5][6]}

Supporters

American Indian Tribes

- Agua Caliente Band of Cahuilla Indians
- Barona Band of Mission Indians
- Big Valley Band of Pomo Indians
- Bishop Paiute Tribe
- Chemehuevi Indian Tribe
- Dry Creek Rancheria Band of Pomo Indians
- Federated Indians of Graton Rancheria
- Mechoopda Indian Tribe of Chico Rancheria
- Middletown Rancheria of Pomo Indians of California
- Morongo Band of Mission Indians
- Pala Band of Mission Indians
- Pechanga Band of Luiseño Indians
- Rincon Band of Luiseño Indians
- San Manuel Band of Mission Indians
- San Pasqual Band of Mission Indians
- Santa Rosa Rancheria Tachi-Yokut Tribe
- Santa Ynez Band of Chumash Indians
- Shingle Springs Band of Miwok Indians
- Sycuan Band of the Kumeyaay Nation
- The Bear River Band of the Rohnerville Rancheria
- Twenty-Nine Palms Band of Mission Indians
- Viejas Band of Kumeyaay Indians
- Wilton Rancheria
- Yocha Dehe Wintun Nation

Unions

- California Nations Indian Gaming Association
- Deputy Sheriff's Association of San Diego County
- San Diego Police Officers Association

Organizations

- AYPAL: Building API Community Power
- Baptist Ministers Conference of Los Angeles and Southern California
- California Hawaii State Conference NAACP
- California Thoroughbred Breeders Association
- California Young Democrats
- El Dorado County Chamber of Commerce
- La Raza Roundtable of California
- Los Angeles Urban League
- National Action Network - Los Angeles
- Rural SURJ of Northern California
- SURJ North San Diego County
- SURJ Sacramento
- SURJ Santa Barbara
- Santa Clarita Branch NAACP
- Showing Up for Racial Justice - San Francisco
- Urban League of San Diego County
- Western Regional Advocacy Project

Arguments

- **Mark Macarro, chairman of Pechanga Band of Luiseño Indians:** "Californians should have the choice to participate in sports wagering at highly regulated, safe and experienced gaming locations. We are very proud to see tribes from across California come together for this effort, which represents an incremental but important step toward giving Californians the freedom to participate in this new activity in a responsible manner."
- **Steve Stallings, chairman of the California Nations Indian Gaming Association:** "A strong, well-regulated gaming industry is of utmost importance to California's tribal governments and the public. This initiative allows sports wagering in a responsible manner and provides for transparency and strict regulation."

Opposition

Taxpayers Against Special Interest Monopolies is registered to oppose the ballot initiative. [\[7\]](#)

Opponents

Corporations

- Bicycle Casino
- Elevation Entertainment Group
- Hawaiian Gardens Casino
- Hollywood Park Casino
- Knighted Ventures LLC
- PT Gaming LLC
- Parkwest Casinos

Unions

- California Contract Cities Association

Arguments

- **Marcel Rodarte, executive director of the California Contract Cities Association:** "The California Contract Cities Association overwhelmingly voted to oppose the qualified tribal gaming initiative as it will not benefit our residents or communities. The proposed initiative also exploits the Private Attorneys General Act, opening the floodgates for frivolous lawsuits that will harm city revenues that fund vital city services such as roads, schools, homelessness services and fire protection."
- **Leonard Mendoza, mayor of the City of Commerce:** "During the pandemic, California cities that depend on the revenues generated through legal gaming at cardrooms have seen the devastating impacts cardroom closures have had on municipal budgets and the vital services they fund. Hundreds of millions of dollars in local revenues are on the line, money needed to invest in the safety and well-being of our residents."
- **Kyle Kirkland, president of the California Gaming Association:** "This initiative does nothing to advance sports wagering, and instead expands the tribal casinos' tax-free monopoly on gaming and rewards those operators for prioritizing their own wealth over public health and safety."

California **Proposition 27**, Legalize Sports Betting and Revenue for Homelessness Prevention Fund Initiative (2022). California Proposition 27, the Legalize Sports Betting and Revenue for Homelessness Prevention Fund Initiative is on the ballot in California as a combined initiated constitutional amendment and state statute on November 8, 2022.^[1]

A "yes" vote supports legalizing online and mobile sports betting for persons 21 years of age or older, establishing regulations for the mobile sports betting industry, imposing a 10% tax on sports betting revenues and licensing fees, and allocating tax revenue to an account for homelessness programs and an account for tribes not operating sports betting.

