CITY of CLOVIS

AGENDA • PLANNING COMMISSION

Council Chamber, 1033 Fifth Street, Clovis, CA 93612 (559) 324-2340

www.cityofclovis.com

January 23, 2020 6:00 PM Council Chamber

Commission Members: Amy Hatcher Chair, Paul Hinkle Chair Pro Tem, Alma Antuna, Brandon Bedsted, Mike Cunningham

The Planning Commission welcomes you to this meeting.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate at this meeting, please contact Planning Division staff at (559) 324-2340. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

Any writings or documents provided to a majority of the Planning Commission regarding any item on this agenda will be made available for public inspection at the City of Clovis Planning Division, located in the Planning and Development Services building, between 8:00 a.m. and 3:00 p.m. Monday through Friday. In addition, such writings and documents may be posted on the City's website at www.cityofclovis.com.

ABOUT THE MEETING

The Planning Commission consists of five Clovis residents appointed by the City Council to make decisions and recommendations on City planning issues. Decisions made by the Planning Commission may be appealed to the City Council.

After the approval of minutes, the Chairperson of the Planning Commission will ask for business from the floor. If you wish to discuss something which is NOT listed on the agenda, you should speak up at this time.

Next, the Planning Commission will discuss each item listed on the agenda. For the items on the agenda which are called "public hearings," the Planning Commission will try to follow the procedure listed below:

For each matter considered by the Commission, there will first be a staff presentation, followed by a presentation from the project applicant. Testimony from supporters of the project will then be taken, followed by testimony from those in opposition. The applicant will have the right to a final rebuttal presentation prior to closing the public hearing. Once this is complete, the Chairperson will close the public hearing and the Commission will discuss the item and cast their votes.

If you wish to speak on an item, please step to the podium and clearly state your name and address for the record. The Planning Commission wants to know how you feel about the items they are voting on, so please state your position clearly. In accordance with Section 13 of Article 2 of the Planning Commission Rules and Regulations governing length of public debate, all public testimony from those in support and in opposition to the project will be limited to five minutes per person. In order for everyone to be heard, please limit your comments to 5 minutes or less.

* * * * * *

CALL TO ORDER

FLAG SALUTE

ROLL CALL

APPROVAL OF MINUTES

1 November 21, 2019 Planning Commission Minutes

COMMISSION SECRETARY COMMENTS

PLANNING COMMISSION MEMBER COMMENTS

BUSINESS FROM THE FLOOR

This is an opportunity for the members of the public to address the Planning Commission on any matter that is not listed on the Agenda.

PUBLIC HEARINGS

2 Consider Approval, Res. 20-___, GPA2019-007, A request to amend the circulation element of the General Plan and the Herndon-Shepherd Specific Plan for placement of a Shepherd Avenue access point on the south side of Shepherd Avenue, between Clovis and Sunnyside Avenues. John and Kristen Sobaje, owners; Lennar Homes of California, Inc., applicant; Dirk Poeschel, Land Development Services, Inc., representative.

Staff: Ricky Caperton, AICP, Senior Planner

Recommendation: Deny

3 Consider Approval, Res. 20-___, SPR2019-20, A request to approve a site plan review for a proposed Fresno County Regional Library Branch in the Clovis Landmark Square Development, located on the north side of Third Street at its intersection with Veterans Parkway (755 Third Street). City of Clovis, owner. County of Fresno, applicant.

Staff: Dave Merchen, City Planner

Recommendation: Approve

4 Consider Approval, Res. 20-___, AUP2019-023, A request for the approval of an administrative use permit to allow for a detached accessory structure to be greater than 12 ft. in overall height within the rear yard setback for the property located at 2742 Everglade Avenue. Jessica Huber, owner/applicant.

Staff: Ryder Dilley, Planning Intern
Recommendation: Approve

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT

MEETINGS & KEY ISSUES

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

February 27, 2020

March 26, 2020

April 16, 2020

CLOVIS PLANNING COMMISSION MINUTES
November 21, 2019

A regular meeting of the Clovis Planning Commission was called to order at 6:00 p.m. by Chair Hatcher in the Clovis Council Chamber.

Flag salute led by Chair Hatcher

Present: Commissioners Antuna, Bedsted, Cunningham, Hinkle, Chair Hatcher

Absent: None

Staff: David Merchen, City Planner
Orlando Ramirez, Deputy City Planner
Ricky Caperton, Senior Planner
George Gonzalez, Associate Planner
Maria Spera, Planning Technician II
Ryder Dilley, Planning Intern
Sean Smith, Supervising Civil Engineer
Michael Linden, Assistant City Attorney

MINUTES

1. The Commission approved the October 24, 2019, minutes by a vote of 5-0.

COMMISSION SECRETARY

Deputy City Planner Orlando Ramirez informed that, due to project scheduling changes, a special Planning Commission meeting in December has become unnecessary.

PLANNING COMMISSION MEMBERS COMMENTS

None.

COMMUNICATIONS AND REFERRALS

None.

BUSINESS FROM THE FLOOR

None.

CONSENT CALENDAR

None.

PUBLIC HEARINGS

2. Consider approval Res. 19-52, **TM6023**, A request to approve a one-year extension to an approved vesting tentative tract map for property located on the south side of Ashlan Avenue, between Highland and Thompson Avenues. Wilson Homes, owner/applicant; Harbour & Associates, representative.

Planning Technician II Maria Spera presented the staff report.

At this point, the Chair opened the floor to the applicant.

Lorren Smith of Harbour & Associates, 389 Clovis Avenue, offered to answer any questions.

At this point, the Chair opened the floor to those in favor.

There being none, the Chair opened the floor to those in opposition.

There being none, the Chair closed the public portion.

Commissioner Hinkle sought and received confirmation that the only action on this item is to approve an extension to a map that has already been reviewed and approved.

At this point, a motion was made by Chair Hatcher and seconded by Commissioner Bedsted to approve an extension to TM6023. The motion was approved by a vote of 5-0.

3. Consider approval Res. 19-53, **CUP2019-016**, A request to approve a conditional use permit for 24-hour operation of an existing fitness facility (Crunch Fitness) on approximately 2.20 acres of property located at 284 West Shaw Avenue. 284 W Shaw LLC, property owner; Crunch Fitness (Shaw Fitness Investment Group LLC), Ray Chung, applicant; Joe Wilson, Venture Fit, representative.

Senior Planner Ricky Caperton presented the staff report.

Commissioner Cunningham sought and received confirmation that the only thing before the Commission for review is the proposed extension of hours.

Commissioner Hinkle sought and received confirmation that the storage containers near the front of the property will be removed within the next few weeks.

At this point, the Chair opened the floor to the applicant.

Raymond Chung representing Crunch Fitness provided background on the project.

Commissioner Hinkle inquired as to whether the applicant intends to leave the trailer in front, in the parking lot. Mr. Chung responded in the negative, providing details.

Commissioner Hinkle inquired as to whether the door on the east side of the building could remain closed during the night hours to avoid disturbing the residences south of the site. Mr. Chung informed that the only doors to be open to the public for access will be the front doors.

Commissioner Antuna sought and received confirmation that the sole purpose is seeking the twenty-four hour operation is to remain competitive with the gym facility down the street. Mr. Chung provided a detailed explanation.

At this point, the Chair opened the floor to those in favor.

There being none, the Chair opened the floor to those in opposition.

Greg Brown of Brown & Associates Clovis, which owns the properties to the west of the site, spoke against the project as lacking the opportunity to air their opinion on the use, compatibility with the neighboring uses, and parking. He also challenged the validity of the reciprocal access agreement, and feels that this use creates a burden on their tenants.

David Brown of Brown & Associates Clovis stated that they want to protect their tenants and their associated parking. They are willing to work with the applicant but are also willing to tow cars in order to ensure their tenants have a fair chance to park.

At this point, the Chair reopened the floor to the applicant.

Mr. Chung rebutted that while parking is a potential issue down the road, it is a twenty-four hour use conditional use permit that is up for consideration. The two issues have no bearing on each other, and there will be no injurious traffic from 12:00 a.m. to 5:00 a.m. He concluded by requesting that the commissioners make their decision based on the merits of what the applicant is attempting to accomplish rather than distractions.

At this point, the Chair closed the public portion.

Commissioner Hinkle informed that the only issue before the Commission for this site is the conditional use permit and that it is a common practice for businesses to seek to change their hours after opening for business. There is nothing the Planning Commission can do regarding anything other than the time element, the subject of their decision this evening, and so he recommended that the Browns continue to work with staff on their issues.

Chair Hatcher reiterated that the Browns should continue to work with staff, as what has been done in the past is done. She sees no potential issues with the additional hours and therefore has no problem voting in favor of this project.

At this point, a motion was made by Commissioner Cunningham and seconded by Commissioner Antuna to approve CUP2019-016. The motion was approved by a vote of 5-0.

4. Consider approval Res. 19-54, **CUP2019-015**, A request for the approval of a conditional use permit to amend the adopted use schedule to the Planned Commercial Center (P-C-C) Zone District for the Sierra Pavilions Shopping Center to allow an indoor amusement center use. A specific location is proposed in Building "G" at 1175 Shaw Avenue Unit 101. Clovis 1A, LLC, owner; M and M Indoor Playground, applicant and representative.

Planning Intern Ryder Dilley presented the staff report.

At this point, the Chair opened the floor to the applicant.

Manpreet Sandhu of M and M Indoor Playground provided background on the project.

Commissioner Hinkle suggested an expansion of the proposed hours of operation in the event that the applicant later chooses to open at an earlier hour than currently intended. This modification to the motion can be done to save the applicant time and money in such a case. Ms. Sandhu responded that though she does not believe any parents would choose to come in earlier than 9:00 a.m., she is open to this modification.

Commissioner Bedsted sought clarification as the report in the agenda packet stated that the use is proposed for children seven years of age and under, yet in her statements the applicant stated they would be serving children five years old and under. Ms. Sandhu explained that though they would be open for children seven years old and younger, they expect the majority of the children attracted to the types of toys they order to be five years old and under.

At this point, the Chair opened the floor to those in favor.

There being none, the Chair opened the floor to those in opposition.

There being none, the Chair closed the public portion.

Chair Hatcher sought and received confirmation that staff had no issue with amending the proposed operational hours.

At this point, a motion was made by Commissioner Hinkle and seconded by Commissioner Bedsted to approve CUP2019-015 with an amendment to operational hours. The motion was approved by a vote of 5-0.

5. Consider items associated with approximately 3.53 acres of land located on the west side of Clovis Avenue, north of the Palo Alto Avenue alignment. Swedish Inn, LLC, owner; RED INC Architects, applicant/representative.

    a. Consider Approval, Res. 19-55, A request to approve an environmental finding of a Mitigated Negative Declaration for Rezone Amendment R2004-036A3, pursuant to CEQA guidelines.

b. Consider Approval, Res. 19-56, **R2004-036A3**, A request to approve a modification to the master site plan and an amendment to the general development plan standards of the P-C-C (Planned Commercial Center) Zone District to allow buildings not to exceed five (5) stories or sixty-three (63') feet in height within 3.53 acres of land located on the west side of Clovis Avenue, north of the Palo Alto Avenue alignment and recommending adoption of a mitigated negative declaration for R2004-036A3.

Associate Planner George Gonzalez presented the staff report.

Commissioner Cunningham inquired as to the meaning of the term 'lithic debotage' used in the Initial Study attachment. Associate Planner Gonzalez explained that the term was used in the submitted cultural study, providing his understanding of the term based on study.

Commissioner Cunningham stated that this is the fifth hotel project he has seen recently seeking to exceed the development code's height requirements. In addition, in his research, he has found the maximum height to be set at thirty-five feet, not fifty, and inquired as to where that maximum came from. Associate Planner Gonzalez explained that the fifty-foot maximum height is part of the development standards adopted specifically for this center.

Commissioner Cunningham followed up with an inquiry as to whether this standard is present in the development code. Associate Planner Gonzalez responded in the negative, explaining that it is only in the City Council-approved development standards for this center, providing details.

Commissioner Cunningham expressed difficulty with the apparent dichotomy of having a maximum height that is not actually a maximum, as well as his discomfort with five hotels wanting to exceed this standard and the extent to which this proposal seeks to exceed the height standard. He presumed that staff had informed the applicant of the height standard. Associate Planner Gonzalez assured that the applicant is aware of the development standards, as staff provided them. He also informed that staff is planning the next development code update, and that this concern is one of the line items for consideration.

Commissioner Cunningham expressed appreciation for that, then stated that this is the same answer to his concerns as from September and requested an absolute date for this update in order for him to look more favorably on this request. Deputy City Planner Ramirez responded that staff is still compiling information on this and other items for consideration, and that staff expects to bring the development code update to the Planning Commission most likely in the spring.

Commissioner Cunningham inquired as to how many hotel projects will be presented to them between now and then. Deputy City Planner responded that such depends on market demand.

Commissioner Hinkle inquired as to whether there would be any improvements required for the parking lot used by the school district. Deputy City Planner Ramirez provided details.

Commissioner Hinkle followed up with an inquiry as to whether there would also be access to properties to south, or if such is conceptual for down-the-road development. Associate Planner

Gonzalez responded that such would not come in with this project but that it is indeed conceptually planned for the future, referring to the proposed master site plan exhibit.

Commissioner Hinkle informed that he finds such access to be important due to all of the activities in Clovis. He depicted a scenario whereby friends got rooms in different hotels, pointing out that to get together they would need access across the properties. Therefore, he views it as a high consideration and wants to make sure there will be access north-to-south with future developments. Deputy City Planner Ramirez confirmed that it will be a requirement, providing details.

Commissioner Bedsted inquired as to the status of the architectural concept, as he saw in the report that staff attempted to propose alternatives. He stated that it read like staff conceded to the applicant's design due to the developer wanting to keep their own contemporary design. He is concerned about the long-term effect of this, not wanting to see a smattering of different developments that are not tied together except through color scheme. Associate Planner Gonzalez responded that such is not something staff wants to see happen, which is why he mentioned in the report that he is requesting elevation modifications. Staff's intent is to continue working with the applicant on this and won't concede and accept only color changes, even though it may stall the project in the site plan review stage. Deputy City Planner Ramirez further explained that the site plan review process is a protection mechanism to allow us to work on compatibility through a variety of elements. Staff understands the constraints the franchisee is under, as this is an issue not only with hotels but with fast food restaurants and other similar uses. However, staff has been very successful working with these corporations in order to tie in projects to other projects instead of appearing to be standalone.

Commissioner Bedsted stated that the City has done a good job historically in trying to blend such projects in with their surrounding developments; however, there are some that do not blend quite so well, leading him to want to place his concern on the record. He expressed understanding that there need to be concessions on both sides and encouraged the applicant to continue working with staff towards an outcome that will serve both sides.

Commissioner Hinkle sought confirmation that the temporary pond in the northern parcel of the proposed project will be filled in for a parking area. Supervising Civil Engineer Sean Smith responded that it will be at least partially filled in, providing some details.

At this point, the Chair opened the floor to the applicant.

David Burkett of RED INC Architects provided background on the project and offered to answer questions.

At this point, the Chair opened the floor to those in favor.

There being none, the Chair opened the floor to those in opposition.

There being none, the Chair closed the public portion.

Commissioner Antuna expressed concurrence with the concerns regarding both height and design compatibility. Though she understands Hilton's intention, she is concerned regarding the longevity of the design's appeal as the target customers get older. In addition, though the City wants to allow for expressions of design and innovation, much time and effort was put into the master plan and how it would shape this area's development. She is specifically concerned with the height and the design's fit into future development around it.

Commissioner Hinkle informed that he has an acquaintance who has likely built more hotels than anyone else in the Fresno. From his experience through this acquaintance and his understanding of this type of hotel and the activities in Clovis, he believes that this type of hotel will always have a younger age group to draw customers from. In addition, most people spend little time actually in hotels, and therefore he does not see any problem being caused in the future by the design. As for the height, he would be more concerned with it if this location was in downtown Clovis. The Golden Triangle, as this area has been called, has been planned for this type of development for years and the Planning Commission approved a center to the east which will complement this project. Between all of this and the answers provided by staff, he is fully in favor of this project.

Commissioner Cunningham expressed appreciation for Commissioner Hinkle's comments and specified that he has no issue with this particular project in terms of the type of facility being proposed. His main concern is with the height. His research has shown that thirty-five feet is the maximum height for all development in the City. Though he understands that the development code allows the Planning Commission to modify height on a specific basis and they have done so in the past, it has been his experience that each successive hotel making such a request has asked for greater and greater height over the maximum allowance. He appreciates staff assuring that they will look into a change, but this does not necessarily mean that a change will happen. In his opinion, the Planning Commission is the wrong venue to modify the development code. He has nothing against Tru by Hilton but will vote against this project.

Commissioner Bedsted stated that his feelings are similar to those of his fellow commissioners. He too sees a trend of request before the Planning Commission to approve variances to height requirements. In this instance, however, the proposed location being in the back of the development and adjacent to the highway reduces the strength of his concern regarding the proposed height. On the other hand, he is concerned regarding the possibility of this project standing out, and in a way that may or may not be good, if the color schema and architectural design are not handled well in the site plan review. Therefore, he is cautiously optimistic in moving forward.

Commissioner Hinkle stated that the Hyatt Place hotel on Highway 41 is similar in design to this proposal that blends in with its area. As a member of the Clovis Tourist Advisory Committee, this is what is needed and matched the direction Clovis is going. This proposal both fits in the Golden Triangle Center and serves the City's need due to future events.

Commissioner Antuna clarified that she also believes more hotels are needed, but rather that she is unsure she completely supports this particular proposal.

City Planner David Merchen clarified that when this property was zoned Planned Commercial Center, standards such as allowed uses and a fifty-foot maximum height were established and adopted with City Council approval as part of the zoning element. Due to this, the development code does allow a fifty-foot height for this property. This request is to amend these standards to allow a sixty-three feet building instead of fifty feet, and since it would technically change the zoning element, it will have to go before the City Council for approval or denial. The question of whether or not to increase the height standards for hotels will be taken up as part of the ordinance adjustment process. However, the current ordinance allows discretion through conditional use permits or rezone amendments for the very reasons the topic came up this evening. Staff leans towards maintaining this flexibility for location-dependent compatibility considerations.

Commissioner Cunningham expressed both his appreciation for City Planner Merchen's comments and his belief that his argument has been misunderstood. He has an issue with requests to exceed height maximums, having seen five such during his office term; these requests just happen to have all come from hotel projects. He is not against discretion being allowed for applicants to exceed set height maximums; he simply believes that the current setup, with the decision being in the hands of the Planning Commission, is not the proper way to handle it.

Commissioner Hinkle clarified that this request is to exceed the applicable maximum height standard by thirteen feet, not by twenty-three feet as Commissioner Cunningham had stated.

Chair Hatcher expressed agreement with some of the previously stated concerns regarding height standards. However, in her opinion this is a prime location for this type of product, and therefore she does not have a problem with the proposed height in this case. Though the proposal is aesthetically unusual, this is not always a bad thing; however, there will need to be a lot of give-and-take in the site plan review to ensure that this does not stand out in a bad way. Other than that, she has no problem voting to move forward on this project.

At this point, a motion was made by Commissioner Hinkle and seconded by Chair Hatcher to approve a finding of a Mitigated Negative Declaration for R2004-036A3. The motion was approved by a vote of 5-0.

At this point, a motion was made by Commissioner Hinkle and seconded by Chair Hatcher to approve R2004-036A3. The motion was denied by a vote of 2-3.

At this point, a discussion took place regarding procedure for failed motions, followed by a discussion regarding the nature and content of the follow-up motion.

At this point, an amended motion was made by Commissioner Hinkle and seconded by Chair Hatcher to approve R2004-036A3 with direction to provide architectural elements that are compatible with area developments. The motion was approved by a vote of 4-1.

6. Consider items associated with approximately 4.31 acres of property located at the northeast corner of Leonard and Barstow Avenues. BN6120 LP, property owner; John A. Bonadelle, applicant; Lorren Smith, Harbour & Associates, representative.

a. Consider Approval, Res. 19-57, **R2019-008**, A request to approve a rezone from the R-1 (Single Family Residential Low Density) Zone District to the R-1-PRD (Single Family Planned Residential Development) Zone District.

b. Consider Approval, Res. 19-58, **TM6254**, A request to approve a vesting tentative tract map for a 23-lot planned residential development.

Senior Planner Ricky Caperton presented the staff report.

At this point, the Chair opened the floor to the applicant.

John Bonadelle Jr. provided background on the project and requested an amendment to the condition of approval regarding garage sizes.

Commissioner Hinkle inquired as to the distance between the driver's side of the pickup truck and the garage wall in the provided picture. Mr. Bonadelle Jr. responded that it is approximately nine feet.

Commissioner Hinkle informed that he had parked a pickup truck next to a Kia and took measurements based on the proposed reduced garage sizes, and he found the space too small to exit the vehicles in the proposed smaller garages. He had opposed the smaller garages when they were initially approved as a test and remains opposed to them now after seeing them in reality. Mr. Bonadelle Jr. responded that he drives through developments after building them, and he has seen many buyers have their children exit the backseat of cars in the driveways and enter the house through the front door. In addition, TM6170, in which Bonadelle was allowed to experiment with these garage sizes, sold out and there was no negative feedback regarding garage sizes in customer surveys. The same is true for a similar 150-unit product in Merced. They would change garage sizes if they were an impediment to success, but maximizing the entryways and bedrooms is successful for them.

Commissioner Hinkle expressed appreciation for the explanation but does not believe this reflects reality. The reason the children get out in the driveway is because they cannot exit in the garage. He himself and people he has talked to believe this is a bad move, as in the winter during bad weather people prefer to exit cars in the garage. Though the Planning Commission allowed the smaller garage sizes to be tested, he does not believe that there should be deviation from the standard garage size.

Commissioner Cunningham sought and received confirmation that TM6170, in which the aforementioned pickup truck picture was taken, is a Planned Residential Development with a homeowners' association, then stated that the HOA is likely the reason there are no cars pictured on the street. He expressed concurrence with Commissioner Hinkle as the standard for garage size. In discussions with staff regarding this issue, he found staff to be comfortable with the standard size, and so he is as well. Mr. Bonadelle Jr. responded that the HOA referred to does allow street-side parking for two-to-three days, and that the lack of congestion demonstrates that younger buyers have either one car only, or two smaller cars.

Commissioner Cunningham expressed appreciation for the explanation and assured that he is not trying to set himself up as an adversary. He stated that the time the picture is taken also affects what will be present. The standard garage size exists for a reason and he likes it.

Commissioner Hinkle informed that he had driven through the Elevations project just west of the subject site and had seen many cars parked along the streets, which he believes will happen to this development as well with smaller garage sizes. Mr. Bonadelle Jr. responded that the Elevations development has only five-foot driveways and this project has standard driveways.

Commissioner Hinkle expressed that he understands that distinction, but that there is another project in Loma Vista that has full size driveways and yet there are still cars parked in the streets. Multiple generations and multiple families are living in the same houses today, especially in houses of lower market value, rather than just a single person. If garage amenities are eliminated, then there will be more overflow into streets.

At this point, the Chair opened the floor to those in favor.

There being none, the Chair opened the floor to those in opposition.

At this point, the Chair reopened the floor to the applicant.

Mr. Bonadelle Sr. expressed respect for and understanding of the commissioners' opinions, then explained that building on higher density small lots brings affordability and it is difficult to design a product that all will be proud of twenty years in the future. He explained that customers place more value in living space and front yard space, and that a wider garage reduces curb appeal. Finally, this property is oddly shaped, which results in huge, useless side yards if the lots are bigger.

At this point, the Chair closed the public portion.

Commissioner Hinkle inquired as to whether the City requires builders to provide paved walkways from the driveway to the side gate, as this is an issue that has been brought up during several project reviews. This is a concern to him because as he drives around, he sees totes in front yards because of the difficulty in moving them to the backyard over landscaping. Deputy City Planner Ramirez responded that though it has been discussed, it has not yet been implemented.

Commissioner Cunningham inquired as to whether there will be electric vehicle charging stations inside the garages, due to recent legislation. Mr. Bonadelle Sr. responded that such are standard, and that if he could trade the cement walkway Commissioner Hinkle desired for the garage size he wants, he is willing to bargain.

Commissioner Antuna expressed her appreciation for the proposed product, as there needs to be new ways to bring affordable homes to the City. She expressed her admiration for the product as beautiful, well-developed, and affordable for young people so they are not being priced out

of the City. The Commission wants a multigenerational city, wants homes built that are both affordable and needed, and younger buyers do not yet need larger homes and garages. Giving up eighteen inches is a small price to pay for such, and so she is absolutely in support of this product.

Commissioner Cunningham stated that it would actually be three feet given up on some models, and that as the developer needs flexibility they cannot restrict those models down to two or three only. The only way he can vote in favor of these reduced garage sizes is if they are labelled as 'experimental' and a paved walkway is added. Mr. Bonadelle Sr. agreed to this.

Chair Hatcher expressed that though this is a nice product and there will only be twenty-three units, she does not believe she is willing to give up so much on the garages. She herself does not have one and therefore finds having one very desirable, yet she would not want one which will force her children to exit the vehicle in the driveway. Though she is aware that some people will not object to that, she does not want to set a precedent that could turn into a 'slippery slope,' in which developers build smaller and smaller garages. Therefore, she will vote for the standard garage size, as the conditions of approval are currently written. In addition, on a personal note, she does not believe that trading during Planning Commission is a good idea and is in fact another 'slippery slope.'

Commissioner Antuna expressed appreciation for Mr. Bonadelle's earlier comments regarding being less vehicle-centered. The vision of the City for the future is to emphasize walkability and bike friendliness. This product lends to that vision and to the accompanying idea that a family does not have to own two cars.

Commissioner Bedsted endorsed Commissioner Antuna's comments. Though he prefers larger garages and side yards, he understands that the Planning Commission, staff, and the developers are creating an environment not only for people like him but also for people who have just one car. He also expressed that there is some 'buyer beware' here, as if someone buys a home with a smaller garage, then they will have to live with the consequences of that decision. He has mixed feelings on this project, as he personally sees many smaller cars more prevalent nowadays, so a smaller garage may be more palatable. On the other hand, he is wrestling with precedent. In conclusion, he expressed agreement with Chair Hatcher's caution regarding slippery slopes and urged the Commission to proceed with caution.

At this point a motion was made by Commissioner Hinkle and seconded by Commissioner Antuna to approve R2019-008. The motion was approved by a vote of 4-1.

At this point a motion was made by Commissioner Hinkle and seconded by Commissioner Antuna to approve TM6254. The motion was approved by a vote of 4-1.

OLD BUSINESS

None.

NEW BUSINESS

None.

ADJOURNMENT AT 7:55 P.M. UNTIL the Planning Commission meeting on December 19, 2019.

_____

Amy Hatcher, Chair

AGENDA ITEM NO.2

CITY of CLOVIS

REPORT TO THE PLANNING COMMISSION

TO: Clovis Planning Commission

FROM: Planning and Development Services

DATE: January 23, 2020

SUBJECT: Consider Approval, Res. 20-___, GPA2019-007, A request to amend the circulation element of the General Plan and the Herndon-Shepherd Specific Plan for placement of a Shepherd Avenue access point on the south side of Shepherd Avenue, between Clovis and Sunnyside Avenues. John and Kristen Sobaje, owners; Lennar Homes of California, Inc., applicant; Dirk Poeschel, Land Development Services, Inc., representative.

Staff: Ricky Caperton, AICP, Senior Planner
Recommendation: Deny

ATTACHMENTS:
1. Conditions of Approval
2. Draft Resolution, GPA2019-007
3. Justification Letter
4. Proposed Shepherd Access
5. Correspondence, Agencies, Departments, and/or Public
6. Traffic Impact Analysis

CONFLICT OF INTEREST
None.

RECOMMENDATION
Staff recommends that the Planning Commission recommend denial of General Plan Amendment GPA2019-007. However, should the Planning Commission recommend approval, staff has provided conditions of approval included as **Attachment 1**.

EXECUTIVE SUMMARY
The applicant is requesting an amendment to the 2014 Clovis General Plan Circulation Element and the Herndon-Shepherd Specific Plan to allow for access along the south side of Shepherd Avenue between Clovis and Sunnyside Avenues as shown in **Figure 1**.

BACKGROUND

- General Plan Designation: Medium Density Residential
- Specific Plan: Herndon-Shepherd Specific Plan
- Existing Zoning: R-1-PRD
- Lot Size: 21.52 acres (approximate)
- Current Land Use: Rural Residential
- Adjacent Land Uses:
  - North: Medium Density Residential (under construction)
  - South: Medium Density Residential
  - East: Low Density Residential
  - West: Medium-High Density Residential
- Previous Entitlements: CUP2006-06 / V2006-06 / R2004-04 / GPA85-01D GPA2019-001 / R2019-003 / TM6263

History

On October 24, 2019 and December 9, 2019, the Planning Commission and City Council, respectively, heard the applicant's request for proposal of 137 single-family units which included a general plan amendment, rezone, and vesting tentative tract map (GPA2019-001, R2019-003, and TM6263) on approximately 21.52-acres along the south side of Shepherd Avenue between Clovis and Sunnyside Avenues. That project is shown below in **Figure 1.** Figure 1 also identifies the proposed location of the Shepherd Avenue access proposed under GPA2019-007, the subject of this staff report.

GPA2019-001, R2019-003, and TM6263 did not include access to Shepherd Avenue since Shepherd Avenue is designated as an "expressway" in the 2014 City of Clovis General Plan. However, during multiple neighborhood meetings held for the project between May and December of 2019, a request was made from several of the surrounding neighbors to allow for access along Shepherd Avenue via a right-in-right-out turning movement (i.e. no left turns onto Shepherd Avenue or left turns into the proposed project from Shepherd Avenue).

During the December 9, 2019 City Council hearing on the project, several neighbors requested that the Council condition the project to explore the feasibility of Shepherd Avenue through a separate general plan amendment. The general plan amendment is required to amend the circulation element of the 2014 Clovis General Plan and Herndon-Shepherd Specific Plan in order to allow for access along an "expressway." Reasons cited in support of access to Shepherd Avenue were primarily related to distributing access more evenly to and from the neighborhood. Neighbors described their concerns related to existing congestion on Riordan and Prescott Avenues and the likelihood that conditions would worsen after the new project was developed.

It is also important to note that while this segment of Shepherd Avenue is designated as an expressway, the City Council approved access on the north side of Shepherd Avenue as part of GPA2017-07 on August 6, 2018. Reasons cited for approval of that access point related primarily to circulation challenges as a result of the Enterprise Canal bisecting the project and the need to have a second point of access serving the subdivision associated with GPA2017-07. Therefore, access to Shepherd Avenue in an area designated as an expressway has been previously approved in unique circumstances.

FIGURE 1
Project Location

PROPOSAL AND ANALYSIS

The applicant requests approval of GPA2019-007 to amend the 2014 Clovis General Plan Circulation Element and Herndon-Shepherd Specific Plan to allow for an access point along the south side of Shepherd Avenue between Clovis and Sunnyside Avenues. The applicant has provided a letter of justification, included as **Attachment 3**, as well as a conceptual image of the access point, included as **Attachment 4**.

Shepherd Avenue is currently designated an “expressway” from Clovis Avenue to State Route 168. West of Clovis Avenue, Shepherd Avenue is designated as an arterial. Arterial streets generally permit access at eighth-mile points, typically for project specific access. However, expressways are limited access streets designed to carry regional traffic. Access points are generally limited to half-mile points (major streets).

The 1993 General Plan included a beltway street (expressway), that extended from the City of Fresno's Plan at Copper and Willow Avenues, turned south at the Clovis Avenue alignment, then east at Shepherd Avenue eventually looping into McCall Avenue. Although this specific beltway was removed with adoption of the 2014 General Plan Update, the "expressway" designation remained on Shepherd Avenue east of Clovis Avenue.

Access to the Project site and adjacent neighborhoods is currently provided to and from Shepherd Avenue via Preuss Avenue; however, this was intended only as a temporary second point of access to the adjacent neighborhood until the subject property developed.

Given that this segment of Shepherd Avenue is designated as an expressway and because the existing Preuss Avenue was intended only as a temporary second point of access, staff does not support the request for access to Shepherd Avenue.

Review and Comments by Agencies

The Project was distributed to all City Divisions as well as outside agencies, including CalTrans, Clovis Unified School District, Fresno Irrigation District, Fresno Metropolitan Flood Control District, AT&T, PG&E, San Joaquin Valley Air Pollution Control District, and the State Department of Fish and Wildlife. Comments received are included in **Attachment 5** only if the agency has provided concerns, conditions, or mitigation measures. Routine responses and comment letter are placed in the administrative record and provided to the applicant for their records.

Public Outreach

Because the Project includes a proposed general plan amendment, a minimum of two neighborhood meetings are required per City policy. One (1) meeting must occur prior to Planning Commission, and one (1) following Planning Commission, prior to City Council.

The applicant has held one (1) neighborhood meeting leading up to Planning Commission, which occurred on Monday, January 6, 2020 at Woods Elementary School. At the time of preparation of this staff report, only one (1) public comment letter was received, included as **Attachment 5**.

In general, the comment letter contained statements and questions related to Shepherd Avenues designation as an expressway and requests that the Planning Commission allow the access point onto Shepherd Avenue.

California Environmental Quality Act (CEQA)

The City has determined that this Project is exempt from CEQA Guidelines Section 15162. The Project is part of a previous project (GPA2019-001, R2019-003, and TM6263) approved by the City Council on December 9, 2019. As part of that project, an Initial Study Mitigated Negative Declaration was prepared and found impacts to be less than significant with mitigation measures. The Project for consideration and the subject of this staff report, represents a minor change and was determined to not represent a substantial change necessitating the need for a subsequent negative declaration or further environmental review. As part of the Project, the applicant submitted a revised traffic impact analysis, included as **Attachment 6**. The City Engineer reviewed the traffic analysis and determined that the addition of the access point along Shepherd Avenue would not result in significant changes to what was previously considered under GPA2019-001, R2019-003, and TM6263.

Consistency with General Plan Goals and Policies

Staff has evaluated the Project in light of the General Plan Land Use goals and policies. The following goals and policies reflect Clovis' desire to maintain Clovis' tradition of responsible planning and well managed growth to preserve the quality of life in existing neighborhoods and ensure the development of new neighborhoods with an equal quality of life. Although the request for access to Shepherd Avenue would not comply with the existing Circulation Element of the General Plan, if approved by Council, the Project would be consistent with the following goal and policies.

Policy 1.2: **Transportation decisions.** Decisions should balance the comfort, convenience, and safety of pedestrians, bicyclists, and motorists.

Goal 6: A city that grows and develops in a manner that implements its vision, sustains the integrity of its guiding principles, and requires few and infrequent amendments to the General Plan.

Policy 6.1: **Amendment criteria.** The City Council may approve amendments to the General Plan when the City Council is satisfied that the following conditions are met:

- The proposed change is and will be fiscally neutral or positive.
- The proposed change can be adequately served by public facilities and would not negatively impact service on existing development or the ability to service future development.

REASON FOR RECOMMENDATION

The applicant's request for access along this segment of Shepherd Avenue does not conform to the Circulation Element of the 2014 Clovis General Plan. Shepherd Avenue, east of Clovis Avenue is designated as an expressway, therefore, prohibiting or severely limiting access points in order to maintain as free-flowing traffic as possible. Because the Project site and its surrounding area already meets the City's requirements for the number and location of access points for the safe circulation of the neighborhood, staff does not recommend approval GPA2019-007.

Should the Planning Commission recommend approval of the applicant's request, staff has provided recommended conditions of approval in **Attachment 1**. Further, in order to recommend approval, the following findings are required when making a decision on a general plan amendment application:

1. The proposed amendment is internally consistent with the goals, policies, and actions of the General Plan; and
2. The proposed amendment would not be detrimental to the public interest, health, safety, convenience, or general welfare of the City; and
3. If applicable, the parcel is physically suitable (including absence of physical constraints, access, compatibility with adjoining land uses, and provision of utilities) for the requested/anticipated project.
4. There is a compelling reason for the amendment.

ACTIONS FOLLOWING APPROVAL
These items will continue on to the City Council for consideration.

FISCAL IMPACT
None.

NOTICE OF HEARING
Property owners within 800 feet notified: 156
Interested individuals notified: 10

Prepared by: Ricky Caperton, AICP, Senior Planner

Reviewed by: _____
Dave Merchen
City Planner

Conditions of Approval

ATTACHMENT 1

ATTACHMENT 1

Conditions of Approval
GPA2019-007

Planning Division Comments
(Ricky Caperton, AICP, Senior Planner – 559-324-2347)

1. GPA2019-007 provides for a single Shepherd Avenue access point to development associated with GPA2019-001, R2019-003, and TM6263 for a 137-lot subdivision.

Fire Department Conditions
(Gary Sawhill, Department Representative - 324-2224)

2. **Street Width:** Fire apparatus access width shall be determined by measuring from "base of curb" to "base of curb" for roadways that have curbs. When roadways do not have curbs, the measurements shall be from the edge of the roadway surface (approved all weather surface).

3. **Street Width for Single Family Residences:** Shall comply with Clovis Fire Standard #1.1

4. **Turning Radius:** All access way roads constructed shall be designed with a minimum outside turning radius of forty-five feet (45')

5. **Temporary Street Signs:** The applicant shall install temporary street signs that meet City Temporary Street Sign Standard #1.9 prior to issuance of building permits within a subdivision.

6. **All Weather Access:** The applicant shall provide all weather access to the site during all phases of construction to the satisfaction of the approved Clovis Fire Department Standard #1.2 or #1.3.

7. **Two Points of Access:** Any development to this parcel will require a minimum of two (2) points of access to be reviewed and approved by the Clovis Fire Department. All required access drives shall remain accessible during all phases of construction which includes paving, concrete work, underground work, landscaping, and perimeter walls.

8. **Residential Fire Hydrant:** The applicant shall install ___12____ 4 ½" x 2 ½" approved Residential Type fire hydrant(s) and "Blue Dot" hydrant locators, paint fire hydrant(s) yellow with blue top and caps, and paint the curb red as specified by the adopted Clovis Fire Department Standard #1.4. Plans shall be submitted to the Clovis Fire Department for review and approval prior to installation. The hydrant(s) shall be charged and in operation prior to any framing or combustible material being brought onto the site.

9. **Looped Water Main:** The applicant shall install approved looped water main capable of the necessary flow of water for adequate fire protection and approved by the Clovis Fire Department.

10. Provide a copy of the approved stamped site plan from the Planning Division. Site Plan shall include all fire department notes to verify compliance with requirements. Site plans included with this plan submittal are subject to the conditions on the Planning Division approved set.

ENGINEERING / UTILITIES / SOLID WASTE DIVISION CONDITIONS

(Sean Smith, Engineering Division Representative – 324-2363)
(Paul Armendariz, Department Representative – 324-2649)

11. Shepherd Avenue – Install a 125-foot eastbound dedicated right-turn pocket at Preuss Avenue.

12. Preuss Avenue – At Shepherd Avenue, due to the entry median feature, provide a minimum of 22' wide travel lanes in each direction with parking or without parking.

Fresno Irrigation District

(Chris Lundeen, FID Representative – 233-7161 ext. 7410)

13. The Applicant shall refer to the attached Fresno Irrigation District correspondence. If the list is not attached, please contact the FID for the list of requirements.

County of Fresno Health Department Conditions

(Kevin Tsuda, County of Fresno Health Department Representative – 600-3271)

14. The Applicant shall refer to the attached Fresno County Health Department correspondence. If the list is not attached, please contact the Health Department for the list of requirements.

Caltrans

(Jamaica Gentry, Caltrans Representative – 488-7307)

15. The Applicant shall refer to the attached Caltrans correspondence. If the list is not attached, please contact the Caltrans for the list of requirements.

Clovis Unified School District

(Andrew Nabors, CUSD Representative – 327-9264)

16. The Applicant shall refer to the attached CUSD correspondence. If the list is not attached, please contact the CUSD for the list of requirements.

San Joaquin Valley Air Pollution Control District
(Carol Flores, SJVAPCD Representative – 230-5935)

17. The Applicant shall refer to the attached SJVAPCD correspondence. If the list is not attached, please contact the SJVAPCD for the list of requirements.

Fresno Metropolitan Flood Control District
(Denise Wade, FMFCD Representative – 456-3292)

18. The Applicant shall refer to the attached FMFCD correspondence. If the list is not attached, please contact the FMFCD for the list of requirements.

DRAFT
RESOLUTION 20-__

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF CLOVIS DENYING A GENERAL PLAN AMENDMENT GPA2019-007 AMENDING THE CIRCULATION ELEMENT TO ALLOW AN ACCESS POINT AT THE SOUTH SIDE OF SHEPHERD AVENUE BETWEEN CLOVIS AND SUNNYSIDE AVENUES

WHEREAS, Lennar, 8080 N. Palm Avenue, Suite 110, Fresno, CA 93711, has applied for a General Plan Amendment GPA2019-007; and

WHEREAS, the Applicant submitted an application for a general plan amendment to amend the Circulation Element of the 2014 Clovis General Plan and Herndon-Shepherd Specific Plan to allow for placement of an access point on the south side of Shepherd Avenue between Clovis and Sunnyside Avenues, in the City of Clovis, County of Fresno, California; and

WHEREAS, the proposed General Plan Amendment GPA2019-007, was assessed under the provisions of the California Environmental Quality Act (CEQA) and the potential effects on the environment were considered by the Planning Commission, together with comments received and public comments, and the entire public record was reviewed; and

WHEREAS, the Planning Commission recommended that the Council deny GPA2019-007; and

WHEREAS, a public notice was sent out to area residents within 800 feet of said property boundaries ten days prior to said hearing; and

WHEREAS, a duly noticed hearing was held on January 23, 2020; and

WHEREAS, on January 23, 2020, the Planning Commission 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 General Plan Amendment GPA2019-007, which are maintained at the offices of the City of Clovis Department of Planning and Development Services; and

WHEREAS, after hearing evidence gathered by itself and on its behalf and after making the following findings, namely:

a. The proposed amendment is not consistent with the goals, policies, and actions of the General Plan; and

b. The proposed amendment would not be detrimental to the public interest, health, safety, convenience, or general welfare of the City; and

c. The parcel is physically suitable (including absence of physical constraints, access, compatibility with adjoining land uses, and provision of utilities) for the requested/anticipated project.

d. There is not a compelling reason for the amendment.

NOW, THEREFORE, BE IT RESOLVED that the Clovis Planning Commission recommends denial of General Plan Amendment GPA2019-007.

* * * * * *

The foregoing resolution was approved by the Clovis Planning Commission at its regular meeting on January 23, 2020, upon a motion by Commissioner _____, seconded by Commissioner _____, and passed by the following vote, to wit:

AYES:
NOES:
ABSENT:
ABSTAIN:

PLANNING COMMISSION RESOLUTION NO. 20-_____
DATED: January 23, 2020

_____
Amy Hatcher, Chair

ATTEST: _____
Dwight Kroll, AICP, Secretary

JUSITIFICATION LETTER

ATTACHMENT 3

LENNAR

12/16/19

Ricky Caperton
City of Clovis – Planning Division
1033 Fifth Street, Clovis, CA 93612
rcaperton@ci.clovis.ca.us
559.324.2383

RE: Tract 6263
South side of Shepherd Avenue between Clovis & Sunnyside Avenues
General Plan Amendment, Letter of Justification
APN: 560-031-23, 34,35

Dear Mr. Caperton,

We are Pleased to provide this correspondence as fulfillment to the Letter of Justification requirement set forth in the City of Clovis General Plan Amendment provisions. The approved Vesting Tentative Tract map for Tract No. 6263 was directed by City Council on 12/2/19 to proceed with the application for access to Shepherd Avenue from the approved tract. We would like to request that the City process a General Plan Amendment to allow a "Right-in, Right-out only", access to and from Shepherd avenue. Justification for our proposed amendment is as follows:

ACCESS TO AND FROM SHEPHERD AVENUE - Shepherd Avenue, inclusive of the frontage along Tract 6263, is currently identified on the City's General Plan as an Expressway Street. Typically, streets designated as an Expressway do not have midblock street entry access points. However, in the case of Tract 6263, the planned community would greatly benefit from the proposed midblock entrance on Shepherd Avenue (right-in, right-out only), as depicted on the attached exhibit, in terms of a providing and maintaining a steady ingress and egress of community traffic and "will not have a negative impact to the operations of the intersection of Shepherd Avenue and Clovis Avenue" per a traffic analysis by JLC Traffic Engineering. The study explains that with modifications to the storage capacity of turn lanes and the introduction of a right-hand turn lane at Shepherd Avenue and the limited access road, the eastbound right-turning traffic "would have little to no effect on the traffic operations of Shepherd Avenue.". It would make sense from a circulation and access point-of-view to have entrances in the neighborhood from Shepherd Avenue, Riordan Avenues. Additionally, the access from Shepherd Avenue would help direct vehicle traffic to the east and west away from the proposed subdivision. We are asking that the street be reclassified as an expressway with limited access. A traffic review has been prepared and submitted to the City analyzing this request.

LENNAR®

Please feel free to contact me should you need any additional information regarding this project.

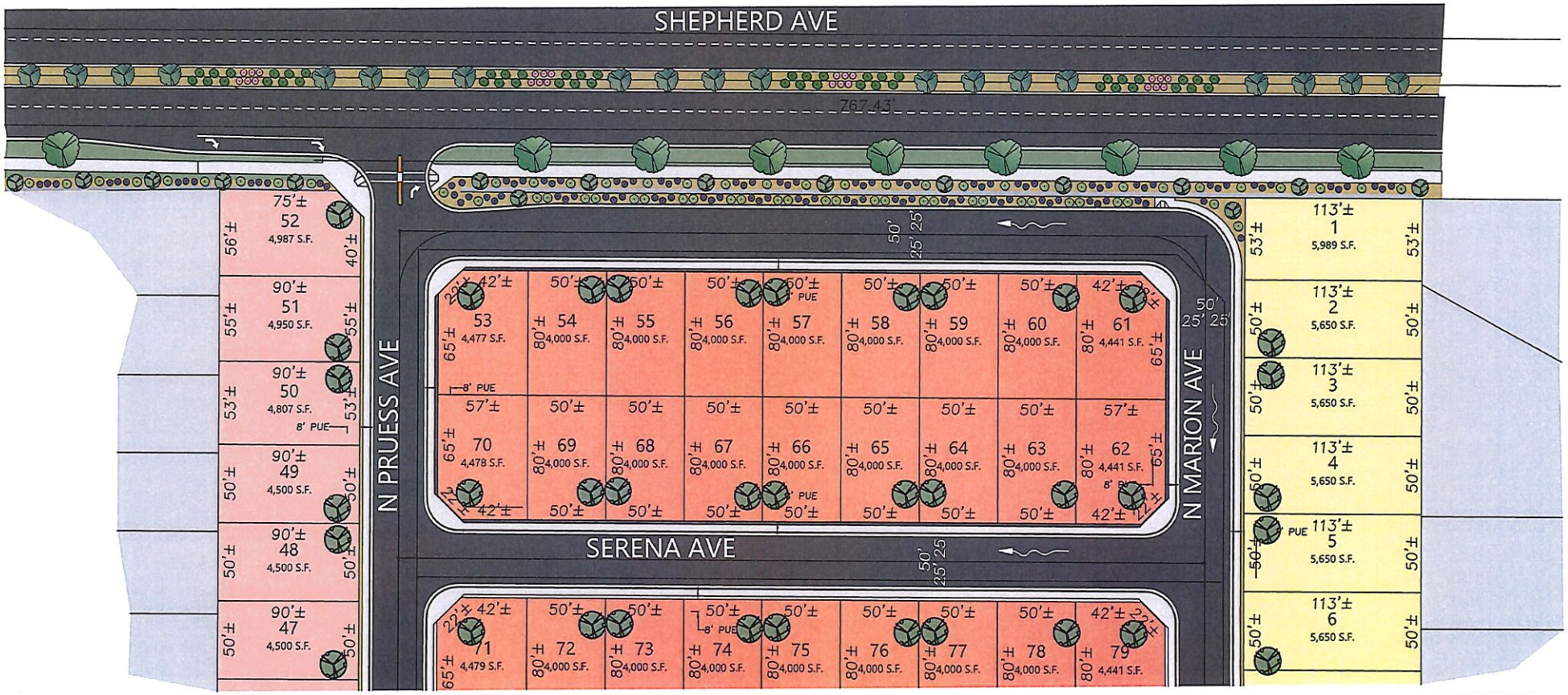
Sincerely,

Jeff Callaway
Project Manager
Lennar Homes of California, Inc.
Jeff.callaway@lennar.com

PROPOSED SHEPHERD AVENUE ACCESS

ATTACHMENT 4

TENTATIVE TRACT NO. 6263
SHEPHERD AVENUE
CONCEPTUAL RIGHT-IN AND RIGHT-OUT ACCESS ALTERNATIVE



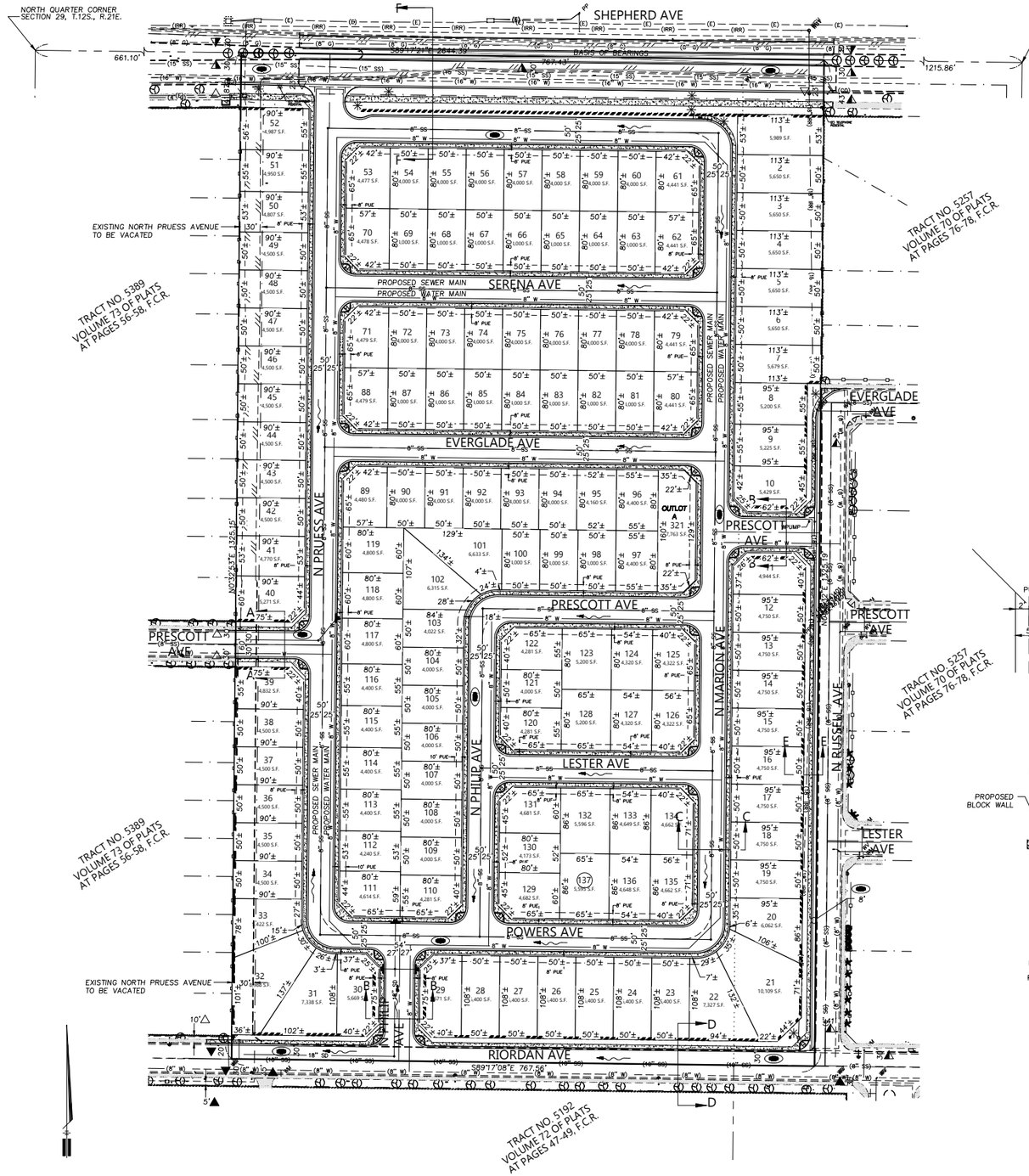
FOR ILLUSTRATIVE PURPOSES
NOT FOR CONSTRUCTION

Tract 6263 Shepherd Access Alternative.cdr

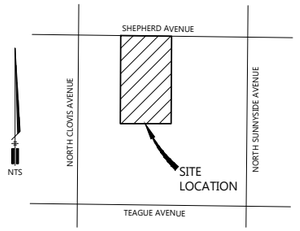
VESTING TENTATIVE SUBDIVISION MAP

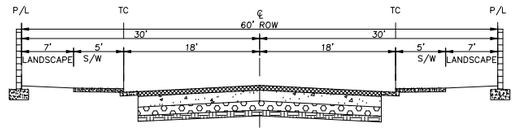
TRACT NO. 6263

IN THE CITY OF CLOVIS
FRESNO COUNTY, CALIFORNIA

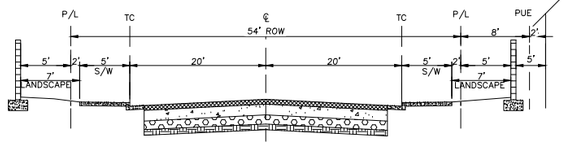


VICINITY MAP:

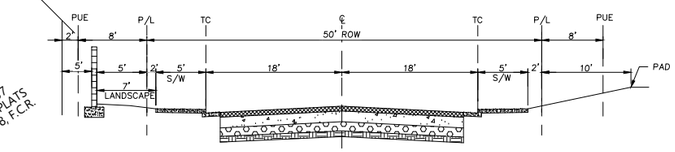




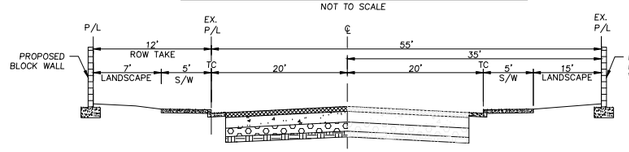
PRESCOTT AVE - 60' ROW ENTRY
SECTION 'A-A'
NOT TO SCALE



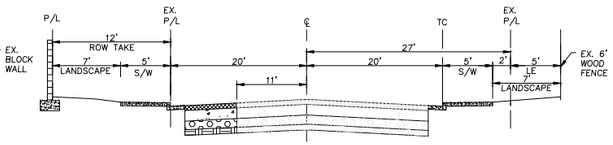
PHILIP AVE & PRESCOTT AVE - 54' ROW ENTRY
SECTION 'B-B'
NOT TO SCALE



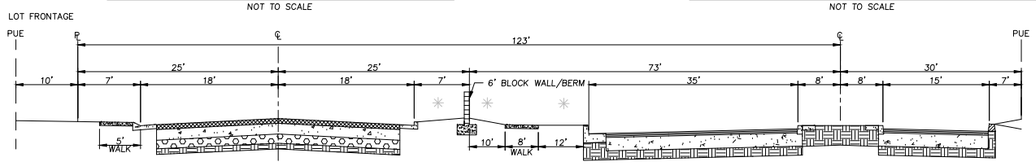
RESIDENTIAL STREET - 50' ROW
SECTION 'C-C'
NOT TO SCALE



RIORDAN AVE. - 67' ROW
SECTION 'D-D'
NOT TO SCALE



RUSSELL AVE. - 59' ROW
SECTION 'E-E'
NOT TO SCALE



RESIDENTIAL (FRONTAGE) ***SHEPHERD AVENUE***

SHEPHERD AVE. CROSS-SECTION
SECTION 'F-F'
NOT TO SCALE

LEGEND:

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING SECTION LINE
- EXISTING EASEMENT LINE
- EXISTING RIGHT-OF-WAY LINE
- (16" W) EXISTING WATER LINE (SIZE AS NOTED)
- (SS) EXISTING SEWER LINE (SIZE AS NOTED)
- SS PROPOSED SANITARY SEWER AND MANHOLE
- SD PROPOSED STORM DRAIN MAIN
- W PROPOSED WATER MAIN
- EXISTING CONCRETE CURB, GUTTER & SIDEWALK
- PROPOSED CONCRETE CURB, GUTTER & SIDEWALK
- ▲ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER TRACT NO. 5192 RECORDED IN VOLUME 72 OF PLATS, AT PAGES 47-49, F.C.R.
- △ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER TRACT NO. 5389 RECORDED IN VOLUME 73 OF PLATS, AT PAGES 56-58, F.C.R.
- ◭ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER TRACT NO. 5257 RECORDED IN VOLUME 70 OF PLATS, AT PAGES 76-78, F.C.R.
- ▽ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER PARCEL MAP 7422 RECORDED IN BOOK 56 OF PARCEL MAPS, AT PAGE 75, F.C.R.
- ▼ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES
- ◭ PREVIOUSLY DEDICATED FOR PUBLIC ROAD EASEMENT PURPOSES PER BOOK 31, PAGE 312 OF DEEDS, F.C.R.
- ▼ PREVIOUSLY DEDICATED FOR PUBLIC ROAD EASEMENT PURPOSES PER BOOK 31, PAGE 330 OF DEEDS, F.C.R.
- ⬭ PUBLIC STREET TO BE OFFERED IN FEE TO THE CITY OF CLOVIS FOR PUBLIC USE.
- ✳ LANDSCAPE AREA

SITE INFORMATION

EXISTING TREES	
TO BE REMOVED	
EXISTING BUILDINGS	
TO BE REMOVED	
EXISTING USE	
LOW DENSITY RESIDENTIAL	
PROPOSED USE	
MEDIUM DENSITY RESIDENTIAL	
PROPOSED ZONING	
R-1-PRD	
EXISTING ZONING	
R-1-7500	
SOURCE OF WATER	
CITY OF CLOVIS	
SOURCE OF SEWAGE DISPOSAL	
CITY OF CLOVIS	
SOURCE OF ELECTRICITY	
PG&E	
SOURCE OF GAS	
PG&E	
SOURCE OF CABLE T.V.	
COMCAST	
SOURCE OF TELEPHONE	
AT&T	
ASSESSOR'S PARCEL NUMBERS	
560-031-23S	
560-031-34S	
560-031-35S	
SITE AREA	
23.35± AC. GROSS	
21.22± AC. NET	
OWNER	
SOBAJE COMPANY INC.	
4655 EAST SHEPHERD AVENUE	
CLOVIS, CA 93619	
CONTACT: JOHN SOBAJE	
(559) 299-1036	
MINIMUM LOT SIZE	
4,000 SQ.FT.	
MAXIMUM LOT SIZE	
11,819 SQ.FT.	
AVERAGE LOT SIZE	
4712 SQ.FT.	