A "no" vote opposes this ballot initiative, thus continuing to prohibit sports betting in California.

Overview

What would Proposition 27 do?

See also: [Measure design](#)

Proposition 27 proposes a constitutional amendment and statute to authorize a gaming tribe, an online sports betting platform with an operating agreement with a gaming tribe, or a qualified gaming company with a market access agreement with a gaming tribe may operate online sports betting for individuals 21 years of age or older in the state but outside of Indian lands. The amendment would prohibit online sports betting on youth sports. The proposed law would create the Division of Online Sports Betting Control within the Department of Justice. The initiative would give the division authority to regulate the online sports betting industry and investigate illegal sports betting activities. The amendment would take effect on January 1, 2023.^[1]

The proposed law would establish the California Online Sports Betting Trust Fund. The revenue from licensing fees, renewals, and the sports wagering tax would be deposited into the fund. After deducting regulatory costs, 85% of the fund's revenues would be allocated to California Solutions to Homelessness and Mental Health Support Account for permanent and interim housing and 15% of revenues to the Tribal Economic Development Account, which would be established by the initiative to provide funds to Indian tribes for expanding tribal government, public health, education, infrastructure, and economic development.^[1]

Currently, mobile and in-person sports betting is illegal in California.

Who supports and opposes Proposition 27?

See also: [Support](#) and [Opposition](#)

[Californians for Solutions to Homelessness and Mental Health Support](#) is leading the campaign in support of Proposition 27. As of June 30, the campaign had raised over \$100 million. Its top three donors include BetMGM LLC, Betfair Interactive US LLC (FanDuel Sportsbook), and Crown Gaming, Inc. (DraftKings). Nathan Click, a spokesman for the campaign, said, "Our measure is the only one that would

guarantee hundreds of millions each year in solutions to homelessness and mental health support. We have found Californians are enthusiastic about it and the housing and mental health solutions it would provide the state."^[2]

[Californians for Tribal Sovereignty and Safe Gaming](#) and [Coalition for Safe, Responsible Gaming](#) are leading campaigns in opposition to the initiative. Together the committees have raised \$114.13 million. The top three donors include the San Manuel Band of Mission Indians, the Pechanga Band of Luiseno Indians, and the Yocha Dehe Wintun Nation. Chairman James Siva of the California Nations Indian Gaming Association said, "Don't be fooled. These measures are not a fix to homelessness, but rather a massive explosion of gaming that will directly undercut tribal sovereignty and self-sufficiency."^[3]

Where else is sports betting legal?

See also: [States with sports betting](#)

As of June 28, 2022, sports betting was legal, or laws to legalize had been approved, in 35 states and D.C. Five of the states—[New Jersey \(2011\)](#), [Arkansas \(2018\)](#), [Colorado \(2019\)](#), [Maryland \(2020\)](#), and [South Dakota \(2020\)](#)—legalized sports betting through a ballot measure.^[4]

Measure design

See also: [Text of measure](#)

Click on the arrows (▼) below for summaries of the different provisions of the initiative.

Sports Betting Legalization: Authorizes online and mobile sports wagering

California Online Sports Betting Trust Fund: Revenue sources and fund distribution

Division of Online Sports Betting Control: The establishment of the division

Violations of the proposed law: Fines and penalties for violating the proposed law

Text of measure

Ballot title

The ballot title is as follows:^[5]

“ Allows Online and Mobile Sports Wagering. Initiative Constitutional Amendment and Statute.^[6] ”

Petition summary

The summary provided for inclusion on signature petition sheets is as follows:^[5]

“ Legalizes online and mobile sports wagering, which currently is prohibited, for persons 21 years and older. Such wagering may be offered only by federally recognized Indian tribes and eligible businesses that contract with them. Individuals placing bets must be in California and not located on Indian lands. Imposes 10% tax on sports-wagering revenues and licensing fees. ”

Directs tax and licensing revenues first to regulatory costs, then remainder to: 85% to homelessness programs; 15% to nonparticipating tribes. Specifies licensing, regulatory, consumer-protection, and betting-integrity standards for sports wagering.^[6]

Fiscal impact

The fiscal impact statement is as follows:^[5]

“ Increased state revenues, potentially reaching the mid-hundreds of millions of dollars annually, from online sports wagering-related taxes, licensing fees, and penalties. Some portion of these revenues would reflect a shift from other existing state and local revenues. Increased state regulatory costs, potentially reaching the mid-tens of millions of dollars annually, that would be fully or partially offset by the increased revenues.^[6] ”