BASIS OF BEARINGS

THE GEODETIC OBSERVATION BETWEEN THE NORTH QUARTER CORNER AND THE NORTHEAST CORNER OF SECTION 29, TOWNSHIP 12 SOUTH, RANGE 21 EAST, MOUNT DIABLO BASE AND MERIDIAN TAKEN AS SOUTH 89°17'21" EAST.

BASIS OF ELEVATION

BRASS CAP MONUMENT ON 4" X 4" CONCRETE POST, 39'± NORTH OF CENTERLINE SHEPHERD, 17'± WEST OF CENTERLINE OF SUNNYSIDE AT THE NORTHWEST CORNER SHEPHERD AND SUNNYSIDE WITH AN ELEVATION OF 389.439 FEET, AS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 IS THE BENCHMARK FOR THIS SURVEY.

REGISTERED PROFESSIONAL ENGINEER — ADAM B. LEE — No. 69104 — CIVIL — STATE OF CALIFORNIA

Yamabe & Horn Engineering, Inc. — CIVIL ENGINEERS • LAND SURVEYORS — 2880 W. SHAW LANE, SUITE 101 FRESNO, CA 93727 — TEL (559) 244-3123 WEBSITE YANDHENGR.COM

33

APPROVALS	APPROVED (INITIALS)
CONSTRUCTION MANAGEMENT	
TRAFFIC	
DEVELOPMENT REVIEW	
STREETS	
PARKS	
SOLID WASTE	
UTILITIES	

REVISIONS	DATE	APPROVED
△		
△		
△		
△		
△		

CITY OF CLOVIS

PROJECT TITLE: TRACT NO. 6263 CLOVIS AND SHEPHERD

SHEET DESCRIPTION: VESTING TENTATIVE TRACT MAP

PLANNING AND DEVELOPMENT SERVICES DEPARTMENT

Y&H No. 18-378
Dr. By: RBW
Ch. By: BB
Date: 8/6/2019

Project No.

Sheet No. 1 of 1 Sheets

CORRESPONDENCE

ATTACHMENT 5

CITY OF CLOVIS
FIRE DEPARTMENT

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

GPA 2019-007 TM 6263 COMMENTS
Lennar Homes
Southside Shepard between Clovis & Sunnyside

Roads / Access

Street Width: Fire apparatus access width shall be determined by measuring from "base of curb" to "base of curb" for roadways that have curbs. When roadways do not have curbs, the measurements shall be from the edge of the roadway surface (approved all weather surface).

Street Width for Single Family Residences: Shall comply with Clovis Fire Standard #1.1

Turning Radius: All access way roads constructed shall be designed with a minimum outside turning radius of forty-five feet (45')

Temporary Street Signs: The applicant shall install temporary street signs that meet City Temporary Street Sign Standard #1.9 prior to issuance of building permits within a subdivision.

All Weather Access: The applicant shall provide all weather access to the site during all phases of construction to the satisfaction of the approved Clovis Fire Department Standard #1.2 or #1.3.

Two Points of Access: Any development to this parcel will require a minimum of two (2) points of access to be reviewed and approved by the Clovis Fire Department. All required access drives shall remain accessible during all phases of construction which includes paving, concrete work, underground work, landscaping, perimeter walls.

Water Systems

Residential Fire Hydrant: The applicant shall install ___12____ 4 ½" x 2 ½" approved Residential Type fire hydrant(s) and "Blue Dot" hydrant locators, paint fire hydrant(s) yellow with blue top and caps, and paint the curb red as specified by the adopted Clovis Fire Department Standard #1.4. Plans shall be submitted to the Clovis Fire Department for review and approval prior to installation. The hydrant(s) shall be charged and in operation prior to any framing or combustible material being brought onto the site.

Looped Water Main: The applicant shall install approved looped water main capable of the necessary flow of water for adequate fire protection and approved by the Clovis Fire Department.

Other

AGENDA ITEM NO.2

Fire Department Comments on Plans: All Fire Department comments shall be on plans.

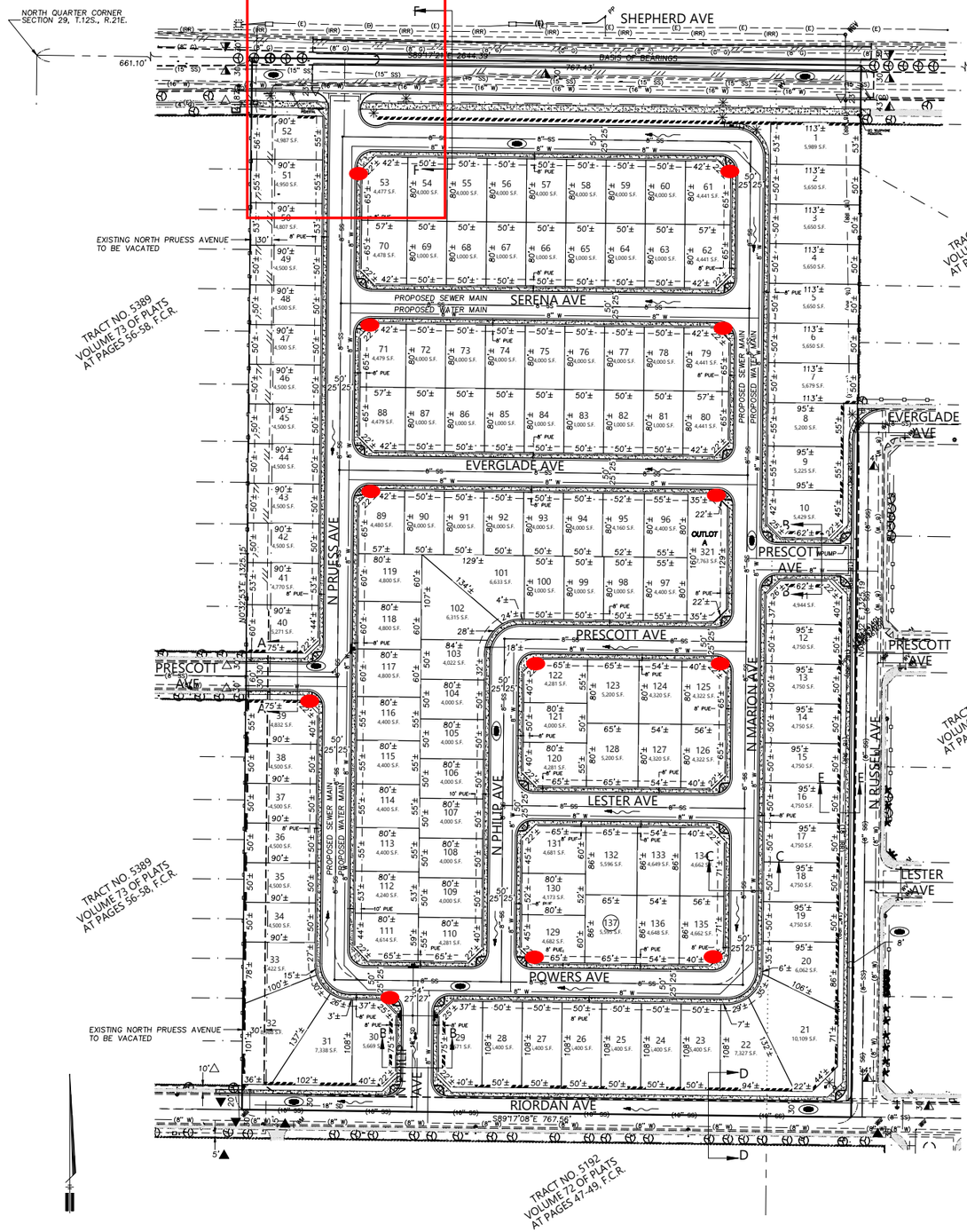
Plan Check Comments by:

Gary Sawhill
Deputy Fire Marshal
(559) 324-2224
sawhill@cityofclovis.com

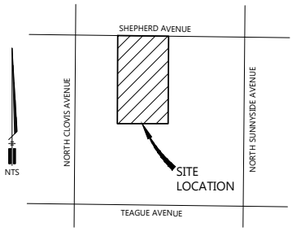
VESTING TENTATIVE SUBDIVISION MAP

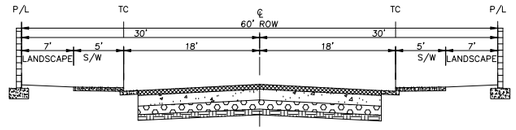
TRACT NO. 6263

IN THE CITY OF CLOVIS
FRESNO COUNTY, CALIFORNIA

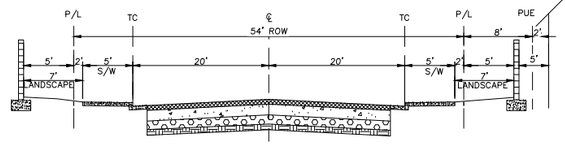


VICINITY MAP:

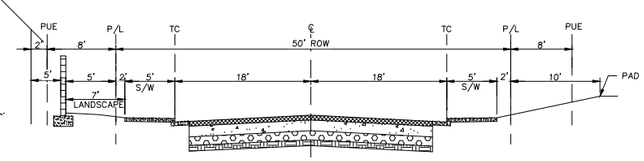




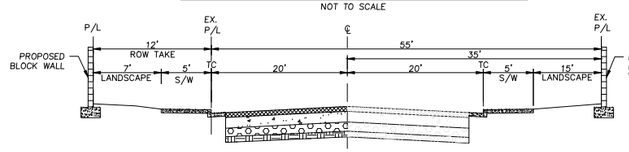
PRESCOTT AVE - 60' ROW ENTRY
SECTION 'A-A'
NOT TO SCALE



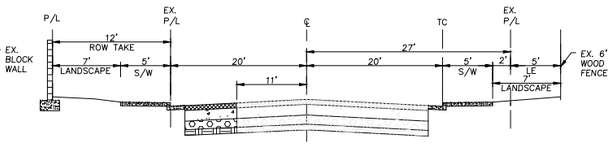
PHILIP AVE & PRESCOTT AVE - 54' ROW ENTRY
SECTION 'B-B'
NOT TO SCALE



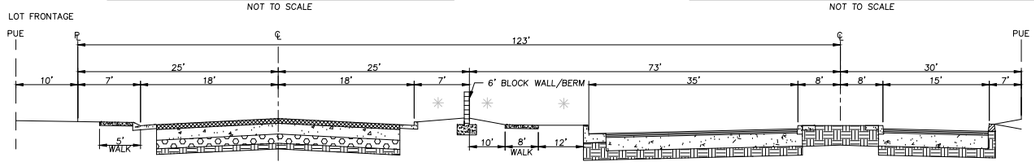
RESIDENTIAL STREET - 50' ROW
SECTION 'C-C'
NOT TO SCALE



RIORDAN AVE. - 67' ROW
SECTION 'D-D'
NOT TO SCALE



RUSSELL AVE. - 59' ROW
SECTION 'E-E'
NOT TO SCALE



RESIDENTIAL (FRONTAGE) **SHEPHERD AVENUE**

SHEPHERD AVE. CROSS-SECTION
SECTION 'F-F'
NOT TO SCALE

LEGEND:

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING SECTION LINE
- EXISTING EASEMENT LINE
- EXISTING RIGHT-OF-WAY LINE
- (16" W) EXISTING WATER LINE (SIZE AS NOTED)
- (SS) EXISTING SEWER LINE (SIZE AS NOTED)
- SS PROPOSED SANITARY SEWER AND MANHOLE
- SD PROPOSED STORM DRAIN MAIN
- W PROPOSED WATER MAIN
- EXISTING CONCRETE CURB, GUTTER & SIDEWALK
- PROPOSED CONCRETE CURB, GUTTER & SIDEWALK
- ▲ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER TRACT NO. 5192 RECORDED IN VOLUME 72 OF PLATS, AT PAGES 47-49, F.C.R.
- △ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER TRACT NO. 5389 RECORDED IN VOLUME 73 OF PLATS, AT PAGES 56-58, F.C.R.
- ◭ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER TRACT NO. 5257 RECORDED IN VOLUME 70 OF PLATS, AT PAGES 76-78, F.C.R.
- ▽ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES PER PARCEL MAP 7422 RECORDED IN BOOK 56 OF PARCEL MAPS, AT PAGE 75, F.C.R.
- ▼ PREVIOUSLY DEDICATED FOR PUBLIC STREET EASEMENT PURPOSES
- ◭ PREVIOUSLY DEDICATED FOR PUBLIC ROAD EASEMENT PURPOSES PER BOOK 31, PAGE 312 OF DEEDS, F.C.R.
- ▼ PREVIOUSLY DEDICATED FOR PUBLIC ROAD EASEMENT PURPOSES PER BOOK 31, PAGE 330 OF DEEDS, F.C.R.
- PUBLIC STREET TO BE OFFERED IN FEE TO THE CITY OF CLOVIS FOR PUBLIC USE.
- LANDSCAPE AREA

SITE INFORMATION

EXISTING TREES TO BE REMOVED
EXISTING BUILDINGS TO BE REMOVED
EXISTING USE
LOW DENSITY RESIDENTIAL
PROPOSED USE
MEDIUM DENSITY RESIDENTIAL
PROPOSED ZONING
R-1-PRD
EXISTING ZONING
R-1-7500
SOURCE OF WATER
CITY OF CLOVIS
SOURCE OF SEWAGE DISPOSAL
CITY OF CLOVIS
SOURCE OF ELECTRICITY
PG&E
SOURCE OF GAS
PG&E
SOURCE OF CABLE T.V.
COMCAST
SOURCE OF TELEPHONE
AT&T
ASSESSOR'S PARCEL NUMBERS
560-031-23S
560-031-34S
560-031-35S
SITE AREA
23.35± AC. GROSS
21.22± AC. NET
OWNER
SOBAJE COMPANY INC.
4655 EAST SHEPHERD AVENUE
CLOVIS, CA 93619
CONTACT: JOHN SOBAJE
(559) 299-1036
MINIMUM LOT SIZE
4,000 SQ.FT.
MAXIMUM LOT SIZE
11,819 SQ.FT.
AVERAGE LOT SIZE
4712 SQ.FT.

BASIS OF BEARINGS

THE GEODETIC OBSERVATION BETWEEN THE NORTH QUARTER CORNER AND THE NORTHEAST CORNER OF SECTION 29, TOWNSHIP 12 SOUTH, RANGE 21 EAST, MOUNT DIABLO BASE AND MERIDIAN TAKEN AS SOUTH 89°17'21" EAST.

BASIS OF ELEVATION

BRASS CAP MONUMENT ON 4" X 4" CONCRETE POST, 39'± NORTH OF CENTERLINE SHEPHERD, 17'± WEST OF CENTERLINE OF SUNNYSIDE AT THE NORTHWEST CORNER SHEPHERD AND SUNNYSIDE WITH AN ELEVATION OF 389.439 FEET, AS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 IS THE BENCHMARK FOR THIS SURVEY.

REGISTERED PROFESSIONAL ENGINEER — ADAM B. LEE — No. 69104 — CIVIL — STATE OF CALIFORNIA

Yamabe & Horn Engineering, Inc. — CIVIL ENGINEERS • LAND SURVEYORS — 2880 W. SHAW LANE, SUITE 101 FRESNO, CA 93727 — TEL (559) 244-3123 WEBSITE YANDHENGR.COM

37

APPROVALS	APPROVED (INITIALS)
CONSTRUCTION MANAGEMENT	
TRAFFIC	
DEVELOPMENT REVIEW	
STREETS	
PARKS	
SOLID WASTE	
UTILITIES	

REVISIONS	DATE	APPROVED
△		
△		
△		
△		
△		

CITY OF CLOVIS

PROJECT TITLE: TRACT NO. 6263 CLOVIS AND SHEPHERD

SHEET DESCRIPTION: VESTING TENTATIVE TRACT MAP

PLANNING AND DEVELOPMENT SERVICES DEPARTMENT

Y&H No. 18-378
Dr. By: RBW
Ch. By: BB
Date: 8/6/2019

Project No.

Sheet No. 1 of 1 Sheets

County of Fresno
DEPARTMENT OF PUBLIC HEALTH
David Pomaville, Director
Dr. Sara Goldgraben, Health Officer

January 4, 2019

LU0019807
2604

Courtney Thongsavath, Planning Volunteer
City of Clovis
Planning and Development Services Department
1033 Fifth Street
Clovis, CA 93612

Dear Ms. Thongsavath:

PROJECT NUMBER: **DRC2018-69**

DRC2018-69; 134-lot SFR that will include 28 lots with minimum of 55'x110' and 106 lots with minimum of 50'x80'. The property is currently planned for low density residential and is proposed for medium density residential.

APN: 560-031-23, -34, -35 **ZONING: R-1-7500**
ADDRESS: S/S Shepard Avenue btw. Clovis and Sunnyside Avenues

Recommended Conditions of Approval:

- Construction permits for development should be subject to assurance of sewer capacity of the Regional Wastewater Treatment Facility. Concurrence should be obtained from the California Regional Water Quality Control Board (RWQCB). For more information, contact staff at (559) 445-5116.

- Construction permits for the development should be subject to assurance that the City of Clovis community water system has the capacity and quality to serve this project. Concurrence should be obtained from the State Water Resources Control Board, Division of Drinking Water-Southern Branch. For more information call (559) 447-3300.

- The proposed construction project and proximity to an existing thoroughfare has the potential to expose nearby residents and tenants to elevated noise levels. Consideration should be given to your City's municipal code.

- As a measure to protect ground water, all water wells and/or septic systems that exist or have been abandoned within the project area should be properly destroyed by an appropriately licensed contractor.

  Prior to destruction of agricultural wells, a sample of the upper most fluid in the water well column should be sampled for lubricating oil. The presence of oil staining around the water well may indicate the use of lubricating oil to maintain the well pump. Should lubricating oil be found in the well, the oil should be removed from the well prior to placement of fill material for destruction. The "oily water" removed from the well must be handled in accordance with federal, state and local government requirements.

AGENDA ITEM NO.2

- Should any underground storage tank(s) be found during the project, the applicant shall apply for and secure an Underground Storage Tank Removal Permit from the Fresno County Department of Public Health, Environmental Health Division. Contact the Certified Unified Program Agency at (559) 600-3271 for more information.

The following comments pertain to the demolition of existing structures:

- Should the structures have an active rodent or insect infestation, the infestation should be abated prior to demolition of the structures in order to prevent the spread of vectors to adjacent properties.

- In the process of demolishing the existing structures, the contractor may encounter asbestos containing construction materials and materials coated with lead based paints.

- If asbestos containing materials are encountered, contact the San Joaquin Valley Air Pollution Control District at (559) 230-6000 for more information.

- If the structures were constructed prior to 1979 or if lead-based paint is suspected to have been used in these structures, then prior to demolition and/or remodel work the contractor should contact the following agencies for current regulations and requirements:

  - California Department of Public Health, Childhood Lead Poisoning Prevention Branch, at (510) 620-5600.

  - United States Environmental Protection Agency, Region 9, at (415) 947-8000.

  - State of California, Industrial Relations Department, Division of Occupational Safety and Health, Consultation Service (CAL-OSHA) at (559) 454-5302.

- Any construction materials deemed hazardous as identified in the demolition process must be characterized and disposed of in accordance with current federal, state, and local requirements.

REVIEWED BY:

Kevin Tsuda

Kevin Tsuda, R.E.H.S.
Environmental Health Specialist II (559) 600-33271

KT

cc: Steven Rhodes- Environmental Health Division (CT. 55.22)
Yamabe & Horn Engineering- Applicant (bbroussard@yhmail.com)

Joyce Roach

From: Gentry, Jamaica@DOT <Jamaica.Gentry@dot.ca.gov>
Sent: Tuesday, January 7, 2020 2:56 PM
To: Joyce Roach
Cc: Ricky.Caperton@fresno.gov; Navarro, Michael@DOT
Subject: Caltrans comments for GPA2019-007
Attachments: GPA2019-007, DISTFRM.PDF

Good Afternoon Joyce,

Caltrans has no comment on the site access to Shepherd Avenue triggering GPA #2019-007.

Best Regards,
Jamaica Gentry
Associate Transportation Planner
Caltrans – District 6
P: (559) 488-7307

From: Navarro, Michael@DOT
Sent: Thursday, January 2, 2020 10:24 AM
To: Gentry, Jamaica@DOT <Jamaica.Gentry@dot.ca.gov>
Subject: FW: Request for Comments for GPA2019-007

Please review…I think you saw this before.

From: Joyce Roach <joycer@ci.clovis.ca.us>
Sent: Thursday, January 2, 2020 10:16 AM
To: Alan Koobatian <AHK1@pge.com>; Amy Hance <AmyH@ci.clovis.ca.us>; Andrew Haussler <andrewh@ci.clovis.ca.us>; Andrew Nabors <AndrewNabors@clovisusd.k12.ca.us>; Andrew Nabors <andrewnabors@cusd.com>; Anthony Summers <Kristopher.W.Summers@usps.gov>; Arthur Negrete <arthurn@ci.clovis.ca.us>; Bernard Jimenez <Bjimenez@co.fresno.ca.us>; Brian Weldon <bw1987@att.com>; Bryan Araki <BryanA@ci.clovis.ca.us>; Fischer, Chad@Waterboards <Chad.Fischer@waterboards.ca.gov>; Chad Fitzgerald <ChadF@ci.clovis.ca.us>; Cherie Clark <Cherie.Clark@valleyair.org>; Chris Motta <cmotta@co.fresno.ca.us>; Christian A. Esquivias Ramirez <ChristianE@ci.clovis.ca.us>; Christina Monfette <cmonfette@co.fresno.ca.us>; Curt Fleming <curtf@ci.clovis.ca.us>; Dave Fey <dfey@co.fresno.ca.us>; Padilla, Dave@DOT <dave.padilla@dot.ca.gov>; Dave Scott <ds1298@att.com>; David Gonzalez <davidg@ci.clovis.ca.us>; David Merchen <davidm@ci.clovis.ca.us>; Debbie Campbell <debbiec@fresnofloodcontrol.org>; Deep Sidhu <SSidhu@co.fresno.ca.us>; Denise Wade <denisew@fresnofloodcontrol.org>; Denver Stairs <DenverStairs@cusd.com>; Douglas Stawarski <dougs@ci.clovis.ca.us>; Dwight Kroll <DwightK@ci.clovis.ca.us>; Eric Zetz <ericz@ci.clovis.ca.us>; FID <Engr-Review@fresnoirrigation.com>; FMFCD <developmentreview@fresnofloodcontrol.org>; Gary Sawhill <Sawhill@ci.clovis.ca.us>; Gene Abella <genea@ci.clovis.ca.us>; Geneva H. McJunkin <gr7434@att.com>; George Gonzalez <georgeg@ci.clovis.ca.us>; George Uc <guc@co.fresno.ca.us>; Georgia Stewart <Georgia.Stewart@valleyair.org>; Gerald Conley <geraldc@ci.clovis.ca.us>; Glenn Allen <glallen@co.fresno.ca.us>; Guillermo Vieyra <guillermov@ci.clovis.ca.us>; Iri Guerra <IriG@ci.clovis.ca.us>; Jason C.

<jasonc@fresnofloodcontrol.org>; John Willow <JohnWi@ci.clovis.ca.us>; Jose Sandoval <joses[illegible]
Lara <jlara@co.fresno.ca.us>; Katy Benham <KatyB@ci.clovis.ca.us>; Ken Wells <kenw@ci.clovis[illegible]
<KTsuda@co.fresno.ca.us>; Lily Cha <lilyc@ci.clovis.ca.us>; Luis Murrieta <LDMQ@pge.com>; Luke Serpa
<lukes@ci.clovis.ca.us>; Max Garces <MaxG@ci.clovis.ca.us>; Michael Maxwell <michaelm@fresnofloodcontrol.org>;
Navarro, Michael@DOT <michael.navarro@dot.ca.gov>; Mike Harrison <mikeh@ci.clovis.ca.us>; Mike McLemore
<MikeM@ci.clovis.ca.us>; Mikel Meneses <mikelm@fresnofloodcontrol.org>; Monique Chaidez <MKR4@pge.com>;
Nadia Lopez <nllopez@fresnocountyca.gov>; Nicholas Torstensen <nicholast@ci.clovis.ca.us>; Orlando Ramirez
<OrlandoR@ci.clovis.ca.us>; Paul Armendariz <PaulA@ci.clovis.ca.us>; Rebecca Lucas <rebeccal@ci.clovis.ca.us>; Rick
Fultz <rickf@ci.clovis.ca.us>; Ricky Caperton <rcaperton@ci.clovis.ca.us>; Robert J. Howard <R3Hd@pge.com>; Robert
Villalobos <robertv@fresnofloodcontrol.org>; Ryan Burnett <RyanB@ci.clovis.ca.us>; Ryan Nelson
<ryann@ci.clovis.ca.us>; Sarai Yanovsky <saraiy@ci.clovis.ca.us>; Scott Borsch <scottb@ci.clovis.ca.us>; Scott Redelfs
<scottr@ci.clovis.ca.us>; Sean Smith <SeanS@ci.clovis.ca.us>; Sharla Yang <Sharla.Yang@valleyair.org>; Shawn Miller
<ShawnM@ci.clovis.ca.us>; SJVAPCD <CEQA@valleyair.org>; Stephanie Andersen <StephanieA@ci.clovis.ca.us>; Steven
Rhodes <SRhodes@co.fresno.ca.us>; Trina Vietty <trinav@ci.clovis.ca.us>; Wildlife R4 CEQA Program
<R4CEQA@wildlife.ca.gov>
Cc: Ricky Caperton <rcaperton@ci.clovis.ca.us>; Joyce Roach <joycer@ci.clovis.ca.us>
Subject: Request for Comments for GPA2019-007

Good morning,

Please see the attached request for comments for GPA2019-007. Please also note the shortened review period; if more time is needed, please contact Senior Planner Ricky Caperton.

Thank you, and have a good day.

Joyce Roach | Planning Assistant
City of Clovis | Planning Division
1033 Fifth Street, Clovis, CA 93612
p. 559.324.2341 | f. 559.324.2844
joycer@cityofclovis.com

AGENDA ITEM NO.2

Joyce Roach

From: Andrew Nabors <AndrewNabors@clovisusd.k12.ca.us>
Sent: Thursday, January 2, 2020 10:39 AM
To: Joyce Roach; Ricky Caperton
Cc: Denver Stairs
Subject: RE: Request for Comments for GPA2019-007

Clovis Unified has no comments regarding GPA2019-007; Shepherd Ave expressway "right in right out" designation.

Andrew Nabors
(559) 327-9264

From: Joyce Roach <joycer@ci.clovis.ca.us>
Sent: Thursday, January 2, 2020 10:16 AM
To: Alan Koobatian <AHK1@pge.com>; Amy Hance <AmyH@ci.clovis.ca.us>; Andrew Haussler <andrewh@ci.clovis.ca.us>; Andrew Nabors <AndrewNabors@clovisusd.k12.ca.us>; Andrew Nabors <AndrewNabors@clovisusd.k12.ca.us>; Anthony Summers <Kristopher.W.Summers@usps.gov>; Arthur Negrete <arthurn@ci.clovis.ca.us>; Bernard Jimenez <Bjimenez@co.fresno.ca.us>; Brian Weldon <bw1987@att.com>; Bryan Araki <BryanA@ci.clovis.ca.us>; Chad Fischer <Chad.Fischer@waterboards.ca.gov>; Chad Fitzgerald <ChadF@ci.clovis.ca.us>; Cherie Clark <Cherie.Clark@valleyair.org>; Chris Motta <cmotta@co.fresno.ca.us>; Christian A. Esquivias Ramirez <ChristianE@ci.clovis.ca.us>; Christina Monfette <cmonfette@co.fresno.ca.us>; Curt Fleming <curtf@ci.clovis.ca.us>; Dave Fey <dfey@co.fresno.ca.us>; Dave Padilla <dave.padilla@dot.ca.gov>; Dave Scott <ds1298@att.com>; David Gonzalez <davidg@ci.clovis.ca.us>; David Merchen <davidm@ci.clovis.ca.us>; Debbie Campbell <debbiec@fresnofloodcontrol.org>; Deep Sidhu <SSidhu@co.fresno.ca.us>; Denise Wade <denisew@fresnofloodcontrol.org>; Denver Stairs <DenverStairs@clovisusd.k12.ca.us>; Douglas Stawarski <dougs@ci.clovis.ca.us>; Dwight Kroll <DwightK@ci.clovis.ca.us>; Eric Zetz <ericz@ci.clovis.ca.us>; FID <Engr-Review@fresnoirrigation.com>; FMFCD <developmentreview@fresnofloodcontrol.org>; Gary Sawhill <Sawhill@ci.clovis.ca.us>; Gene Abella <genea@ci.clovis.ca.us>; Geneva H. McJunkin <gr7434@att.com>; George Gonzalez <georgeg@ci.clovis.ca.us>; George Uc <guc@co.fresno.ca.us>; Georgia Stewart <Georgia.Stewart@valleyair.org>; Gerald Conley <geraldc@ci.clovis.ca.us>; Glenn Allen <glallen@co.fresno.ca.us>; Guillermo Vieyra <guillermov@ci.clovis.ca.us>; Iri Guerra <IriG@ci.clovis.ca.us>; Jason C. <jasonc@fresnofloodcontrol.org>; John Willow <JohnWi@ci.clovis.ca.us>; Jose Sandoval <joses@ci.clovis.ca.us>; Juan Lara <jlara@co.fresno.ca.us>; Katy Benham <KatyB@ci.clovis.ca.us>; Ken Wells <kenw@ci.clovis.ca.us>; Kevin Tsuda <KTsuda@co.fresno.ca.us>; Lily Cha <lilyc@ci.clovis.ca.us>; Luis Murrieta <LDMQ@pge.com>; Luke Serpa <lukes@ci.clovis.ca.us>; Max Garces <MaxG@ci.clovis.ca.us>; Michael Maxwell <michaelm@fresnofloodcontrol.org>; Michael Navarro <michael_navarro@dot.ca.gov>; Mike Harrison <mikeh@ci.clovis.ca.us>; Mike McLemore <MikeM@ci.clovis.ca.us>; Mikel Meneses <mikelm@fresnofloodcontrol.org>; Monique Chaidez <MKR4@pge.com>; Nadia Lopez <nllopez@fresnocountyca.gov>; Nicholas Torstensen <nicholast@ci.clovis.ca.us>; Orlando Ramirez <OrlandoR@ci.clovis.ca.us>; Paul Armendariz <PaulA@ci.clovis.ca.us>; Rebecca Lucas <rebeccal@ci.clovis.ca.us>; Rick Fultz <rickf@ci.clovis.ca.us>; Ricky Caperton <rcaperton@ci.clovis.ca.us>; Robert J. Howard <R3Hd@pge.com>; Robert Villalobos <robertv@fresnofloodcontrol.org>; Ryan Burnett <RyanB@ci.clovis.ca.us>; Ryan Nelson <ryann@ci.clovis.ca.us>; Sarai Yanovsky <saraiy@ci.clovis.ca.us>; Scott Borsch <scottb@ci.clovis.ca.us>; Scott Redelfs <scottr@ci.clovis.ca.us>; Sean Smith <SeanS@ci.clovis.ca.us>; Sharla Yang <Sharla.Yang@valleyair.org>; Shawn Miller <ShawnM@ci.clovis.ca.us>; SJVAPCD <CEQA@valleyair.org>; Stephanie Andersen <StephanieA@ci.clovis.ca.us>; Steven Rhodes <SRhodes@co.fresno.ca.us>; Trina Vietty <trinav@ci.clovis.ca.us>; Wildlife CEQA <R4CEQA@wildlife.ca.gov>
Cc: Ricky Caperton <rcaperton@ci.clovis.ca.us>; Joyce Roach <joycer@ci.clovis.ca.us>
Subject: Request for Comments for GPA2019-007

Good morning,

Please see the attached request for comments for GPA2019-007. Please also note the shortened review period; if more time is needed, please contact Senior Planner Ricky Caperton.

Thank you, and have a good day.

Joyce Roach | Planning Assistant
City of Clovis | Planning Division
1033 Fifth Street, Clovis, CA 93612
p. 559.324.2341 | f. 559.324.2844
joycer@cityofclovis.com

AGENDA ITEM NO.2

County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

January 10, 2020

Ricky Caperton, Senior Planner
City of Clovis, Planning and Development Services Department
1033 Fifth Street
Clovis, CA 93612

SUBJECT: City of Clovis OAR, GPA2019-007

Dear Mr. Caperton,

The County of Fresno appreciates the opportunity to review and comment on the subject General Plan Amendment No. 2019-007 proposing to amend the City of Clovis General Plan to revise previously approved Tract Map 6263 to allow access to the tract from Shepherd Avenue.

The Transportation Design Division has reviewed the subject application and the revised Traffic Impact Analysis (TIA) and agrees with the recommendations made in the TIA. The Transportation Design Division recommends that the City of Clovis develop Shepherd Avenue between Sunnyside Avenue and Fowler Avenue to match the City's expressway and remove the existing bottleneck. This will encourage city-based traffic to utilize Fowler Avenue instead of Sunnyside Avenue which is generally planned for local traffic. For informational purposes, the County is actively working with the City and Dry Creek Preserve residents in order to assist in the execution of the Dry Creek Preserve (DCP) Master Plan so that transportation upgrades occur at a pace that avoids being overwhelmed by the development boom occurring in this area. Traffic calming measures are currently in the planning stage for Sunnyside Avenue in order to further encourage local traffic only. If there are any questions regarding the recommendation, please contact Brian Spaunhurst of the Transportation Design Division at (559)600-4532.

The Department of Public Health, Environmental Health Division has reviewed the subject application and has provided comments for the project. A copy of the comments provided by the Environmental Health Division has been attached for your review. If there are any questions regarding the attached comments, please contact Kevin Tsuda at (559)600-3357.

If you have any questions, you may e-mail me at TKobayashi@FresnoCountyCA.gov or contact me at (559) 600-4224.

Sincerely,

Thomas Kobayashi, Planner
Development Services and Capital Projects Division

TK:
G:\4360Devs&Pln\PROJSEC\PROJDOCS\Environmental\OAR\City of Clovis\GPA2019-007\GPA2019-007 Comment Letter.docx

AGENDA ITEM NO.2

Attachment

cc: Steve White, Director
John Thompson, Assistant Director
Bernard Jimenez, Assistant Director
William M. Kettler, Development Services and Capital Projects Division
Chris Motta, Development Services and Capital Projects Division

County of Fresno
DEPARTMENT OF PUBLIC HEALTH
David Pomaville, Director
Dr. Sara Goldgraben, Health Officer

January 4, 2019

LU0019807
2604

Courtney Thongsavath, Planning Volunteer
City of Clovis
Planning and Development Services Department
1033 Fifth Street
Clovis, CA 93612

Dear Ms. Thongsavath:

PROJECT NUMBER: **DRC2018-69**

DRC2018-69; 134-lot SFR that will include 28 lots with minimum of 55'x110' and 106 lots with minimum of 50'x80'. The property is currently planned for low density residential and is proposed for medium density residential.

APN: 560-031-23, -34, -35 **ZONING: R-1-7500**
ADDRESS: S/S Shepard Avenue btw. Clovis and Sunnyside Avenues

Recommended Conditions of Approval:

- Construction permits for development should be subject to assurance of sewer capacity of the Regional Wastewater Treatment Facility. Concurrence should be obtained from the California Regional Water Quality Control Board (RWQCB). For more information, contact staff at (559) 445-5116.

- Construction permits for the development should be subject to assurance that the City of Clovis community water system has the capacity and quality to serve this project. Concurrence should be obtained from the State Water Resources Control Board, Division of Drinking Water-Southern Branch. For more information call (559) 447-3300.

- The proposed construction project and proximity to an existing thoroughfare has the potential to expose nearby residents and tenants to elevated noise levels. Consideration should be given to your City's municipal code.

- As a measure to protect ground water, all water wells and/or septic systems that exist or have been abandoned within the project area should be properly destroyed by an appropriately licensed contractor.

  Prior to destruction of agricultural wells, a sample of the upper most fluid in the water well column should be sampled for lubricating oil. The presence of oil staining around the water well may indicate the use of lubricating oil to maintain the well pump. Should lubricating oil be found in the well, the oil should be removed from the well prior to placement of fill material for destruction. The "oily water" removed from the well must be handled in accordance with federal, state and local government requirements.

AGENDA ITEM NO.2

- Should any underground storage tank(s) be found during the project, the applicant shall apply for and secure an Underground Storage Tank Removal Permit from the Fresno County Department of Public Health, Environmental Health Division. Contact the Certified Unified Program Agency at (559) 600-3271 for more information.

The following comments pertain to the demolition of existing structures:

- Should the structures have an active rodent or insect infestation, the infestation should be abated prior to demolition of the structures in order to prevent the spread of vectors to adjacent properties.

- In the process of demolishing the existing structures, the contractor may encounter asbestos containing construction materials and materials coated with lead based paints.

- If asbestos containing materials are encountered, contact the San Joaquin Valley Air Pollution Control District at (559) 230-6000 for more information.

- If the structures were constructed prior to 1979 or if lead-based paint is suspected to have been used in these structures, then prior to demolition and/or remodel work the contractor should contact the following agencies for current regulations and requirements:

  - California Department of Public Health, Childhood Lead Poisoning Prevention Branch, at (510) 620-5600.

  - United States Environmental Protection Agency, Region 9, at (415) 947-8000.

  - State of California, Industrial Relations Department, Division of Occupational Safety and Health, Consultation Service (CAL-OSHA) at (559) 454-5302.

- Any construction materials deemed hazardous as identified in the demolition process must be characterized and disposed of in accordance with current federal, state, and local requirements.

REVIEWED BY:

Kevin Tsuda

Kevin Tsuda, R.E.H.S.
Environmental Health Specialist II (559) 600-33271

KT

cc: Steven Rhodes- Environmental Health Division (CT. 55.22)
Yamabe & Horn Engineering- Applicant (bbroussard@yhmail.com)

AGENDA ITEM NO.2

Fresno Metropolitan Flood Control District

Capturing Stormwater since 1956

File 210.45 "6263"
310. "BC"
400.11

January 8, 2020

Mr. Ricky Caperton, Senior Planner
City of Clovis
Department of Planning & Development Services
1033 Fifth Street
Clovis, CA 93612

Dear Mr. Caperton,

General Plan Amendment GPA 2019-007
Drainage Area "BC"

The proposed general plan amendment lies within the District's Drainage Area "BC". Surface runoff from Shepherd Avenue shall remain in Shepherd Avenue and be directed to the existing Master Plan facilities located on the south side of Shepherd Avenue approximately 330 feet west of the proposed Shepherd Avenue access.

Please contact us if you need further information at (559) 456-3292.

Very truly yours,

Denise Wade
Engineer III, PE

DW/lrl

k:\letters\general plan amendment letters\clovis\gpa 2019-007(bc)(dw).docx

5469 E. Olive Avenue • Fresno, CA 93727 • (559) 456-3292 • FAX (559) 456-3194
www.fresnofloodcontrol.org

From: Mike Elrod <Mike.Elrod@spanconstruction.com>
Sent: Tuesday, January 7, 2020 11:57 AM
To: Ricky Caperton
Subject: Lennar Tentative Tract No. 6263

Follow Up Flag: Follow up
Flag Status: Completed

Ricky-

Appreciate your time in answering my questions this morning regarding the tentative tract map that Lennar sent out to us neighbors in proximity to their proposed development.

I request the planning commission reconsider their position, and allow for a Preuss right in/right out onto Shepherd. The reality is Shepherd for all intended purposes is not an 'Expressway' as the Planning Commission and others have stated. An expressway is a highway allowing for high-speed traffic. Shepherd currently has an MPH guideline of 50 miles per hour. Are you planning on raising the speed limit as well? Secondly, an expressway has an identified barrier, often times constructed of concrete or metal. Shepherd only has a median with some smaller trees and plants that are half dead or removed all together in some areas. So is the planning commission adding barriers when it becomes this new 'expressway'? An expressway allows for 'controlled' traffic to merge on/off of it. The proposed tract map indicates the additional lane to allow for traffic 'merging'. IF it is an expressway you also would not have all of the stop lights that are currently on Shepherd as it defeats the purpose of having an 'expressway'.

In looking through several documents, City references, etc. I find that what we have already in place, and what the City is attempting to create does not align or should be labeled as an 'Expressway'. It's the square peg in a round hole type of idea. If Shepherd was to be an expressway, then it would be from Willow where the City boundary starts, all the way out to County areas. This is again not the case as Planning has stated the expressway starts at Clovis avenue, and it will only run to Sunnyside at this time. Unless the City and County get into Eminent domain and remove the houses just East of the Shepherd/Sunnyside intersection it will never be an 'expressway'. Expressways have multiple lanes, and that is not the case down Shepherd avenue where it narrows down to 1 lane from Sunnyside to Fowler. Also you have a canal that narrows and does not allow for 2 lanes in either direction just West of Sunnyside avenue-so is that going to be rebuilt as part of this project? Lastly, Lennar already was granted in/out access to the future neighborhood just to the North of this proposed subdivision as you stated due to egress issues, but in the end regardless of the circumstances it creates the same scenario of traffic in/out onto Shepherd. If it was truly unsafe you would not allow for it OR you would make accommodations such as the ones Lennar has made with widening and adding a lane to where people are turning in/out using Preuss.

Requesting in/out access for Preuss, with the understanding that the lane must be widened enough to allow vehicular traffic enough time to move in/out of the traffic driving down Shepherd as reflected on Lennar's latest tentative tract map.

Sincerely,

Mike & Shelly Elrod

1299 Everglade Ave
Clovis, CA 93619
Wilson subdivision to the East of proposed Lennar tract 6263

TRAFFIC IMPACT ANALYSIS

ATTACHMENT 6

AGENDA ITEM NO.2

Revised Traffic Impact Analysis

TT 6263

Located on the Southeast Quadrant of Clovis Avenue and Shepherd Avenue

In the City of Clovis, California

Prepared for:

Yamabe & Horn Engineering, Inc.
2985 N. Burl Ave., #101
Fresno, CA 93727

December 31, 2019

Project No. 006-028

Traffic Engineering, Transportation Planning, & Parking Solutions
516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
Phone: (559) 570-8991
www.JLBtraffic.com

Traffic Engineering, Transportation Planning, & Parking Solutions

Revised Traffic Impact Analysis

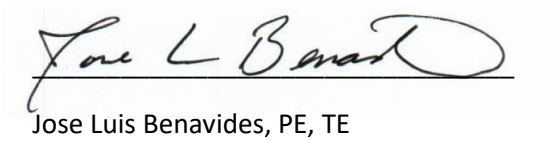
For TT 6263 located on the Southeast Quadrant of Clovis Avenue and Shepherd Avenue

In the City of Clovis, CA

December 31, 2019

This Draft Traffic Impact Analysis has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions, and decisions are based.

Prepared by:



Jose Luis Benavides, PE, TE

President

Traffic Engineering, Transportation Planning, & Parking Solutions
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Fresno, CA 93704
Phone: (559) 570-8991
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Introduction and Summary

Introduction

This report describes a Traffic Impact Analysis (TIA) prepared by JLB Traffic Engineering, Inc. (JLB) for the proposed Tentative Tract 6263 (Project) located in the City of Clovis. The Project proposes to develop approximately 23.35 acres with up to 137 single-family detached housing units. Based on information provided to JLB, the Project will undergo a General Plan Amendment through the City of Clovis to 1) modify the existing land use designation from Low Density Residential to Medium Density Residential and 2) reclassify the designation of Shepherd Avenue between Clovis Avenue and Sunnyside Avenue from "expressway" to an "expressway with limited access". Figure 1 shows the location of the proposed Project site relative to the surrounding roadway network.

The purpose of the TIA is to evaluate the potential on-site and off-site traffic impacts, identify short-term roadway and circulation needs, determine potential mitigation measures, and identify any critical traffic issues that should be addressed in the on-going planning process. The TIA primarily focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. The Scope of Work was prepared via consultation with City of Clovis, City of Fresno, County of Fresno and Caltrans staff.

Summary

The potential traffic impacts of the proposed Project were evaluated in accordance with the standards set forth by the Level of Service (LOS) policy of the City of Clovis, County of Fresno and Caltrans.

Existing Traffic Conditions

- At present, all study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project Traffic Conditions

- JLB analyzed the location of the proposed access points relative to the existing local roads and driveways in the Project's vicinity. A review of the Project's local driveways and streets to be constructed indicates that they are located at points that minimize traffic operational impacts to the existing roadway network.
- At buildout, the proposed Project is estimated to generate a maximum of 1,293 daily trips, 101 AM peak hour trips and 136 PM peak hour trips.
- It is recommended that the Project implement a Class II Bike Lane along its frontage to Shepherd Avenue.
- At present, all study intersections are projected to operate at an acceptable LOS during both peak periods.

Near Term plus Project Traffic Conditions

- The total trip generation for the Near Term Projects is 62,945 daily trips, 5,034 AM peak hour trips and 6,491 PM peak hour trips.
- Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue is projected to exceed its LOS threshold during both peak periods. To improve the LOS at this intersection, it is recommended it be signalized with protective left-turn phasing in all directions. Additional details as to the recommended improvements for this intersection are presented later in this report.
- Between the Existing Traffic Conditions scenario and the Near Term plus Project Traffic Conditions scenario, the Project accounts for 2.0 percent of the daily trips, 2.0 percent of the AM peak hour trips and 2.1 percent of the PM peak hour trips of growth of traffic, while the rest of the growth is attributable to the Near Term Projects. Therefore, the mitigation measures presented under this scenario may not be necessary upon completion of the proposed Project.

Cumulative Year 2039 plus Project Traffic Conditions

- Under this scenario, all study intersections are projected to exceed their LOS threshold during both peak periods. To improve the LOS at these intersections, the addition of lanes and modification of traffic control mechanisms are recommended. Additional details as to the recommended improvements for these intersections are presented later in this report.

Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions

- Under this scenario, all study intersections are projected to exceed their LOS threshold during both peak periods. To improve the LOS at these intersections, the addition of lanes and modification of traffic control mechanisms are recommended. Additional details as to the recommended improvements for these intersections are presented later in this report.

Comparison Between Cumulative Year 2039 Scenarios

- Based on the LOS results of the study intersections and Sim Traffic queuing analysis, the retention of the Preuss Avenue (right-in, right-out) access to the south side of Shepherd Avenue will not have a negative impact to the operations of the intersection of Clovis Avenue and Shepherd Avenue. Under both Cumulative Year 2039 scenarios, the number and type of lanes and signal phasing plan needed for the intersection of Clovis Avenue and Shepherd Avenue would be the same.
- The main differences between the Cumulative Year 2039 plus Project scenarios with and without access to Shepherd Avenue are provided below:
    - The projected left-turn and right-turn lane storage needs at the study intersections vary slightly; however, their differences are not significant.
    - If access to Shepherd Avenue is approved, it is recommended that a 125 feet eastbound right-turn lane be installed at the intersection of Preuss Avenue and Shepherd Avenue. This will ensure that inbound traffic to Tract 6263 moves out of the number two eastbound through lane and into the right-turn lane to decelerate as they approach the intersection. In doing so, eastbound right-turning traffic would have little to no effect on the traffic operations of Shepherd Avenue.

- Under both of these scenarios traffic from westbound Riordan Avenue to Clovis Avenue is anticipated to be limited to right turns. With westbound traffic on Riordan Avenue limited to right turns the westbound right turn queue is projected to be a maximum of 2 to 3 vehicles for the scenario that allows access to Shepherd Avenue and a maximum of 3 to 4 vehicles for the scenario that retains the segment of Shepherd Avenue between Clovis Avenue and Sunnyside Avenue as an expressway. These anticipated queues will likely double if westbound left turns from Riordan Avenue are allowed.
- The projected average delays for the intersections of Clovis Avenue at Shepherd Avenue and Sunnyside Avenue at Shepherd were compared. Based on this comparison, the projected average delays are very similar to each other with less one (1) second difference between the average delays amongst the two scenarios. Therefore, from a LOS and Average delay to the intersections of Clovis Avenue at Shepherd Avenue and Sunnyside Avenue at Shepherd Avenue there is no significant difference.
- A comparison of the projected average daily trips to the segments of 1) Clovis Avenue between Shepherd Avenue and Teague Avenue, 2) Shepherd Avenue between Clovis Avenue and Sunnyside Avenue and 3) Sunnyside Avenue between Shepherd Avenue and Teague Avenue revealed that if access to Shepherd Avenue is approved that volumes on Clovis Avenue will decrease, while volumes on Shepherd Avenue and Sunnyside Avenue are projected to increase. However, the level of increase is not projected to cause a significant LOS impact to any the segments of Shepherd Avenue or Sunnyside Avenue.

Queuing Analysis

- It is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.

Project's Equitable Fair Share

- It is recommended that the Project contribute their equitable fair share as listed in Table XII for the future improvements necessary to maintain an acceptable LOS.

Scope of Work

The TIA primarily focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. On March 26, 2019, a Revised Draft Scope of Work for the preparation of a TIA for this Project was provided to the City of Clovis, City of Fresno, County of Fresno and Caltrans for their review and comment. The Revised Draft Scope of Work was based on communication with City of Clovis staff. Any comments to the proposed Scope of Work were to be provided by April 15, 2019.

On March 28, 2019, County of Fresno, City of Fresno, Caltrans, responded and approved the Draft Scope of Work as presented. On April 8, 2019, the City of Clovis responded to the Draft Scope of Work. The City of Clovis requested that the TIA include a scenario in which there are no access points along Shepherd Avenue. The City of Clovis also provided JLB with a list of Near Term Projects.

Based on the comments received, this TIA includes the analysis of a Cumulative Year 2039 plus Project (No Access) scenario as requested by the City of Clovis and the removal of the Cumulative Year 2039 No Project scenario. The Draft Scope of Work and the comments received from the lead agency and responsible agencies are included in Appendix A.

Study Facilities

The existing peak hour turning movement volume counts were conducted at the study intersections in March 2019, while schools in the vicinity of the proposed Project were in session. The intersection turning movement counts included pedestrian volumes. The traffic counts for the existing study intersections are contained in Appendix B. The existing intersection turning movement volumes, intersection geometrics and traffic controls are illustrated in Figure 2.

Study Intersections

1. Clovis Avenue / Shepherd Avenue
2. Preuss Avenue / Shepherd Avenue
3. Sunnyside Avenue / Shepherd Avenue
4. Clovis Avenue / Riordan Avenue

Project Only Trips to State Facilities

1. State Route 168 / Clovis Avenue

Study Scenarios

Existing Traffic Conditions

This scenario evaluates the Existing Traffic Conditions based on existing traffic volumes and roadway conditions from traffic counts and field surveys conducted in March 2019.

Existing plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project Traffic Conditions. The Existing plus Project traffic volumes were obtained by adding the 2019 Project Only Trips to the Existing Traffic Conditions scenario. The 2019 Project Only Trips to the study facilities were developed based on existing travel patterns, the Fresno COG Project Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Clovis 2035 General Plan Circulation Element in the vicinity of the Project. The Fresno COG Models for the Project Select Zone are contained in Appendix C. It is worth noting that with the construction of the proposed Project, consideration is being made as to whether the Preuss Avenue access to Shepherd Avenue should remain.

Near Term plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Near Term plus Project Traffic Conditions. The Near Term plus Project traffic volumes were obtained by adding the Near Term related trips to the Existing plus Project Traffic Conditions scenario. It should be noted that this scenario assumes that the north leg of Clovis Avenue and Shepherd Avenue is built.

Cumulative Year 2039 plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative Year 2039 plus Project Traffic Conditions. At the time of the preparation of this TIA, Fresno COG did not have a regional model for the year 2039. Therefore, JLB utilized the Fresno COG traffic model runs for Base Year 2019 and Cumulative Year 2035 along with existing traffic counts to determine the increment in traffic volumes. Furthermore, JLB utilized Base Year 2019 and Cumulative Year 2035 volumes along Shepherd Avenue and Clovis Avenue near the vicinity of the proposed Project site to determine an average annual growth rate of 5.7 percent. Therefore, JLB utilized an average annual growth rate of 5.7 percent to expand the 2035 increment volumes by four (4) years to arrive at the Cumulative Year 2039 plus Project traffic volumes. The Fresno COG Models are contained in Appendix C. The 2039 Project Only Trips to the study facilities were developed based on the changes to the roadway network, engineering judgment, knowledge of the study area, existing residential and commercial densities, and the City of Clovis 2035 General Plan Circulation Element in the vicinity of the Project.

Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions. The Cumulative Year 2039 plus Project (No Shepherd Avenue Access) traffic volumes were obtained by rerouting existing and projected trips anticipated to utilize the Preuss Avenue (right-in, right-out) access to Shepherd Avenue to utilize the Riordan Avenue and Prescott Avenue accesses to Clovis Avenue and from Clovis Avenue access Shepherd Avenue. The 2039 Project Only Trips (No Shepherd Avenue Access) to the study facilities were developed based on the changes to the roadway network, engineering judgment, knowledge of the study area, existing residential and commercial densities, and the City of Clovis 2035 General Plan Circulation Element in the vicinity of the Project.

Level of Service Analysis Methodology

Level of Service (LOS) is a qualitative index of the performance of an element of the transportation system. LOS is a rating scale running from "A" to "F", with "A" indicating no congestion of any kind and "F" indicating unacceptable congestion and delays. LOS in this study describes the operating conditions for signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM) 6th Edition is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. U-turn movements were analyzed using HCM 2000 methodologies and would yield more accurate results for the reason that HCM 6th Edition methodologies do not allow the analysis of U-turns. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix D.

Criteria of Significance

The City of Clovis 2035 General Plan has established LOS D as the acceptable level of traffic congestion on most major streets. Therefore, LOS D is used to evaluate the potential significance of LOS impacts to City of Clovis roadway facilities pursuant to the City of Clovis 2035 General Plan.