Support

Californians for Solutions to Homelessness and Mental Health Support is leading the campaign in support of Proposition 27.^[7]

Supporters

Officials

- Fresno Mayor [Jerry Dyer \(Nonpartisan\)](#)
- Long Beach Mayor [Robert Garcia \(D\)](#)
- Oakland Mayor [Libby Schaaf](#)
- Sacramento Mayor [Darrell Steinberg \(Nonpartisan\)](#)

Arguments

- **Nathan Click, a spokesman for the campaign:** "Our measure is the only one that would guarantee hundreds of millions each year in solutions to homelessness and mental health support. We have found Californians are enthusiastic about it and the housing and mental health solutions it would provide the state."
- **Tamera Kohler, CEO of the Regional Task Force on Homelessness for the San Diego Area:** "This initiative is a critical step forward, dedicating revenue to the issue of homelessness is a win-win for our state. It would provide an ongoing funding source of hundreds of millions of dollars each year to fight homelessness and provide mental health services to those most in need. We are excited to partner with the coalition to pass this important measure in November 2022."
- **Long Beach Mayor Robert Garcia (D):** "I'm joining my fellow mayors in endorsing this important initiative because this is an all-hands on deck moment in our fight against homelessness. To solve California's homelessness crisis over the long-term, we need sustainable sources of funding to house those experiencing homelessness and provide them the medical and mental health services they need. That's what this measure provides."

- **Tomiquia Moss, CEO of All Home:** "If we permit and regulate online sports betting, California residents should benefit from it. Twenty-one other states have already made this decision, our state should be next. When all people have a safe and decent place to call home, it benefits entire communities. The funding this measure provides would provide a huge lift for efforts to deliver housing and support to people experiencing homelessness and make us all better off."

Californians for Tribal Sovereignty and Safe Gaming and **Coalition for Safe, Responsible Gaming** are leading campaigns in opposition to Proposition 27. [\[8\]\[9\]](#)

Opponents

Coalition for Safe, Responsible Gaming provides a list of endorsements on the campaign's website, which is available [here](#).

American Indian Tribes

- Agua Caliente Band of Cahuilla Indians
- Barona Band of Mission Indians
- Rincon Band of Luiseño Indians
- San Manuel Band of Mission Indians
- Yocha Dehe Wintun Nation

Unions

- [California Teachers Association](#)
- Communications Workers of America

Organizations

- AYPAL: Building API Community Power
- American Indian Chamber of Commerce of California
- California Asian Pacific Chamber of Commerce
- California Black Chamber of Commerce
- California Coalition for Rural Housing
- California Hawaii State Conference NAACP
- California Hispanic Chambers of Commerce
- California League of United Latin American Citizens
- La Raza Roundtable of California
- Los Angeles Urban League
- Western Regional Advocacy Project

Arguments

- **Pat Fong Kushida, president and CEO of the California Asian Pacific Chamber of Commerce:** "The Corporate Online Gambling Proposition was written for the sole benefit of out-of-state gambling corporations. This measure would give online gambling corporations near total control over the sports wagering market, effectively hijacking any local economic benefits for our small businesses, while sending 90% of profits from sports gambling out-of-state and even out of country."
- **Doug Terfher, vice president of marketing for MaximBet:** MaximBet is a sports betting company launched in 2021 that would not be able to operate in California under the proposed initiative. Terfher said, "We want (California) to be as open and available to as many operators as possible with where we are in our growth journey."
- **Raymond Welch, chairman of the Barona Band of Mission Indians in San Diego County, and Greg Sarris, tribal chairman of the Federated Indians of Graton Rancheria in Sonoma County:** "Their measure would authorize the largest expansion of gambling in state history – allowing virtually anyone, anywhere, anytime to gamble. Studies show this unprecedented access would lead to more problem gambling, addiction and crime. In fact, the National Council on Problem Gambling reports online sports bettors are up to five times more likely to develop problem gambling than other types of gamblers."
- **Chairman James Siva of the California Nations Indian Gaming Association:** "Don't be fooled. These measures are not a fix to homelessness, but rather a massive explosion of gaming that will directly undercut tribal sovereignty and self-sufficiency."
- **Californians for Tribal Sovereignty and Safe Gaming website:** "If it passes, the promise of gaming exclusivity between California voters and our Native American Tribes will be broken, threatening the \$23.2 billion in economic activity and 181,532 California jobs Tribal gaming provides. This measure is a direct attack on tribal sovereignty."