The County of Fresno has established LOS C as the acceptable level of traffic congestion on county roads and streets that fall entirely outside the Sphere of Influence (SOI) of a City. For those areas that fall within the SOI of a City, the LOS criteria of the City are the criteria of significance used in this report. LOS C is used to evaluate the potential significance of LOS impacts to Fresno County intersections that fall outside the City of Clovis SOI. In this case, all study facilities fall within the City of Clovis SOI, therefore, the City of Clovis LOS thresholds are utilized.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities consistent with the *Caltrans Guide for the Preparation of Traffic Impact Studies* dated December 2002. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. In this TIA, however, all study facilities fall within the City of Clovis. Therefore, the City of Clovis LOS thresholds are utilized.

Operational Analysis Assumptions and Defaults

The following operational analysis values, assumptions and defaults were used in this study to ensure a consistent analysis of LOS among the various scenarios.

- Yellow time consistent with the California Manual of Uniform Traffic Control Devices (CA MUTCD) based on approach speeds
- Yellow time of 3.2 seconds for left-turn phases
- All-red clearance intervals of 1.0 second for all phases
- Walk intervals of 7.0 seconds
- Flashing Don't Walk based on 3.5 feet/second walking speed with yellow plus all-red clearance subtracted and 2.0 seconds added
- All new or modified signals utilize protective left-turn phasing
- A 3 percent heavy vehicle factor
- The number of observed pedestrians at existing intersections was utilized under all study scenarios
- An average of 3 pedestrian calls per hour at signalized intersections
- At existing intersections, the observed approach Peak Hour Factor (PHF) is utilized in the Existing, Existing plus Project, and Near Term plus Project scenarios.
- A PHF of 0.92, or the existing PHG if higher, is utilized for the Cumulative Year 2039 scenarios

Existing Traffic Conditions

Roadway Network

The Project site and surrounding study area are illustrated in Figure 1. Important roadways serving the Project are discussed below.

Clovis Avenue is an existing north-south four-lane divided arterial in the vicinity of the proposed Project. In this area, Clovis Avenue exists as a four-lane divided arterial between Shepherd Avenue and Sierra Avenue, a four-lane undivided arterial between Sierra Avenue and Eighth Street, a four-lane arterial divided by a two-way left-turn lane between Eighth Street and San Jose Avenue, a four- to six-lane divided arterial between San Jose Avenue and Shaw Avenue, and a six-lane divided arterial south of Shaw Avenue through the City of Clovis SOI and into the City of Fresno. The City of Clovis 2035 General Plan Circulation Element designates Clovis Avenue as an arterial south of Copper Avenue through the City of Clovis SOI.

Sunnyside Avenue is an existing north-south two-lane undivided collector in the vicinity of the proposed Project. In this area, Sunnyside Avenue exists as a two-lane undivided local roadway north of Shepherd Avenue, a two-lane undivided rural collector between Shepherd Avenue and Nees Avenue, a four- to three-lane undivided collector between Nees Avenue and Third Street, a two-lane collector divided by a two-way left-turn lane between Third Street and Fifth Street, and a four-lane undivided collector between Fifth Street and Gettysburg Avenue. The City of Clovis 2035 General Plan Circulation Element designates Sunnyside Avenue as a collector south of Perrin Road through the City of Clovis SOI.

Shepherd Avenue is an existing east-west two-lane undivided expressway in the vicinity of the proposed Project. In this area, Shepherd Avenue exists as a three-lane divided arterial between Willow Avenue and Clovis Avenue, a two-lane divided rural arterial between Clovis Avenue and Sunnyside Avenue, a two-lane undivided rural arterial between Sunnyside Avenue and Fowler Avenue, a three-lane divided expressway between Fowler Avenue and De Wolf Avenue, and a four-lane divided expressway between De Wolf Avenue and State Route 168. The City of Clovis 2035 General Plan Circulation Element designates Shepherd Avenue as an arterial between Willow Avenue and Clovis Avenue and an expressway between Clovis Avenue and State Route 168.

Riordan Avenue is an existing east-west two-lane undivided local roadway adjacent to the proposed Project. In this area, Riordan Avenue extends east of Clovis Avenue for approximately 0.32 miles before connecting to Duke Avenue. The City of Clovis 2035 General Plan Circulation Element designates Riordan Avenue as a local roadway east of Clovis Avenue.

Preuss Avenue is an existing north-south two-lane undivided local roadway within the proposed Project. In this area, Preuss Avenue extends south of Shepherd Avenue for approximately 0.24 miles before connecting to Riordan Avenue. The City of Clovis 2035 General Plan Circulation Element designates Preuss Avenue as a local roadway south of Shepherd Avenue. Based on information received from City staff, the connection from Preuss Avenue to Shepherd Avenue was granted on a temporary basis under the assumption that it would be removed in conjunction with the development of the project Site. However, City County has requested that the Project consider retaining the Preuss Avenue connection to Shepherd Avenue.

State Route (SR) 168 is an existing four-lane freeway in the vicinity of the proposed Project. The City of Clovis relies primarily on State Route 168 for regional travel as it connects the City of Clovis to the City of Fresno via its connection to State Route 180, which also connects to State Route 41 and State Route 99.

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Existing Traffic Conditions scenario. These warrants are found in Appendix J. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue satisfies the peak hour signal warrant during both peak periods.

Based on the signal warrant and engineering judgement, signalization of the intersection of Sunnyside Avenue and Shepherd Avenue is not recommended, especially since this intersection operates at an acceptable LOS during both peak periods. It is worth noting that the CA MUTCD states "satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal." Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 1, 4 and 7, as applicable, be conducted for this intersection.

Results of Existing Level of Service Analysis

Figure 2 illustrates the Existing Traffic Conditions turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing Traffic Conditions scenario are provided in Appendix E. Table I presents a summary of the Existing peak hour LOS at the study intersections.

At present, all study intersections operate at an acceptable LOS during both peak periods.

Table I: Existing Intersection LOS Results

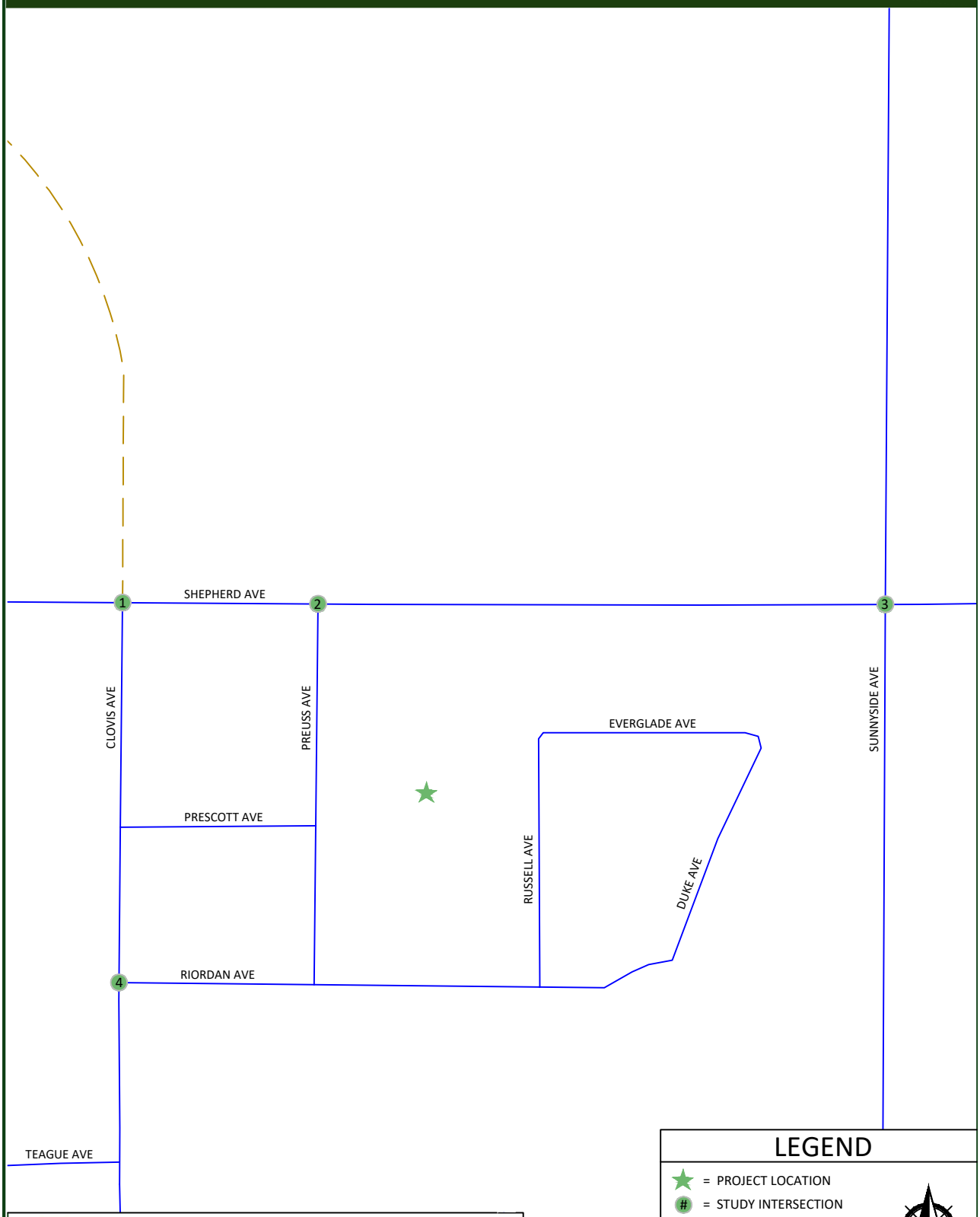
ID	*Intersection*	*Intersection Control*	*AM (7-9) Peak Hour*		*PM (4-6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Clovis Avenue / Shepherd Avenue	Signalized	10.3	B	11.1	B
2	Preuss Avenue / Shepherd Avenue	One-Way Stop	12.6	B	12.9	B
3	Sunnyside Avenue / Shepherd Avenue	All-Way Stop	26.9	D	16.6	C
4	Clovis Avenue / Riordan Avenue	One-Way Stop	12.8	B	13.0	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

TT 6263 - City of Clovis
Vicinity Map

Figure 1

AGENDA ITEM NO.2



LEGEND

★ = PROJECT LOCATION

(#) = STUDY INTERSECTION

– – – = FUTURE ROADWAY

N

Not To Scale

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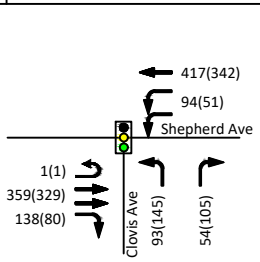
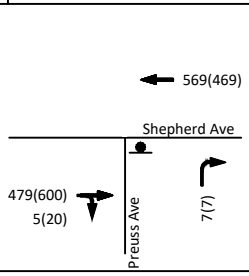
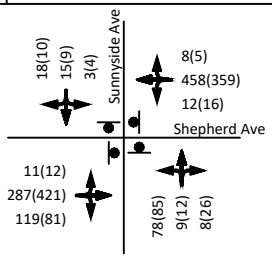
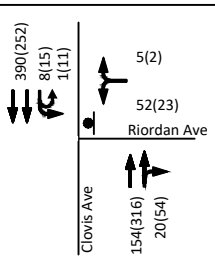
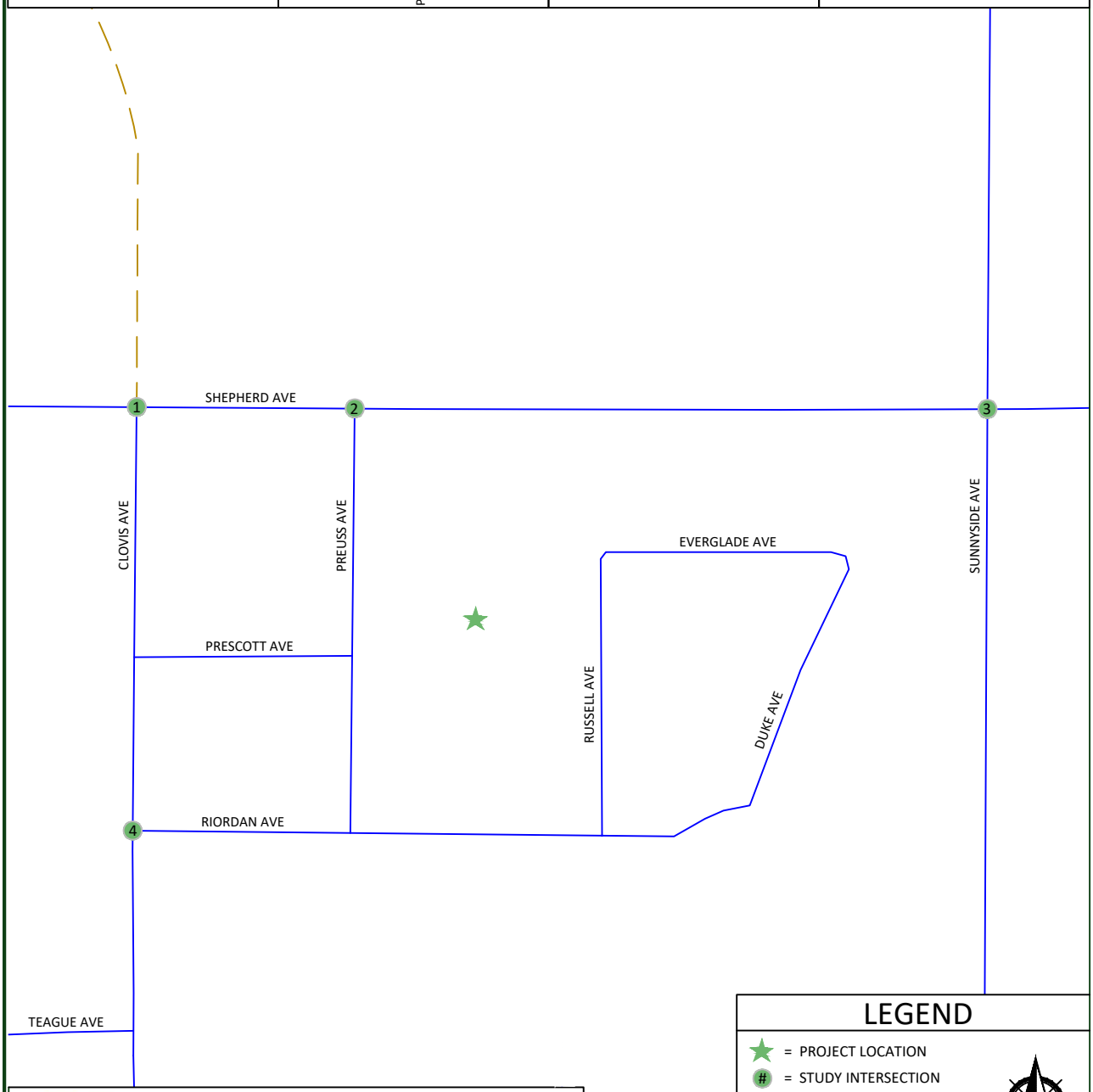
006-028 - 12/27/19 - MA/JG

TT 6263 - City of Clovis
Existing - Traffic Volumes, Geometrics and Controls

Figure 2

AGENDA ITEM NO.2

1. Clovis Ave & Shepherd Ave	2. Preuss Ave & Shepherd Ave	3. Sunnyside Ave & Shepherd Ave	4. Clovis Ave & Riordan Ave
			



LEGEND

- ★ = PROJECT LOCATION
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- – – – = FUTURE ROADWAY
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS
- = SIGNALIZED INTERSECTION
- = STOP SIGN

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Existing plus Project Traffic Conditions

Project Description

The Project proposes to develop approximately 23.35 acres with up to 137 single-family detached housing units. Based on information provided to JLB, the Project will undergo a General Plan Amendment through the City of Clovis to 1) modify the existing land use designation from Low Density Residential to Medium Density Residential and 2) reclassify the designation of Shepherd Avenue between Clovis Avenue and Sunnyside Avenue from "expressway" to an "expressway with limited access". Figure 3 illustrates the latest Project Site Plan.

Project Access

Based on latest Project Site Plan, access to and from the Project site will be from three (3) access points. One access point is located off Riordan Avenue. The intersection of Clovis Avenue and Riordan Avenue provides full access and is controlled by a one-way stop on Riordan Avenue. Another access point is aligned with Prescott Avenue. The intersection of Clovis Avenue and Prescott Avenue provides limited access (right-in, right-out only) and is controlled by a one-way stop on Prescott Avenue. The final access point (Preuss Avenue) will be located along the south side of Shepherd Avenue approximately 800 feet east of Clovis Avenue. The intersection of Preuss Avenue and Shepherd Avenue will provide limited access (right-in, right-out only) and will be controlled by a one-way stop on Preuss Avenue. JLB analyzed the location of the proposed access points relative to the existing local roads and driveways in the Project's vicinity. A review of the Project's local driveways and streets to be constructed indicates that they are located at points that minimize traffic operational impacts to the existing roadway network.

Trip Generation

Trip generation rates for the proposed Project at buildout were obtained from the 10th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table II presents the trip generation for the proposed Project with trip generation rates for 137 Single-Family Detached Housing units. At buildout, the proposed Project is estimated to generate a maximum of 1,293 daily trips, 101 AM peak hour trips and 136 PM peak hour trips.

Table II: Proposed Project Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM Peak Hour*						*PM Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In* %	*Out* %	*In*	*Out*	*Total*	*Trip Rate*	*In* %	*Out* %	*In*	*Out*	*Total*
Single-Family Detached Housing (210)	137	d.u.	9.44	1,293	0.74	25	75	25	76	101	0.99	63	37	86	50	136
Total Project Trips				**1,293**				**25**	**76**	**101**				**86**	**50**	**136**

Note: d.u. = Dwelling Units

Trip Distribution

The trip distribution assumptions were developed based on existing travel patterns, the Fresno COG Project Select Zone, the existing roadway network, engineering judgment, data provided by the developer, knowledge of the study area, existing residential and commercial densities, and the City of Clovis 2035 General Plan Circulation Element in the vicinity of the Project. Figure 4 illustrates the 2019 Project Only Trips to the study intersections.

Bikeways

Currently, Class II Bike Lanes exist in the vicinity of the proposed Project site along Shepherd Avenue. The City of Clovis 2035 General Plan recommends that Class II Bike Lanes be implemented on: 1) Shepherd Avenue between Willow Avenue and State Route 168 through the City of Clovis SOI, 2) Clovis Avenue south of Shepherd Avenue, and 3) Sunnyside Avenue south of Copper Avenue through the City of Clovis SOI. Furthermore, the City of Clovis 2035 General Plan recommends that a Class I Bike Path be implemented on Shepherd Avenue between Willow Avenue and Fowler Avenue. Therefore, it is recommended that the Project implement a Class II Bike Lane along its frontage to Shepherd Avenue.

Transit

Clovis Transit Stageline is the transit operator in the City of Clovis. At present, there are no Stageline Routes that operate in the vicinity of the proposed Project. The closest is Route 80 – Buchanan Education Center Express, which runs on Minnewawa Avenue and Teague Avenue, approximately 0.89 miles southwest of the proposed Project. Route 80 operates at 7:00 AM and 2:50 PM on weekdays only and its nearest stop to the Project is located on the south side of Teague Avenue approximately 525 feet west of Minnewawa Avenue. This Route provides a direct connection to Buchanan Education Complex, Alta Sierra, Walmart, Clovis Adult Education and Bicentennial Park. Retention of the existing and expansion of future transit routes is dependent on transit ridership demand and available funding.

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Existing plus Project Traffic Conditions scenario. These warrants are found in Appendix J. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue is projected to satisfy the peak hour signal warrant during both peak periods.

Based on the signal warrant and engineering judgement, signalization of the intersection of Sunnyside Avenue and Shepherd Avenue is not recommended. It is worth noting that the CA MUTCD states "satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal." Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 1, 4 and 7, as applicable, be conducted for this intersection.

Safe Routes to School

Kindergarten through 12th grade students from the Project will be served by the Clovis Unified School District (CUSD). The Clovis Unified School District provides transportation for students who live in excess of an established radius zone. The zone is a radius of 1.00 mile for grades Kindergarten through 6th and 2.50 miles for grades 7th through 12th.

Based on the attendance area boundaries at the time of the preparation of this TIA, elementary school students residing within the Project site would attend Woods Elementary School located on the southwest corner of Clovis Avenue and Teague Avenue. Woods Elementary School is located 0.25 and 0.50 miles from the nearest and farthest future home on the Project site. Therefore, it is anticipated that elementary school students residing within the Project site will need to walk, bike or be driven to school.

The most direct path from the Project site to the Woods Elementary School campus can begin from the intersection of Clovis Avenue and Riordan Avenue. The intersection of Clovis Avenue and Riordan Avenue is controlled by a one-way stop on Riordan Avenue and contains unmarked crosswalks on all approaches. Students may proceed to cross Riordan Avenue along the east side of Clovis Avenue and continue south along the east side of Clovis Avenue toward the intersection of Clovis Avenue and Teague Avenue. The intersection of Clovis Avenue and Teague Avenue is signalized and contains marked crosswalks on all approaches. Students may proceed to cross Clovis Avenue along the south side of Teague Avenue and continue west or south until reaching a campus entrance.

Based on the attendance area boundaries at the time of the preparation of this TIA, middle school students residing within the Project site would attend Alta Sierra Intermediate School located on the southeast corner of Peach Avenue and Teague Avenue. Alta Sierra Intermediate School is located 1.10 and 1.30 miles from the nearest and farthest future home on the Project site. Therefore, it is anticipated that middle school students residing within the Project site will need to walk, bike or be driven to school.

The most direct path from the Project site to the Alta Sierra Intermediate School campus can begin from the intersection of Clovis Avenue and Riordan Avenue. The intersection of Clovis Avenue and Riordan Avenue is controlled by a one-way stop on Riordan Avenue and contains unmarked crosswalks on all approaches. Students may proceed to cross Riordan Avenue along the east side of Clovis Avenue and continue south along the east side of Clovis Avenue toward the intersection of Clovis Avenue and Teague Avenue. The intersection of Clovis Avenue and Teague Avenue is signalized and contains marked crosswalks on all approaches. Students may proceed to cross Clovis Avenue along the south side of Teague Avenue and continue west toward the intersection of Minnewawa Avenue and Teague Avenue. The intersection of Minnewawa Avenue and Teague Avenue is signalized and contains marked crosswalks on all approaches. Students pay proceed to cross Minnewawa Avenue along the south side of Teague Avenue and continue west until reaching a campus entrance.

Based on the attendance area boundaries at the time of the preparation of this TIA, high school students residing within the Project site would attend Buchanan High School located on the southwest corner of Minnewawa Avenue and Teague Avenue. Buchanan High School is located 0.86 and 1.08 miles from the nearest and farthest future home on the Project site. Therefore, it is anticipated that high school students residing within the Project site will need to walk, bike, drive or be driven to school.

The most direct path from the Project site to the Buchanan High School campus can begin from the intersection of Clovis Avenue and Riordan Avenue. The intersection of Clovis Avenue and Riordan Avenue is controlled by a one-way stop on Riordan Avenue and contains unmarked crosswalks on all approaches. Students may proceed to cross Riordan Avenue along the east side of Clovis Avenue and continue south along the east side of Clovis Avenue toward the intersection of Clovis Avenue and Teague Avenue. The intersection of Clovis Avenue and Teague Avenue is signalized and contains marked crosswalks on all approaches. Students may proceed to cross Clovis Avenue along the south side of Teague Avenue and continue west toward the intersection of Minnewawa Avenue and Teague Avenue. The intersection of Minnewawa Avenue and Teague Avenue is signalized and contains marked crosswalks on all approaches. Students pay proceed to cross Minnewawa Avenue along the south side of Teague Avenue and continue west or south until reaching a campus entrance.

Existing plus Project Roadway Network

The Existing plus Project Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing Traffic Conditions scenario.

Results of Existing plus Project Level of Service Analysis

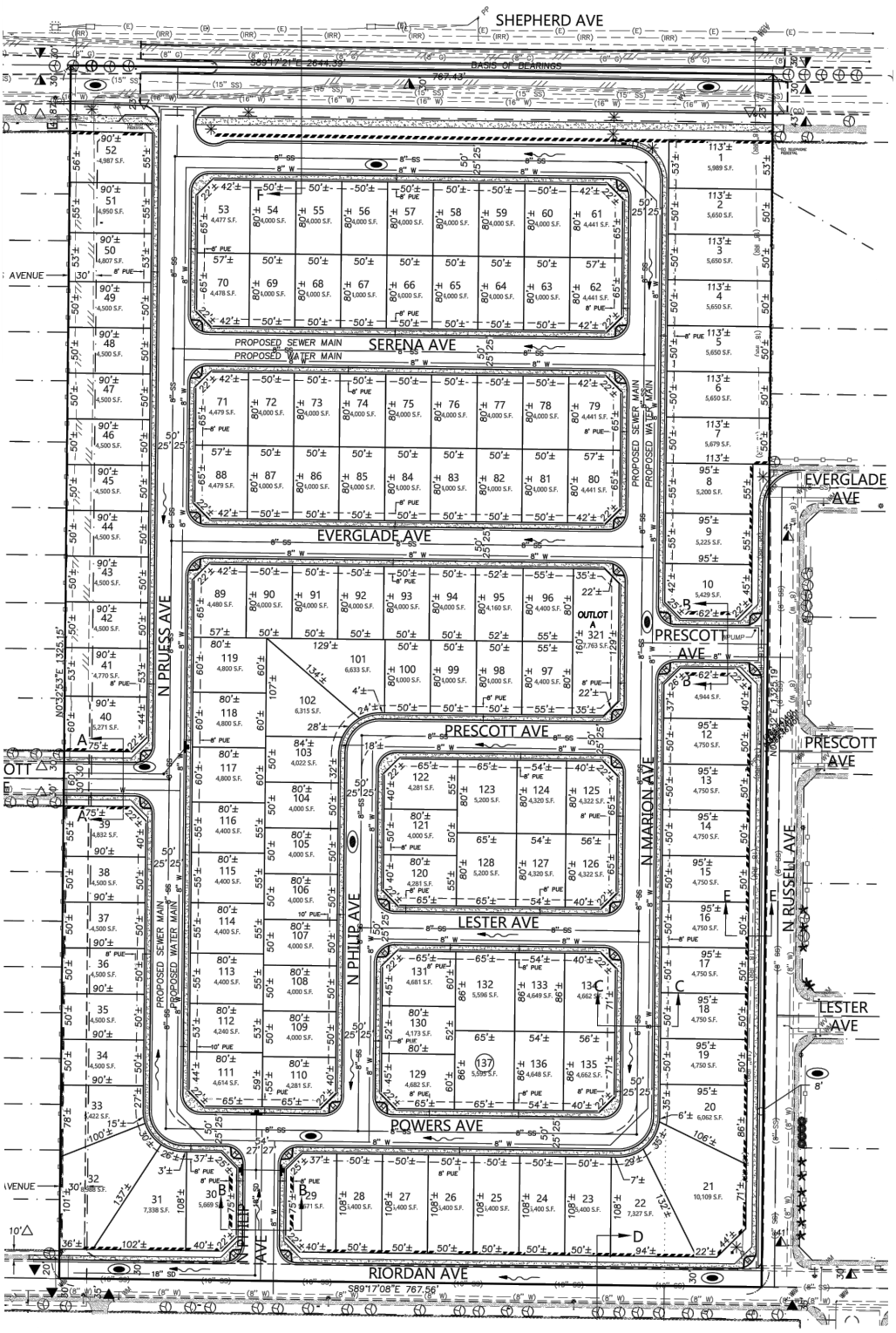
The Existing plus Project Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing Traffic Conditions scenario. Figure 5 illustrates the Existing plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project Traffic Conditions scenario are provided in Appendix F. Table III presents a summary of the Existing plus Project peak hour LOS at the study intersections.

At present, all study intersections are projected to operate at an acceptable LOS during both peak periods.

Table III: Existing plus Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7-9) Peak Hour*		*PM (4-6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Clovis Avenue / Shepherd Avenue	Signalized	10.7	B	11.6	B
2	Preuss Avenue / Shepherd Avenue	One-Way Stop	13.1	B	13.3	B
3	Sunnyside Avenue / Shepherd Avenue	All-Way Stop	29.3	D	17.5	C
4	Clovis Avenue / Riordan Avenue	One-Way Stop	14.2	B	14.6	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.



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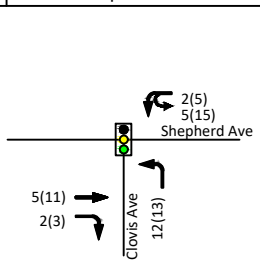
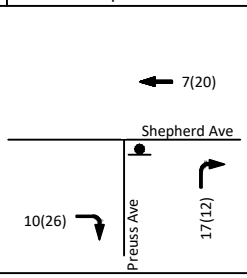
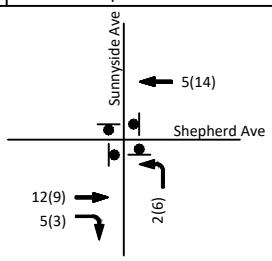
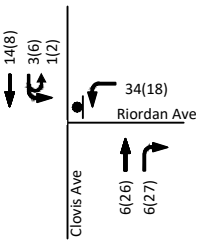
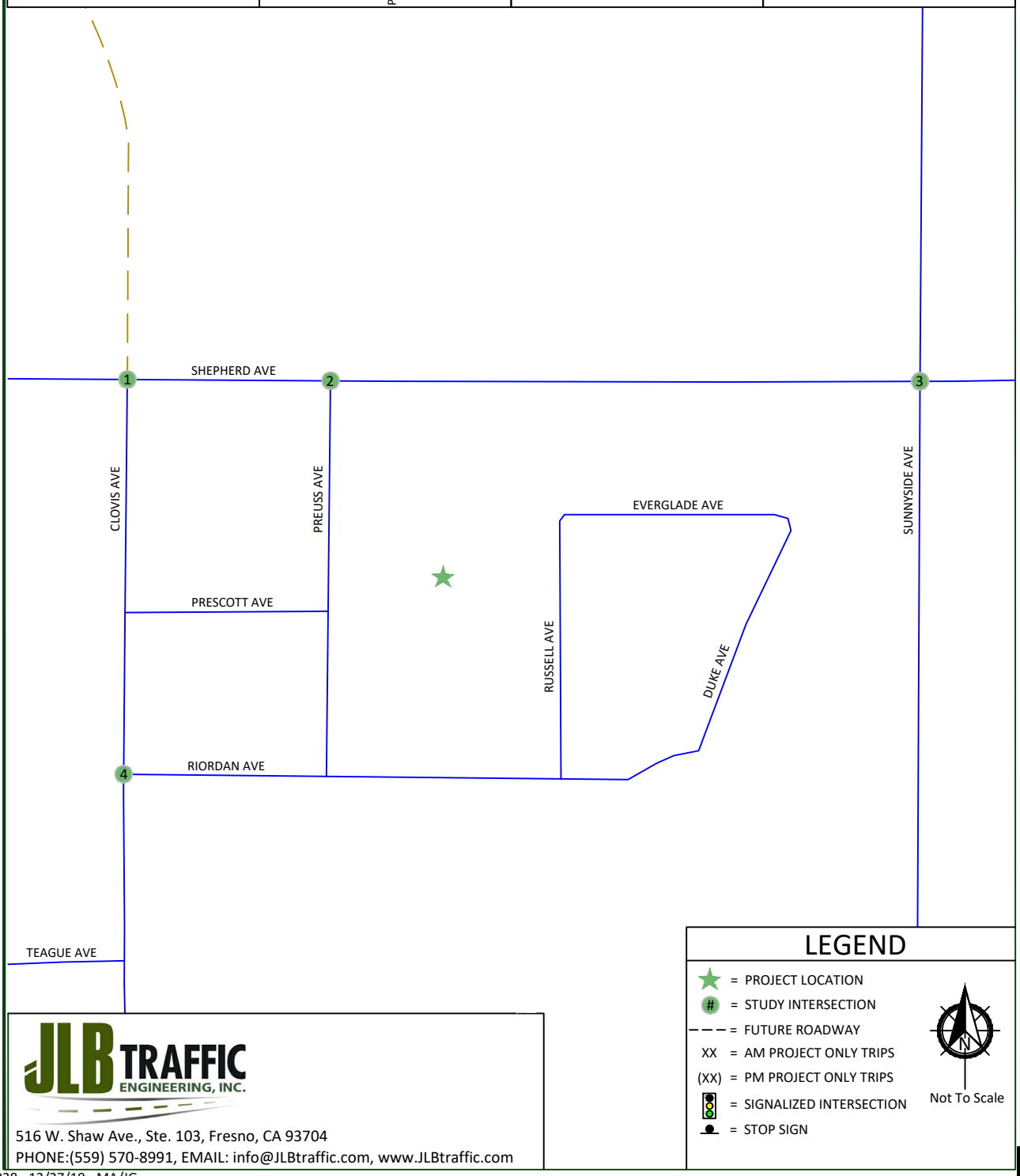
Not To Scale

TT 6263 - City of Clovis
2019 Project Only Trips

Figure 4

1. Clovis Ave & Shepherd Ave	2. Preuss Ave & Shepherd Ave	3. Sunnyside Ave & Shepherd Ave	4. Clovis Ave & Riordan Ave
			



LEGEND

- ★ = PROJECT LOCATION
- # = STUDY INTERSECTION
- – – – = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS
- = SIGNALIZED INTERSECTION
- = STOP SIGN

N

Not To Scale

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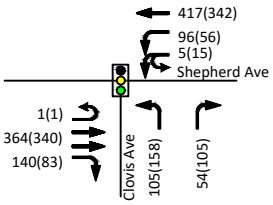
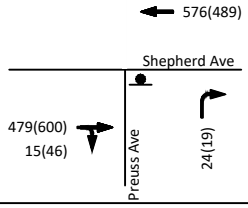
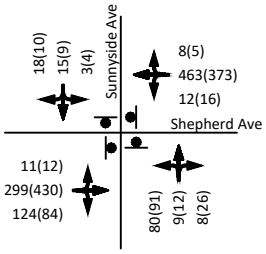
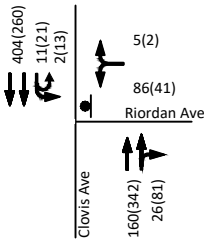
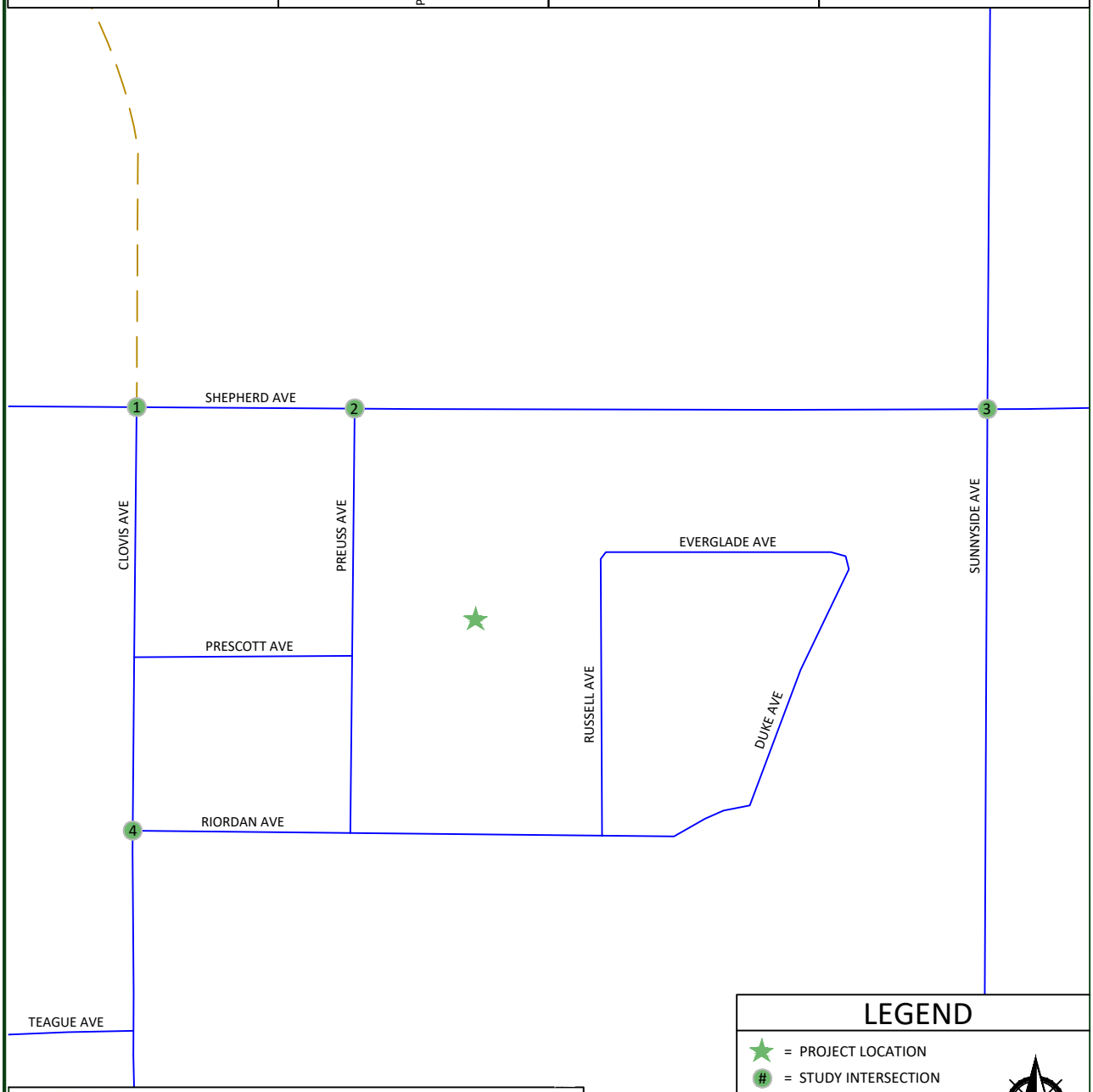
TT 6263 - City of Clovis
Existing plus Project - Traffic Volumes, Geometrics and Controls

Figure 5

AGENDA ITEM NO.2

1. Clovis Ave & Shepherd Ave	2. Preuss Ave & Shepherd Ave	3. Sunnyside Ave & Shepherd Ave	4. Clovis Ave & Riordan Ave
			



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Near Term plus Project Traffic Conditions

Description of Approved and Pipeline Projects

Approved and Pipeline Projects consist of developments that are either under construction, built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency or responsible agencies have knowledge of. The City of Clovis, City of Fresno, County of Fresno and Caltrans staff were consulted throughout the preparation of this TIA regarding approved and/or known projects that could potentially impact the study intersections. JLB staff conducted a reconnaissance of the surrounding area to confirm the Near Term Projects. Subsequently, it was agreed that the projects listed in Table IV were approved, near approval, or in the pipeline within the proximity of the proposed Project.

The trip generation listed in Table IV is that which is anticipated to be added to the streets and highways by these projects between the time of the preparation of this report and five years from 2019. As shown in Table IV, the total trip generation for the Near Term Projects is 62,945 daily trips, 5,034 AM peak hour trips and 6,491 PM peak hour trips. Figure 6 illustrates the location of the approved, near approval, or pipeline projects and their combined trip assignment to the study intersections and segments under the Near Term plus Project Traffic Conditions scenario.

Table IV: Near Term Projects' Trip Generation

Approved Project Location	*Approved or Pipeline Project Name*	*Daily Trips*	*AM Peak Hour*	*PM Peak Hour*
A	TT 5546 (portion of)[1]	123	10	13
B	TT 5550 (portion of)[1]	66	5	7
C	TT 5720/A (portion of)[1]	94	7	10
D	TT 6109 (portion of)[2]	2,105	165	221
E	TT 6128 (portion of)[1]	198	16	21
F	TT 6134A[1]	132	10	14
G	TT 6145 (portion of)[1]	500	39	52
H	TT 6154[1]	897	70	94
I	TT 6180[1]	557	44	58
J	TT 6190 (portion of)[2]	255	20	27
K	TT 6200[1]	5,390	423	565
L	Clovis Community Medical Center Expansion[2]	30,008	1,622	2,652
M	Harlan Ranch Commerical[1]	4,687	105	407
N	Locan 35[2]	1,878	147	197
O	Research & Technology Park[3]	16,055	2,351	2,153
Total Approved and Pipeline Project Trips		**62,945**	**5,034**	**6,491**

Note: 1 = Trip Generation prepared by JLB Traffic Engineering, Inc. based on readily available information
2 = Trip Generation based on JLB Traffic Engineering, Inc. Traffic Impact Analysis Report
3 = Trip Generation based on Peters Engineering Group Traffic Impact Analysis Report

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Near Term plus Project Traffic Conditions scenario. These warrants are found in Appendix J. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue is projected to satisfy the peak hour signal warrant during both peak periods.

Based on the signal warrants and engineering judgement, signalization of the intersection of Sunnyside Avenue and Shepherd Avenue is recommended, especially since this intersection is projected to exceed its LOS threshold during both peak periods and the addition of lanes is not projected to improve the LOS to an acceptable level.

Near Term plus Project Roadway Network

The Near Term plus Project Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing plus Project Traffic Conditions scenario. Furthermore, this scenario assumes that a portion of Clovis Avenue will exist north of Shepherd Avenue. Figure 7 illustrates the assumed intersection geometrics and traffic controls for the intersection of Clovis Avenue and Shepherd Avenue.

Results of Near Term plus Project Level of Service Analysis

The Near Term plus Project Traffic Conditions scenario assumes that a portion of Clovis Avenue will exist north of Shepherd Avenue. Figure 7 illustrates the Near Term plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Near Term plus Project Traffic Conditions scenario are provided in Appendix G. Table V presents a summary of the Near Term plus Project peak hour LOS at the study intersections.

Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue is projected to exceed its LOS threshold during both peak periods. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.

- Sunnyside Avenue / Shepherd Avenue
  - Add an eastbound left-turn lane;
  - Modify the eastbound left-through-right lane to a through-right lane;
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through-right lane;
  - Signalize the intersection with protective left-turn phasing in all directions; and
  - Modify the intersection to accommodate the added lanes.

Between the Existing Traffic Conditions scenario and the Near Term plus Project Traffic Conditions scenario, the Project accounts for 2.0 percent of the daily trips, 2.0 percent of the AM peak hour trips and 2.1 percent of the PM peak hour trips of growth of traffic, while the rest of the growth is attributable to the Near Term Projects. Therefore, the mitigation measures presented under this scenario may not be necessary upon completion of the proposed Project. However, if all of the Near Term Projects are developed close to the completion date of the proposed Project, the detailed recommended improvements presented above may be necessary in order to improve the LOS to an acceptable threshold.

Table V: Near Term plus Project Intersection LOS Results

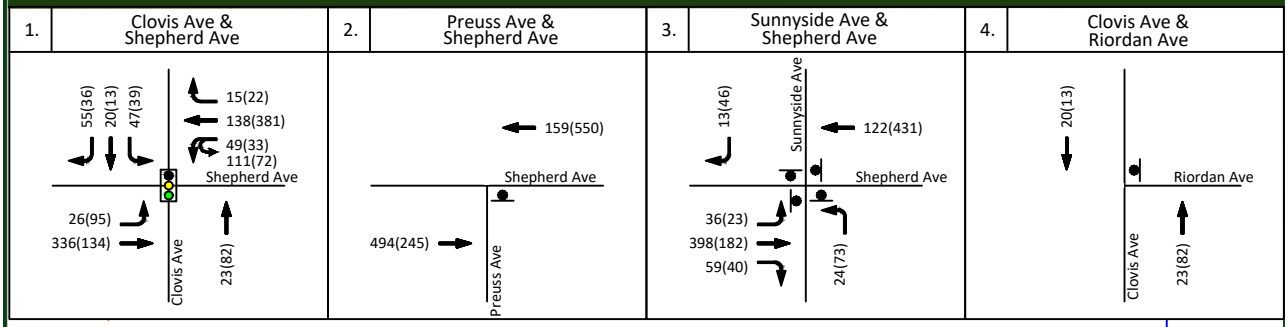
ID	*Intersection*	*Intersection Control*	*AM (7-9) Peak Hour*		*PM (4-6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Clovis Avenue / Shepherd Avenue	Signalized	22.0	C	26.3	C
2	Preuss Avenue / Shepherd Avenue	One-Way Stop	25.9	D	17.1	C
3	Sunnyside Avenue / Shepherd Avenue	All-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	31.3	C	26.5	C
4	Clovis Avenue / Riordan Avenue	One-Way Stop	15.0	C	16.1	C

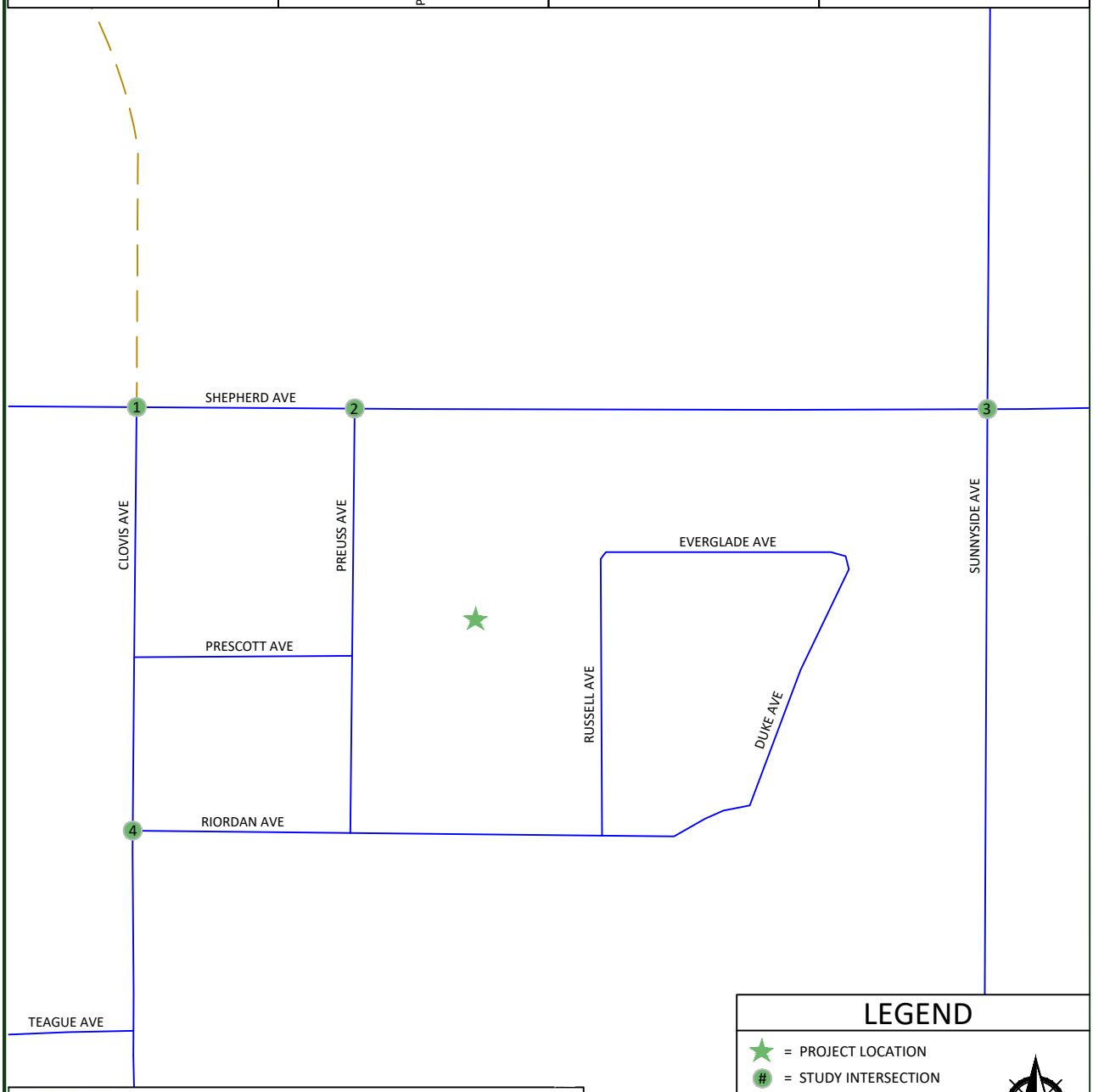
Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

TT 6263 - City of Clovis
Near Term Projects' Trip Assignment

Figure 6

AGENDA ITEM NO.2





LEGEND

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- – – – = FUTURE ROADWAY
- XX = AM NEAR TERM TRIPS
- (XX) = PM NEAR TERM TRIPS
- = SIGNALIZED INTERSECTION
- = STOP SIGN

N

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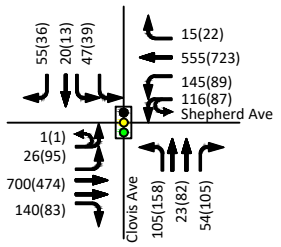
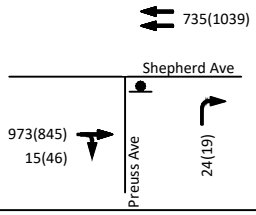
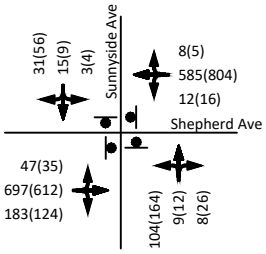
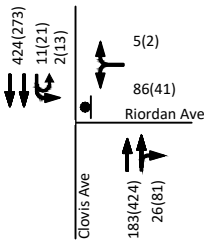
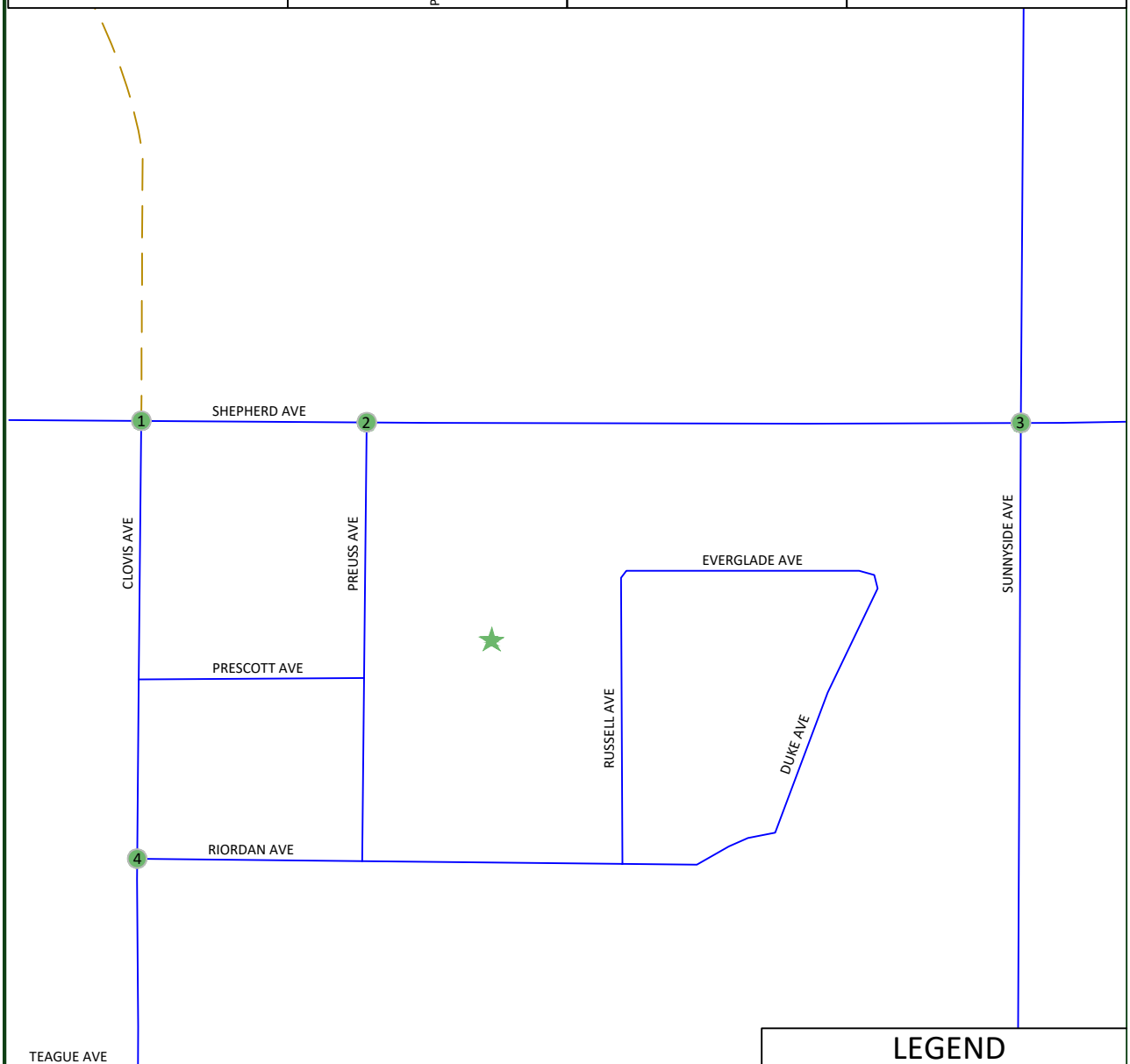
TT 6263 - City of Clovis
Near Term plus Project - Traffic Volumes, Geometrics and Control

Figure 7

AGENDA ITEM NO.2

1. Clovis Ave & Shepherd Ave	2. Preuss Ave & Shepherd Ave	3. Sunnyside Ave & Shepherd Ave	4. Clovis Ave & Riordan Ave
			



LEGEND

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- – – – = FUTURE ROADWAY
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Cumulative Year 2039 plus Project Traffic Conditions

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Cumulative Year 2039 plus Project Traffic Conditions scenario. These warrants are found in Appendix J. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue is projected to satisfy the peak hour signal warrant during both peak periods, while the intersection of Riordan Avenue and Clovis Avenue is projected to satisfy the peak hour signal warrant during the AM peak period only.

Based on the signal warrants and engineering judgement, signalization of the intersections of Sunnyside Avenue and Shepherd Avenue is recommended, especially since this intersection is projected to exceed its LOS threshold during both peak periods and the addition of lanes is not projected to improve the LOS to an acceptable level. However, signalization of the intersection of Riordan Avenue and Clovis Avenue is not recommended. It is worth noting that the CA MUTCD states “satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal.” In this case, it is recommended that Riordan Avenue be limited to left-in, right-in and right-out movements.

Cumulative Year 2039 plus Project Roadway Network

The Cumulative Year 2039 plus Project Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing plus Project Traffic Conditions scenario. Furthermore, this scenario assumes that Clovis Avenue exists between Copper Avenue and Shepherd Avenue. Considering the potential changes in the existing roadway network, it is projected that travel patterns and volumes will differ from what is anticipated for the immediate Project buildout. Therefore, Figure 8 illustrates the 2039 Project Only Trips to the study intersections. Figure 9 illustrates the assumed intersection geometrics and traffic controls for this intersection under this scenario.

Results of Cumulative Year 2039 plus Project Level of Service Analysis

The Cumulative Year 2039 plus Project Traffic Conditions scenario assumes that Clovis Avenue exists between Copper Avenue and Shepherd Avenue. Figure 9 illustrates the Cumulative Year 2039 plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2039 plus Project Traffic Conditions scenario are provided in Appendix H. Table VI presents a summary of the Cumulative Year 2039 plus Project peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to exceed their LOS threshold during both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Clovis Avenue / Shepherd Avenue
  - Open the second westbound through lane with a receiving lane west of Clovis Avenue;
  - Open the second northbound left-turn lane;
  - Add a second southbound through lane;
  - Modify the traffic signals to accommodate the added lanes;
  - Implement overlap phasing of the southbound left-turn with the westbound right-turn; and
  - Prohibit southbound to northbound U-turn movements.
- Preuss Avenue / Shepherd Avenue
  - Modify the eastbound through-right lane to a through lane;
  - Add a second eastbound through lane with a receiving lane east of Preuss Avenue;
  - Add an eastbound right-turn lane; and
  - Modify the intersection to accommodate the added lanes.
- Sunnyside Avenue / Shepherd Avenue
  - Add an eastbound left-turn lane;
  - Add an eastbound through lane with a receiving lane east of Sunnyside Avenue;
  - Modify the eastbound left-through-right lane to a through-right lane;
  - Add a westbound left-turn lane;
  - Add a westbound through lane with a receiving lane west of Sunnyside Avenue;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add dual northbound left-turn lanes;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through-right lane;
  - Signalize the intersection with protective left-turn phasing in all directions; and
  - Modify the intersection to accommodate the added lanes.
- Riordan Avenue / Clovis Avenue
  - Modify the Riordan Avenue full access to Clovis Avenue to limited left-in, right-in and right-out access only. To accomplish this, it is recommended that a raised median island be extended across the intersection along the center of Clovis Avenue. With the extension of the raised median island, westbound left-turns would need to be redirected. Westbound left-turning traffic from Riordan Avenue would need to make a right-turn onto Clovis Avenue, proceed to make a legal northbound to southbound U-turn on Clovis Avenue, and then continue southbound on Clovis Avenue past Riordan Avenue.

Table VI: Cumulative Year 2039 plus Project Intersection LOS Results

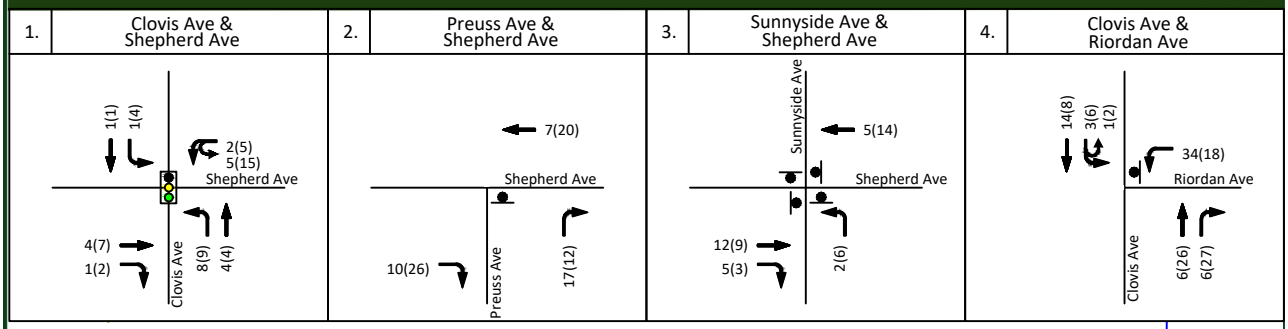
ID	Intersection	Intersection Control	AM (7-9) Peak Hour		PM (4-6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Clovis Avenue / Shepherd Avenue	Signalized	**66.2**	**E**	**96.9**	**F**
		Signalized (Mitigated)	45.8	D	50.8	D
2	Preuss Avenue / Shepherd Avenue	One-Way Stop	**39.8**	**E**	**79.2**	**F**
		One-Way Stop (Mitigated)	17.0	C	22.5	C
3	Sunnyside Avenue / Shepherd Avenue	All-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	23.9	C	28.5	C
4	Clovis Avenue / Riordan Avenue	One-Way Stop	**41.8**	**E**	**54.0**	**F**
		One-Way Stop (Mitigated)	11.4	B	12.9	B

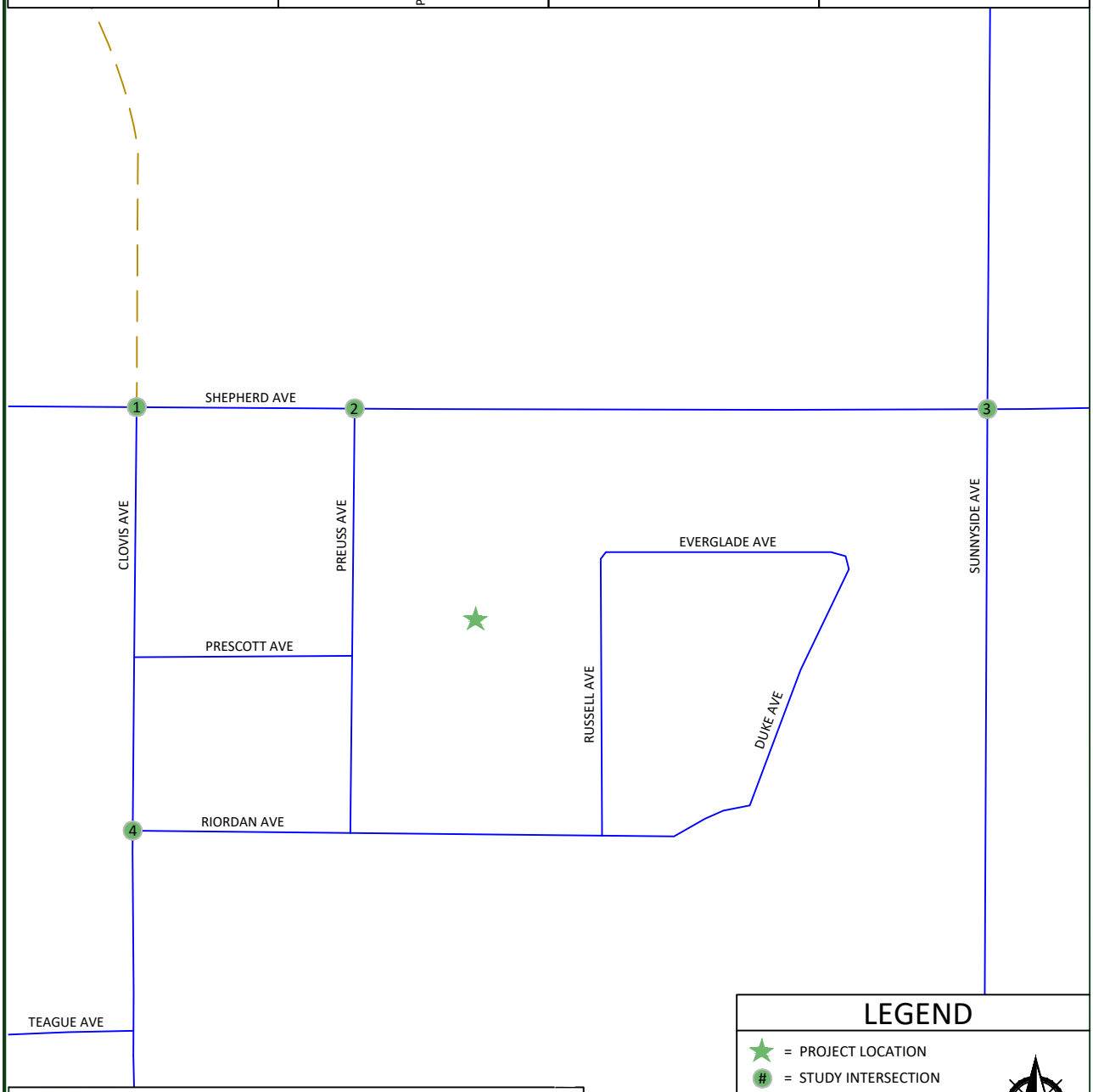
Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.
LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

TT 6263 - City of Clovis
2039 Project Only Trips (with Shepherd Avenue Access)

Figure 8

AGENDA ITEM NO.2





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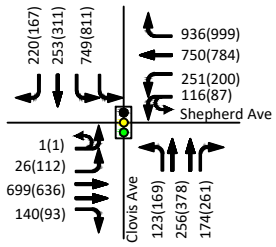
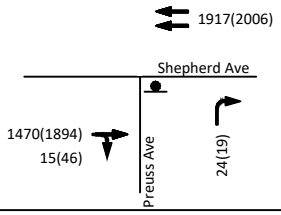
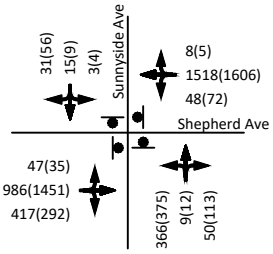
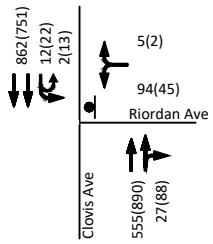
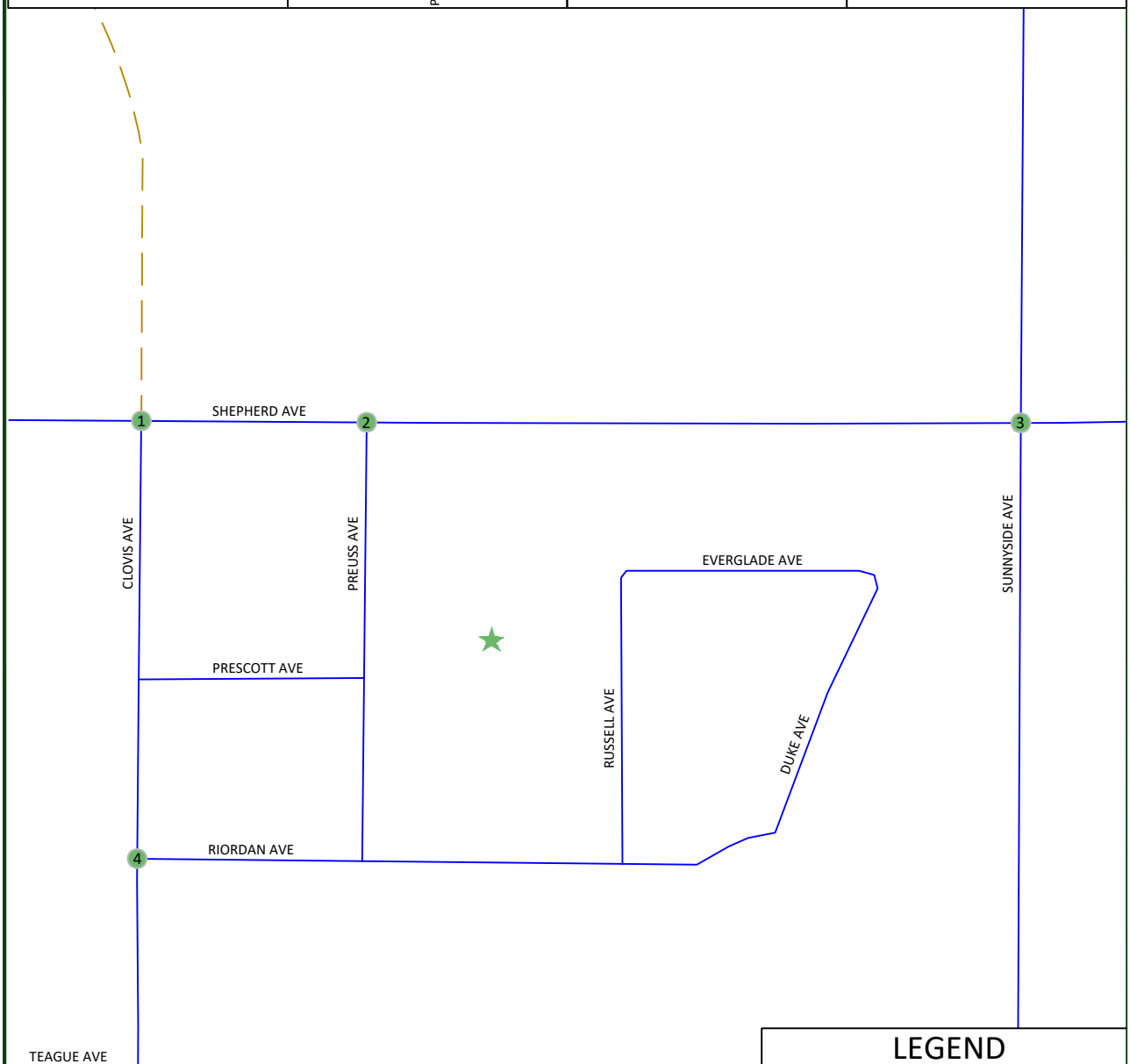
TT 6263 - City of Clovis
Cumulative Year 2039 plus Project - Traffic Volumes, Geometrics a

Figure 9

1. Clovis Ave & Shepherd Ave	2. Preuss Ave & Shepherd Ave	3. Sunnyside Ave & Shepherd Ave	4. Clovis Ave & Riordan Ave
			



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Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions

Traffic Signal Warrants

Peak hour traffic signal warrants, as appropriate, were prepared for the unsignalized intersections in the Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions scenario. These warrants are found in Appendix J. The effects of right-turning traffic from the minor approach onto the major approach were taken into account using engineering judgement pursuant to the CA MUTCD guidelines for the preparation of traffic signal warrants. Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue is projected to satisfy the peak hour signal warrant during both peak periods, while the intersection of Riordan Avenue and Clovis Avenue is projected to satisfy the peak hour signal warrant during the AM peak period only.

Based on the signal warrants and engineering judgement, signalization of the intersections of Sunnyside Avenue and Shepherd Avenue is recommended, especially since this intersection is projected to exceed its LOS threshold during both peak periods and the addition of lanes is not projected to improve the LOS to an acceptable level. However, signalization of the intersection of Riordan Avenue and Clovis Avenue is not recommended. It is worth noting that the CA MUTCD states “satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic signal.” Therefore, it is recommended that prior to the installation of a traffic signal, investigation of CA MUTCD warrants 1, 4 and 7, as applicable, be conducted for this intersection.

Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Roadway Network

The Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Cumulative Year 2039 plus Project Traffic Conditions scenario. However, this scenario assumes that the existing Preuss Avenue limited access to Shepherd Avenue is closed off. Figure 10 illustrates the 2039 Project Only Trips (No Shepherd Avenue Access) to the study intersections.

Results of Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Level of Service Analysis

The Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions scenario assumes that the Project has no access to Shepherd Avenue. Figure 11 illustrates the Cumulative Year 2039 plus Project (No Shepherd Avenue Access) turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions scenario are provided in Appendix I. Table VII presents a summary of the Cumulative Year 2039 plus Project (No Shepherd Avenue Access) peak hour LOS at the study intersections.

Under this scenario, all study intersections are projected to exceed their LOS threshold during both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.

- Clovis Avenue / Shepherd Avenue
  - Open the second westbound through lane with a receiving lane west of Clovis Avenue;
  - Open the second northbound left-turn lane;
  - Add a second southbound through lane;
  - Modify the traffic signals to accommodate the added lanes;
  - Implement overlap phasing of the southbound left-turn with the westbound right-turn; and
  - Prohibit southbound to northbound U-turn movements.
- Sunnyside Avenue / Shepherd Avenue
  - Add an eastbound left-turn lane;
  - Add an eastbound through lane with a receiving lane east of Sunnyside Avenue;
  - Modify the eastbound left-through-right lane to a through-right lane;
  - Add a westbound left-turn lane;
  - Add a westbound through lane with a receiving lane west of Sunnyside Avenue;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add dual northbound left-turn lanes;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane;
  - Modify the southbound left-through-right lane to a through-right lane;
  - Signalize the intersection with protective left-turn phasing in all directions; and
  - Modify the intersection to accommodate the added lanes.
- Riordan Avenue / Clovis Avenue
  - Modify the Riordan Avenue full access to Clovis Avenue to limited left-in, right-in and right-out access only. To accomplish this, it is recommended that a raised median island be extended across the intersection along the center of Clovis Avenue. With the extension of the raised median island, westbound left-turns would need to be redirected. Westbound left-turning traffic from Riordan Avenue would need to make a right-turn onto Clovis Avenue, proceed to make a legal northbound to southbound U-turn on Clovis Avenue, and then continue southbound on Clovis Avenue past Riordan Avenue.

Table VII: Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7-9) Peak Hour*		*PM (4-6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Clovis Avenue / Shepherd Avenue	Signalized	**65.5**	**E**	**94.7**	**F**
		Signalized (Mitigated)	44.7	D	49.3	D
2	Preuss Avenue / Shepherd Avenue	Does Not Exist	N/A	N/A	N/A	N/A
3	Sunnyside Avenue / Shepherd Avenue	All-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Signalized (Mitigated)	24.2	C	28.2	C
4	Clovis Avenue / Riordan Avenue	One-Way Stop	**49.5**	**E**	**101.6**	**F**
		One-Way Stop (Mitigated)	11.5	B	13.0	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.
LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

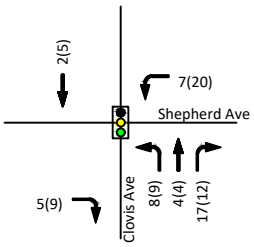
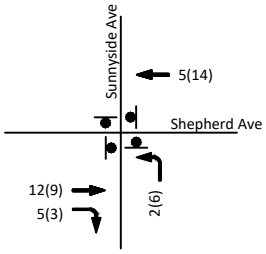
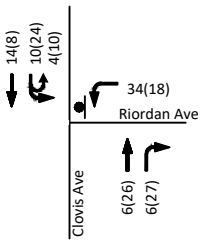
Project Only Trips to State Facilities

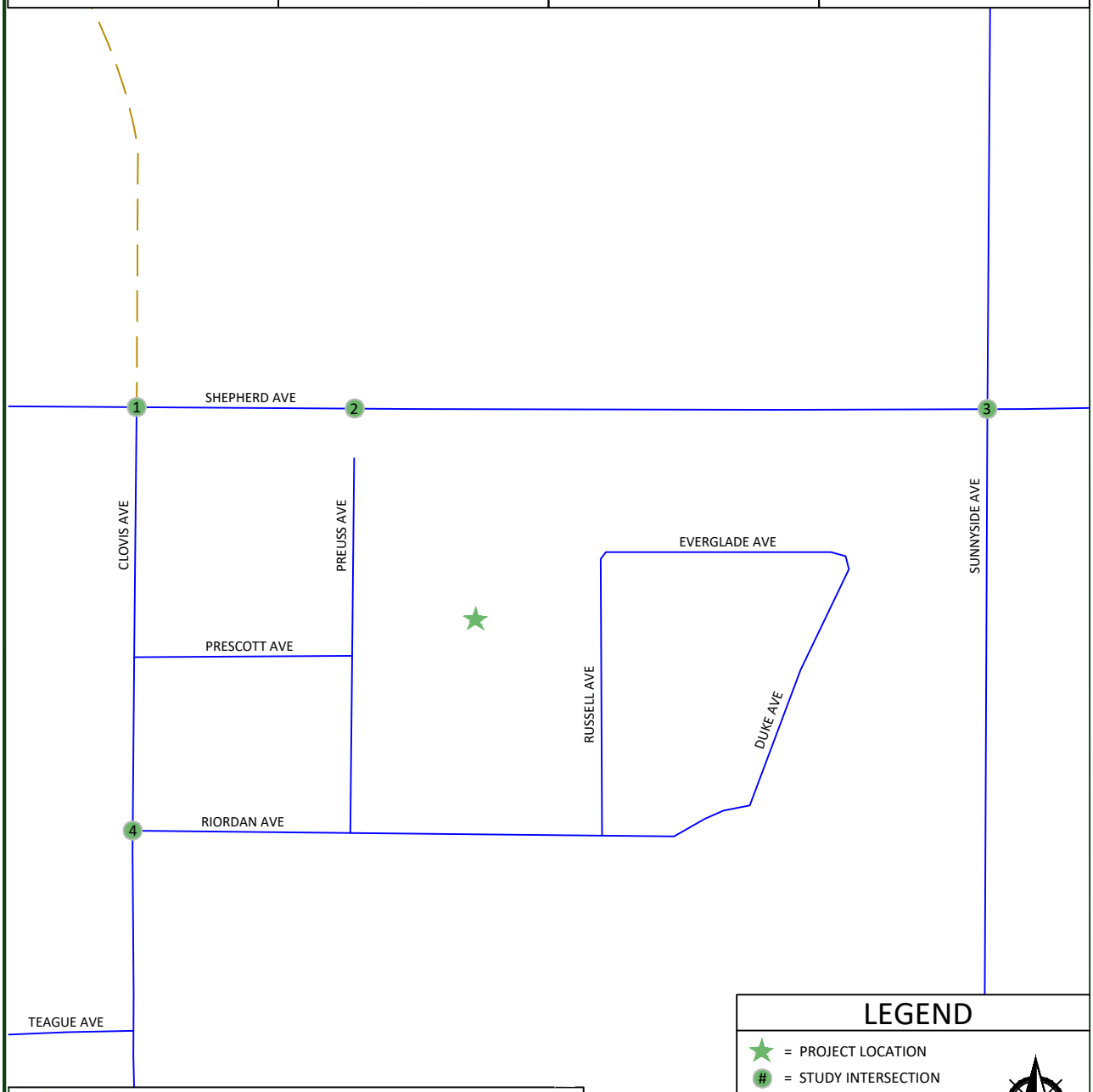
The Project Only Trips to the interchange of State Route 168 and Clovis Avenue are illustrated in Figure 12.

TT 6263 - City of Clovis
2039 Project Only Trips (No Shepherd Avenue Access)

Figure 10

AGENDA ITEM NO.2

1. Clovis Ave & Shepherd Ave	2. Preuss Ave & Shepherd Ave	3. Sunnyside Ave & Shepherd Ave	4. Clovis Ave & Riordan Ave
			



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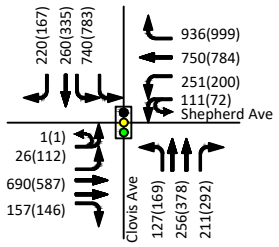
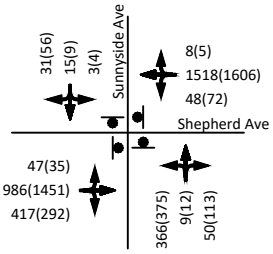
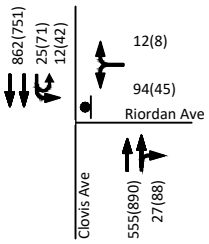
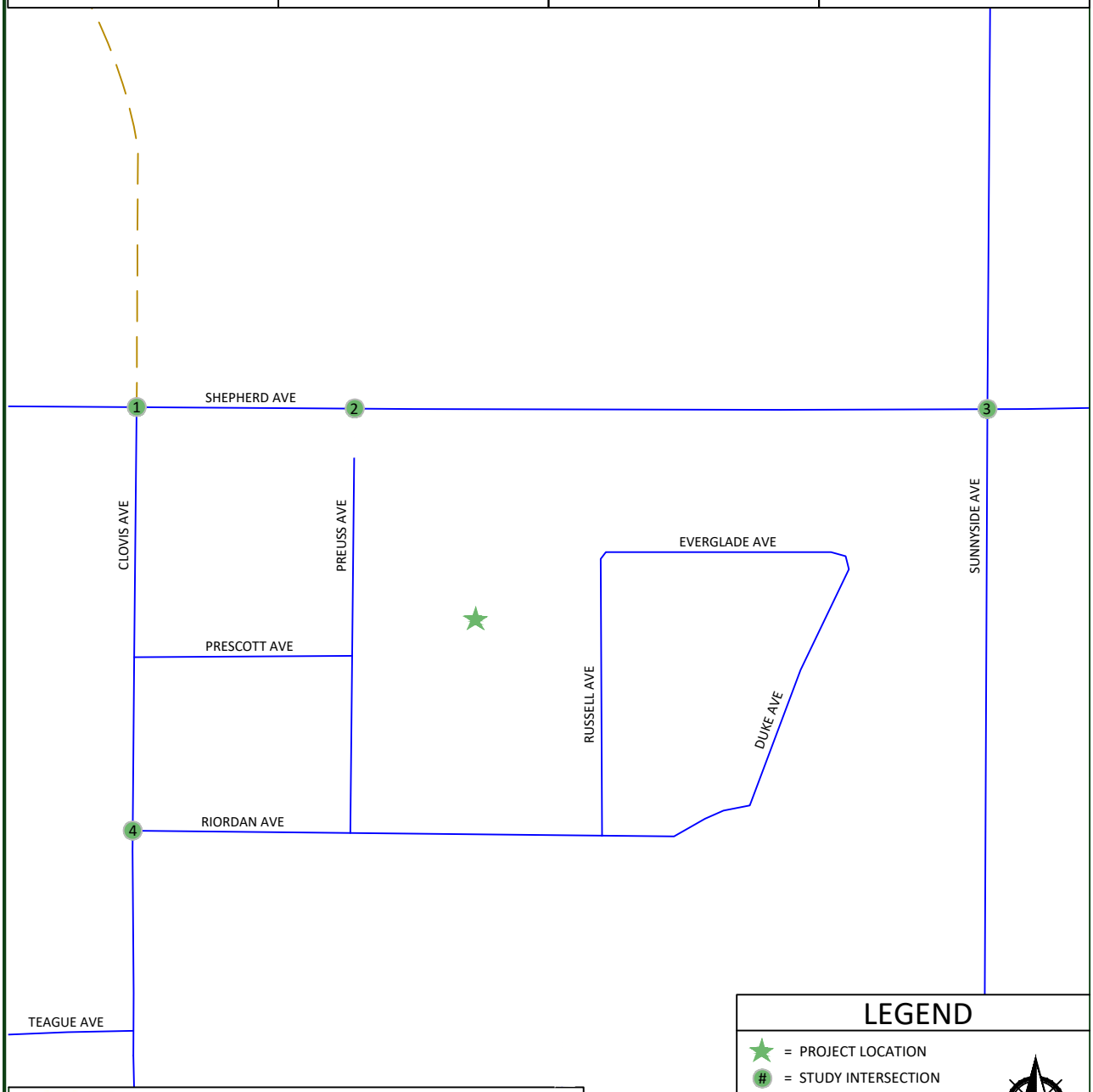
TT 6263 - City of Clovis
Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Volumes, Geometrics and Controls

Figure 11

AGENDA ITEM NO.2

1. Clovis Ave & Shepherd Ave	2. Preuss Ave & Shepherd Ave	3. Sunnyside Ave & Shepherd Ave	4. Clovis Ave & Riordan Ave
			



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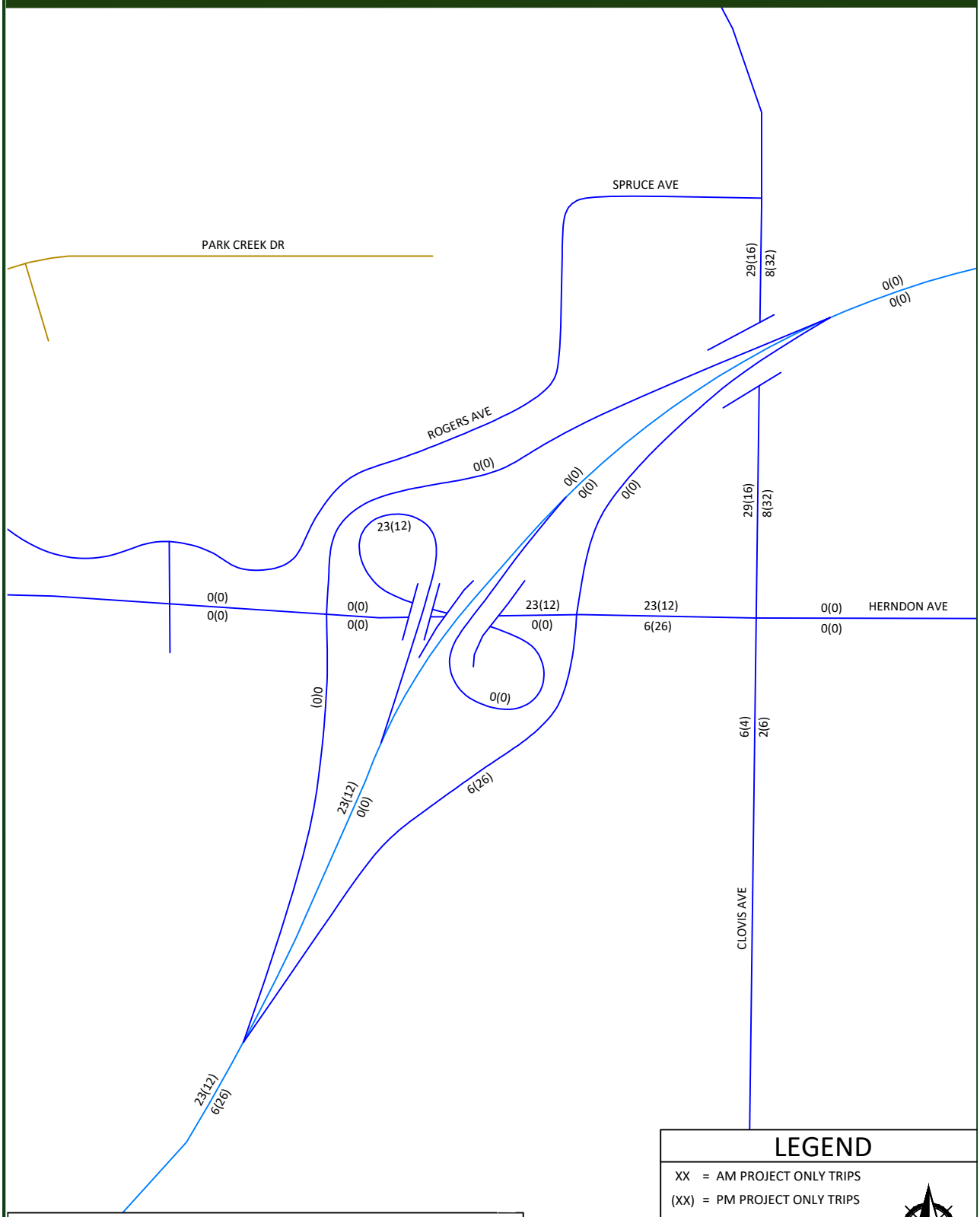
TT 6263 - City of Clovis
State Route 168 at Clovis Avenue Interchange - Project Only Trips

Figure 12



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Comparison Between Cumulative Year 2039 Scenarios

Based on the LOS results of the study intersections and Sim Traffic queuing analysis, the introduction of the Preuss Avenue (right-in, right-out) access to the south side of Shepherd Avenue will not have a negative impact to the operations of the intersections of Clovis Avenue and Shepherd Avenue or Sunnyside Avenue and Shepherd Avenue. Under both Cumulative Year 2039 scenarios, the number and type of lanes and signal phasing plan needed for the intersection of Clovis Avenue and Shepherd Avenue and Sunnyside Avenue and Shepherd Avenue would be the same.

The main differences between the two Cumulative Year 2039 scenarios are associated with projected left-turn and right-turn lane storage needs and the need for an eastbound right-turn lane at the intersection of Preuss Avenue and Shepherd Avenue.

- Differences in the projected storage needs at the intersection of Shepherd Avenue and Clovis Avenue for left-turn and right-turn lanes are minor. In some cases, the Cumulative Year 2039 plus Project Traffic Conditions scenario yields slightly shorter storage length requirements while in other cases it yields slightly longer storage length requirements when compared to the Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions scenario. Since the queuing projections are heavily based on the Cumulative Year 2039 traffic forecasting from the Fresno COG Model, it is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.
- With the retention of the Preuss Avenue (right-in, right-out) access to Shepherd Avenue, it is recommended that an eastbound right-turn lane with a storage capacity of 125 feet be added. This will ensure that inbound traffic to Tract 6263 moves out of the number two eastbound through lane and into the right-turn lane to decelerate as they approach the intersection. In doing so, eastbound right-turning traffic would have little to no effect on the traffic operations of Shepherd Avenue.

Shepherd Avenue Roadway Classification

Per the City of Clovis General Plan, expressways are intended to carry traffic more efficiently over long distances at slightly higher speeds. Access to expressways is typically restricted to signalized intersections with arterial and collector streets which result a reduction in vehicular conflict points. Expressways are planned to be developed with two to three travel lanes in each direction of travel and are separated by a raised median. Portions of Temperance Avenue, Shepherd Avenue and Herndon Avenue within the City of Clovis are classified as expressways.

The City of Clovis in determining whether to approve a general plan amendment to classify the segment of eastbound Shepherd Avenue from an Expressway to an "Expressway with Limited Access" should consider the following: Should eastbound Shepherd Avenue between Clovis Avenue and Sunnyside Avenue be as efficient as possible for vehicular motorists or if providing a third access point to and from the residential community bounded by Shepherd Avenue to the north, Dry Creek to the east and southeast, and Clovis Avenue to the west is more important. Table VIII below provides simple qualitative pros and cons for each of these two scenarios for the City's consideration:

Table VIII: Pros and Cons of Allowing Right-In and Right-out Access to Shepherd Avenue

Facility Type	*Volume Capacity*	*Least Vehicular Miles Travelled*	*Reduction in Vehicular to Pedestrian Conflict Points*	*Increases Traffic to Sunnyside Avenue*	*Ease of Access*
Expressway	Better	Worse	Better	Not Likely	Worse
Expressway with Limited Access	Worse	Better	Worse	Likely	Better

Clovis Avenue at Riordan Avenue Queuing Differences

A comparison of the projected westbound queuing from Riordan Avenue at the intersection with Clovis Avenue was conducted for the Cumulative Year 2039 as requested by City of Clovis staff under the assumption that limited access to Shepherd Avenue is approved by City Council and also under the assumption that access to Shepherd avenue is not approved by City Council. Under both of these scenarios traffic from westbound Riordan Avenue to Clovis Avenue is anticipated to be limited to right turns. With westbound traffic on Riordan Avenue limited to right turns the westbound right turn queue is projected to be a maximum of 2 to 3 vehicles for the scenario that allows access to Shepherd Avenue and a maximum of 3 to 4 vehicles for the scenario that retains the segment of Shepherd Avenue between Clovis Avenue and Sunnyside Avenue as an expressway. These anticipated queues will likely double if westbound left turns from Riordan Avenue are allowed.

Change in Projected Average Delays

A comparison of the projected average delays for the intersections of Clovis Avenue at Shepherd Avenue and Sunnyside Avenue at Shepherd is presented in Table IX. This comparison was conducted for the Cumulative Year 2039 as requested by City of Clovis staff under the assumption that limited access to Shepherd Avenue is approved by City Council and also under the assumption that access to Shepherd avenue is not approved by City Council. As can be seen in Table IX, the projected average delays are very similar to each other with less one (1) second between the average delays amongst the two scenarios. Therefore, from a LOS and Average delay to the intersections of Clovis Avenue at Shepherd Avenue and Sunnyside Avenue at Shepherd Avenue there is to a large degree no difference.

Table IX: Cumulative Year 2039 Average Delay Comparison

ID	*Intersection*	*Limited Access to Shepherd Avenue*	*AM (7-9) Peak Hour*		*PM (4-6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Clovis Avenue / Shepherd Avenue	Yes (With Proposed Future Improvements)	45.8	D	50.8	D
		No (With Proposed Future Improvements)	44.7	D	49.3	D
2	Sunnyside Avenue / Shepherd Avenue	Yes (With Proposed Future Improvements)	23.9	C	28.5	C
		No (With Proposed Future Improvements)	24.2	C	28.2	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.
LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Change in Major Street Volumes

A comparison of the projected average daily trips to the segments of 1) Clovis Avenue between Shepherd Avenue and Teague Avenue, 2) Shepherd Avenue between Clovis Avenue and Sunnyside Avenue and 3) Sunnyside Avenue between Shepherd Avenue and Teague Avenue is provided in Table X for the Cumulative Year 2039 plus Project scenarios with and without access to Shepherd Avenue. It should be noted that volumes on any given day of week can and do fluctuate and as a result the numbers contained in Table X are for planning purposes only and should not be considered fixed as drivers within the vicinity of these roadways can be expected to shift traffic patterns based on various factors such as their origin and final destination, changes in school attendance area boundaries, fastest path, and relative degrees of congestion of the major streets in the vicinity of these streets in question. Furthermore, while the Fresno COG model does not project changes in the roadways for Sunnyside Avenue between Shepherd Avenue and Teague Avenue, JLB believe that some of the residents that live in the area bounded by Clovis Avenue to the west, Shepherd Avenue to the north and Dry Creek will likely use Sunnyside Avenue more than they would if access to Shepherd Avenue were not permitted. While the magnitude of the potential increase in traffic to Sunnyside Avenue is difficult to estimate, JLB believes that based on the layout of the existing local roadways total number of future residential units and the proposed roadways within the Project, up to 200 more daily trips will likely use Sunnyside Avenue under the scenario which includes access to Shepherd Avenue. This level of increase is not projected to cause a significant LOS impact to the segment of Sunnyside Avenue.

Table X: Cumulative Year 2039 Project Segment Volumes

ID	*Segment*	*Limits*	*Access to Shepherd Avenue*	*Daily Volume*
1	Clovis Avenue	Shepherd Avenue to Teague Avenue	Yes	16,910
			No	18,040
2	Shepherd Avenue	Clovis Avenue to Sunnyside Avenue	Yes	38,650
			No	38,150
3	Sunnyside Avenue	Shepherd Avenue to Teague Avenue	Yes	9,250
			No	9,050

Queuing Analysis

Table XI provides a queue length summary for left-turn and right-turn lanes at the study intersections under all study scenarios. The queuing analyses for the study intersections are contained in the LOS worksheets for the respective scenarios. Appendix D contains the methodologies used to evaluate these intersections. Queuing analyses were completed using Sim Traffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the Synchro manual, "the 50th percentile maximum queue is the maximum back of queue on a typical cycle and the 95th percentile queue is the maximum back of queue with 95th percentile volumes." The queues shown on Table XI are the 95th percentile queue lengths for the respective lane movements.

The *Highway Design Manual* (HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. Per the HDM criteria, "tapers for right-turn lanes are usually un-necessary since the main line traffic need not be shifted laterally to provide space for the right-turn lane. If, in some rare instances, a lateral shift were needed, the approach taper would use the same formula as for a left-turn lane." Therefore, a bay taper length pursuant to the Caltrans HDM would need to be added, as necessary, to the recommended storage lengths presented in Table XI.

Based on the SimTraffic output files and engineering judgement, it is recommended that the storage capacity for the following be considered for the Cumulative Year 2039 plus Project Traffic Conditions. At the remaining approaches of the study intersections, the existing storage capacity will be sufficient to accommodate the maximum queue.

- Clovis Avenue / Shepherd Avenue
  - Consider increasing the storage capacity of the eastbound right-turn lane to 150 feet.
  - Consider setting the storage capacity of the westbound right-turn lane to 575 feet.
  - Consider setting the storage capacity of the northbound right-turn lane to 150 feet.
  - Consider setting the storage capacity of the southbound dual left-turn lanes to 400 feet.
  - Consider setting the storage capacity of the southbound right-turn lane to 150 feet.
- Preuss Avenue / Shepherd Avenue
  - Consider setting the storage capacity of the eastbound right-turn lane to 125 feet. This will ensure that inbound traffic to Tract 6263 moves out of the number two eastbound through lane and into the right-turn lane to decelerate as they approach the intersection. In doing so, eastbound right-turning traffic would have little to no effect on the traffic operations of Shepherd Avenue.
- Sunnyside Avenue / Shepherd Avenue
  - Consider setting the storage capacity of the eastbound left-turn lane to 75 feet.
  - Consider setting the storage capacity of the westbound left-turn lane to 150 feet.
  - Consider setting the storage capacity of the northbound dual left-turn lanes to 275 feet.
  - Consider setting the storage capacity of the southbound left-turn lane to 75 feet.

Table XI: Queuing Analysis

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project		Near Term plus Project		Cumulative Year 2039 plus Project		Cumulative Year 2039 plus Project (No Access)	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Clovis Avenue / Shepherd Avenue	EB Left	250	0	0	0	0	*	*	*	*	*	*
		EB Dual Lefts	250	*	*	*	*	76	58	29	79	32	32
		EB Thru	>500	113	71	124	117	382	244	295	279	312	270
		EB Thru	>500	24	0	25	17	294	66	309	285	311	268
		EB Right	50	54	44	50	48	67	46	117	116	127	128
		WB Dual Lefts	250	46	42	52	57	133	158	217	237	226	310
		WB Thru	>300	97	98	94	73	269	336	265	513	524	446
		WB Thru	*	*	*	*	*	*	*	447	867	838	938
		WB Right	*	*	*	*	*	16	19	489	593	588	648
		NB Left	250	66	80	60	99	107	158	*	*	*	*
		NB Dual Lefts	250	*	*	*	*	*	*	80	104	99	122
		NB Thru	>500	*	*	*	*	28	51	172	191	145	202
		NB Thru	>500	*	*	*	*	15	57	189	219	227	253
		NB Right	*	39	37	41	38	24	48	132	148	134	144
		SB Dual Lefts	*	*	*	*	*	35	36	398	418	437	431
		SB Thru	*	*	*	*	*	21	22	558	2717	2861	2515
		SB Thru	*	*	*	*	*	*	*	296	2564	2756	2392
		SB Right	*	*	*	*	*	35	37	118	102	100	76
2	Preuss Avenue / Shepherd Avenue	EB Thru	*	*	*	*	*	*	*	0	21	*	*
		EB Thru	*	*	*	*	*	*	*	0	0	*	*
		EB Thru-Right	>300	0	0	13	15	0	0	*	*	*	*
		EB Right	*	*	*	*	*	*	*	0	0	*	*
		WB Thru	*	0	0	0	0	0	0	0	1712	*	*
		WB Thru	*	*	*	*	*	0	0	0	1738	*	*
		NB Right	*	25	24	41	47	36	39	34	43	*	*

Note: * = Does not exist or is not projected to exist

Table XI: Queuing Analysis (cont.)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Existing plus Project		Near Term plus Project		Cumulative Year 2039 plus Project		Cumulative Year 2039 plus Project (No Access)	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
3	Sunnyside Avenue / Shepherd Avenue	EB Left-Thru-Right	>300	97	101	117	235	*	*	*	*	*	*
		EB Left	*	*	*	*	*	152	78	97	73	158	68
		EB Thru	*	*	*	*	*	*	*	315	286	273	354
		EB Thru-Right	*	*	*	*	*	379	285	337	310	325	386
		WB Left-Thru-Right	>500	105	82	126	94	*	*	*	*	*	*
		WB Left	*	*	*	*	*	27	44	162	248	67	280
		WB Thru	*	*	*	*	*	*	*	348	482	376	782
		WB Thru-Right	*	*	*	*	*	210	337	416	497	417	799
		NB Left-Thru-Right	>500	48	67	50	70	*	*	*	*	*	*
		NB Left	*	*	*	*	*	173	242	*	*	*	*
		NB Dual Lefts	*	*	*	*	*	*	*	208	266	183	238
		NB Thru-Right	*	*	*	*	*	41	108	94	276	74	153
		SB Left-Thru-Right	>500	46	39	41	38	*	*	*	*	*	*
		SB Left	*	*	*	*	*	0	15	15	19	0	10
		SB Thru-Right	*	*	*	*	*	60	76	85	111	70	101
4	Clovis Avenue / Riordan Avenue	WB Left-Right	>500	47	43	76	6	63	51	*	*	*	*
		WB Right	>500	*	*	*	*	*	*	70	58	60	58
		NB Thru	>500	0	0	0	0	0	0	0	0	0	0
		NB Thru-Right	>500	0	0	0	10	0	6	0	0	0	9
		SB Left	250	12	22	15	31	18	32	21	47	38	101
		SB Thru	>500	0	0	0	0	0	0	0	0	0	65
		SB Thru	>500	0	0	0	0	0	0	0	0	0	0

Note: * = Does not exist or is not projected to exist

Project's Pro-Rata Fair Share of Future Transportation Improvements

The Project's fair share percentage impacts of Project to study intersections projected to fall below their LOS threshold are provided in Table XII. The Project's fair share percentage impacts were calculated pursuant to the Caltrans Guide for the Preparation of Traffic Impact Studies. The Project's pro-rata fair shares were calculated utilizing the Existing volumes, 2039 Project Only Trips and Cumulative Year 2039 plus Project volumes. Figure 2 illustrates the Existing traffic volumes, Figure 8 illustrates the 2039 Project Only Trips, and Figure 9 illustrates the Cumulative Year 2039 plus Project traffic volumes. Since the critical peak period for the study facilities was determined to be during the PM peak, the PM peak volumes are utilized to determine the Project's pro-rata fair share.

It is recommended that the Project contribute its equitable fair share as listed in Table XII for the future improvements necessary to maintain an acceptable LOS. However, fair share contributions should only be made for those facilities, or portion thereof, currently not funded by the responsible agencies roadway impact fee program(s) or grant funded projects, as appropriate. For those improvements not presently covered by local and regional roadway impact fee programs or grant funding, it is recommended that the Project contribute its equitable fair share. Payment of the Project's equitable fair share in addition to the local and regional impact fee programs would satisfy the Project's traffic mitigation measures.

This study does not provide construction costs for the recommended mitigation measures; therefore, if the recommended mitigation measures are implemented, it is recommended that the developer work with the City of Clovis to develop the estimated construction cost.

Table XII: Project's Fair Share of Future Roadway Improvements

ID	*Intersection*	*Existing Traffic Volumes (PM Peak)*	*Cumulative Year 2039 plus Project Traffic Volumes (PM Peak)*	*2039 Project Only Trips (PM Peak)*	*Project's Fair Share (%)*
1	Clovis Avenue / Shepherd Avenue	1,053	5,008	47	1.19
2	Preuss Avenue / Shepherd Avenue	N/A	N/A	N/A	100.00
3	Sunnyside Avenue / Shepherd Avenue	1,040	4,030	32	1.07
4	Clovis Avenue / Riordan Avenue	673	1,813	87	7.63

Note: Project Fair Share = ((2039 Project Only Trips) / (Cumulative Year 2039 + Project Traffic Volumes - Existing Traffic Volumes)) x 100
1 = Project is 100 percent responsible for needed roadway improvements at the proposed Preuss Avenue access to Shepherd Avenue

Conclusions and Recommendations

Conclusions and recommendations regarding the proposed Project are presented below.

Existing Traffic Conditions

- At present, all study intersections operate at an acceptable LOS during both peak periods.

Existing plus Project Traffic Conditions

- JLB analyzed the location of the proposed access points relative to the existing local roads and driveways in the Project's vicinity. A review of the Project's local driveways and streets to be constructed indicates that they are located at points that minimize traffic operational impacts to the existing roadway network.
- At buildout, the proposed Project is estimated to generate a maximum of 1,293 daily trips, 101 AM peak hour trips and 136 PM peak hour trips.
- It is recommended that the Project implement a Class II Bike Lane along its frontage to Shepherd Avenue.
- At present, all study intersections are projected to operate at an acceptable LOS during both peak periods.

Near Term plus Project Traffic Conditions

- The total trip generation for the Near Term Projects is 62,945 daily trips, 5,034 AM peak hour trips and 6,491 PM peak hour trips.
- Under this scenario, the intersection of Sunnyside Avenue and Shepherd Avenue is projected to exceed its LOS threshold during both peak periods. To improve the LOS at this intersection, it is recommended that the following improvements be implemented.
    - Sunnyside Avenue / Shepherd Avenue
        - Add an eastbound left-turn lane;
        - Modify the eastbound left-through-right lane to a through-right lane;
        - Add a westbound left-turn lane;
        - Modify the westbound left-through-right lane to a through-right lane;
        - Add a northbound left-turn lane;
        - Modify the northbound left-through-right lane to a through-right lane;
        - Add a southbound left-turn lane;
        - Modify the southbound left-through-right lane to a through-right lane;
        - Signalize the intersection with protective left-turn phasing in all directions; and
        - Modify the intersection to accommodate the added lanes.
- Between the Existing Traffic Conditions scenario and the Near Term plus Project Traffic Conditions scenario, the Project accounts for 2.0 percent of the daily trips, 2.0 percent of the AM peak hour trips and 2.1 percent of the PM peak hour trips of growth of traffic, while the rest of the growth is attributable to the Near Term Projects. Therefore, the mitigation measures presented under this scenario may not be necessary upon completion of the proposed Project.

Cumulative Year 2039 plus Project Traffic Conditions

- Under this scenario, all study intersections are projected to exceed their LOS threshold during both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.
  - Clovis Avenue / Shepherd Avenue
    - Open the second westbound through lane with a receiving lane west of Clovis Avenue;
    - Open the second northbound left-turn lane;
    - Add a second southbound through lane;
    - Modify the traffic signals to accommodate the added lanes;
    - Implement overlap phasing of the southbound left-turn with the westbound right-turn; and
    - Prohibit southbound to northbound U-turn movements.
  - Preuss Avenue / Shepherd Avenue
    - Modify the eastbound through-right lane to a through lane;
    - Add a second eastbound through lane with a receiving lane east of Preuss Avenue;
    - Add an eastbound right-turn lane; and
    - Modify the intersection to accommodate the added lanes.
  - Sunnyside Avenue / Shepherd Avenue
    - Add an eastbound left-turn lane;
    - Add an eastbound through lane with a receiving lane east of Sunnyside Avenue;
    - Modify the eastbound left-through-right lane to a through-right lane;
    - Add a westbound left-turn lane;
    - Add a westbound through lane with a receiving lane west of Sunnyside Avenue;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Add dual northbound left-turn lanes;
    - Modify the northbound left-through-right lane to a through-right lane;
    - Add a southbound left-turn lane;
    - Modify the southbound left-through-right lane to a through-right lane;
    - Signalize the intersection with protective left-turn phasing in all directions; and
    - Modify the intersection to accommodate the added lanes.
  - Riordan Avenue / Clovis Avenue
    - Modify the Riordan Avenue full access to Clovis Avenue to limited left-in, right-in and right-out access only. To accomplish this, it is recommended that a raised median island be extended across the intersection along the center of Clovis Avenue. With the extension of the raised median island, westbound left-turns would need to be redirected. Westbound left-turning traffic from Riordan Avenue would need to make a right-turn onto Clovis Avenue, proceed to make a legal northbound to southbound U-turn on Clovis Avenue, and then continue southbound on Clovis Avenue past Riordan Avenue.

Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions

- Under this scenario, all study intersections are projected to exceed their LOS threshold during both peak periods. To improve the LOS at these intersections, it is recommended that the following improvements be implemented.
  - Clovis Avenue / Shepherd Avenue
    - Open the second westbound through lane with a receiving lane west of Clovis Avenue;
    - Open the second northbound left-turn lane;
    - Add a second southbound through lane;
    - Modify the traffic signal to accommodate the added lanes;
    - Implement overlap phasing of the southbound left-turn with the westbound right-turn; and
    - Prohibit southbound to northbound U-turn movements.
  - Sunnyside Avenue / Shepherd Avenue
    - Add an eastbound left-turn lane;
    - Add an eastbound through lane with a receiving lane east of Sunnyside Avenue;
    - Modify the eastbound left-through-right lane to a through-right lane;
    - Add a westbound left-turn lane;
    - Add a westbound through lane with a receiving lane west of Sunnyside Avenue;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Add dual northbound left-turn lanes;
    - Modify the northbound left-through-right lane to a through-right lane;
    - Add a southbound left-turn lane;
    - Modify the southbound left-through-right lane to a through-right lane;
    - Signalize the intersection with protective left-turn phasing in all directions; and
    - Modify the intersection to accommodate the added lanes.
  - Riordan Avenue / Clovis Avenue
    - Modify the Riordan Avenue full access to Clovis Avenue to limited left-in, right-in and right-out access only. To accomplish this, it is recommended that a raised median island be extended across the intersection along the center of Clovis Avenue. With the extension of the raised median island, westbound left-turns would need to be redirected. Westbound left-turning traffic from Riordan Avenue would need to make a right-turn onto Clovis Avenue, proceed to make a legal northbound to southbound U-turn on Clovis Avenue, and then continue southbound on Clovis Avenue past Riordan Avenue.

Comparison Between Cumulative Year 2039 Scenarios

- Based on the LOS results of the study intersections and Sim Traffic queuing analysis, the introduction of the Preuss Avenue (right-in, right-out) access to the south side of Shepherd Avenue will not have a negative impact to the operations of the intersection of Clovis Avenue and Shepherd Avenue. Under both Cumulative Year 2039 scenarios, the number and type of lanes and signal phasing plan needed for the intersection of Clovis Avenue and Shepherd Avenue would be the same.
- The main differences between the Cumulative Year 2039 plus Project scenarios with and without access to Shepherd Avenue are provided below:
  - The projected left-turn and right-turn lane storage needs at the study intersections vary slightly; however, their differences are not significant.
  - If access to Shepherd Avenue is approved, it is recommended that a 125 feet eastbound right-turn lane be installed at the intersection of Preuss Avenue and Shepherd Avenue. This will ensure that inbound traffic to Tract 6263 moves out of the number two eastbound through lane and into the right-turn lane to decelerate as they approach the intersection. In doing so, eastbound right-turning traffic would have little to no effect on the traffic operations of Shepherd Avenue.
  - Under both of these scenarios traffic from westbound Riordan Avenue to Clovis Avenue is anticipated to be limited to right turns. With westbound traffic on Riordan Avenue limited to right turns the westbound right turn queue is projected to be a maximum of 2 to 3 vehicles for the scenario that allows access to Shepherd Avenue and a maximum of 3 to 4 vehicles for the scenario that retains the segment of Shepherd Avenue between Clovis Avenue and Sunnyside Avenue as an expressway. These anticipated queues will likely double if westbound left turns from Riordan Avenue are allowed.
  - The projected average delays for the intersections of Clovis Avenue at Shepherd Avenue and Sunnyside Avenue at Shepherd were compared. Based on this comparison, the projected average delays are very similar to each other with less one (1) second difference between the average delays amongst the two scenarios. Therefore, between the LOS and Average delay of the intersections of Clovis Avenue at Shepherd Avenue and Sunnyside Avenue at Shepherd Avenue there is no significant difference.
  - A comparison of the projected average daily trips to the segments of 1) Clovis Avenue between Shepherd Avenue and Teague Avenue, 2) Shepherd Avenue between Clovis Avenue and Sunnyside Avenue and 3) Sunnyside Avenue between Shepherd Avenue and Teague Avenue revealed that if access to Shepherd Avenue is approved that volumes on Clovis Avenue will decrease, while volumes on Shepherd Avenue and Sunnyside Avenue are projected to increase. However, the level of increase is not projected to cause a significant LOS impact to any the segments of Shepherd Avenue or Sunnyside Avenue.

Queuing Analysis

- It is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.

Project's Equitable Fair Share

- It is recommended that the Project contribute their equitable fair share as listed in Table XII for the future improvements necessary to maintain an acceptable LOS.

Study Participants

JLB Traffic Engineering, Inc. Personnel:

Jose Luis Benavides, PE, TE	Project Manager
Susana Maciel, EIT	Engineer I/II
Matthew Arndt, EIT	Engineer I/II
Javier Rios	Engineer I/II
Jove Alcazar	Engineer I/II
Dennis Wynn	Sr. Engineering Technician

Persons Consulted:

Jeff Callaway	Lennar Central Valley
Brandon Broussard	Yamabe & Horn Engineering, Inc.
Sean Smith	City of Clovis
Gene Abella	City of Clovis
Harmanjit Dhaliwal	City of Fresno
Brian Spaunhurst	County of Fresno
David Padilla	Caltrans
Kai Han	Fresno COG
Lang Yu	Fresno COG

References

1. City of Clovis, *2035 General Plan*.
2. County of Fresno, *2000 General Plan*.
3. *Guide for the Preparation of Traffic Impact Studies*, Caltrans, dated December 2002.
4. *Trip Generation,* 10th Edition, Washington D.C., Institute of Transportation Engineers, 2017.
5. *2014 California Manual on Uniform Traffic Control Devices*, Caltrans, November 7, 2014.

Appendix A: Scope of Work

March ~~25~~26, 2019

Sean Smith, RCE, QSD
Associate Engineer
City of Clovis
1033 Fifth Street
Clovis, CA 93612

Via E-mail Only: seans@cityofclovis.com

Subject: ***Revised Draft Scope of Work for the Preparation of a Traffic Impact Analysis for Tract 6263 located on the Southeast Quadrant of Shepherd Avenue and Clovis Avenue in the City of Clovis (JLB Project 006-028)***

Dear Mr. Smith,

JLB Traffic Engineering, Inc. (JLB) hereby submits this Revised Draft Scope of Work for the preparation of a Traffic Impact Analysis (TIA) for the Project described below. This Draft Scope of Work has been revised to correct the description of the trip generation and to add a discussion on the proposed Project Access points. Tract 6263 (Project) proposes to develop approximately 23.35 acres with up to 139 single family residential units. Furthermore, Tract 6263 proposes to include a right-in, right-out access point to the south side of Shepherd Avenue. The right-in, right-out access is proposed at a point approximately 1,300 feet east of Clovis Avenue. Based on information provided to JLB, the Project will undergo a General Plan Amendment to reclassify the designation of Shepherd Avenue between Clovis Avenue to Sunnyside Avenue from an Expressway to an "Expressway with Limited Access" and to modify the existing land use from Low Density Residential to Medium Density Residential under the R-1-MD zoning.

The purpose of this TIA is to evaluate the potential traffic impacts, identify short-term roadway and circulation needs, determine potential mitigation measures and identify any critical traffic issues that should be addressed in the on-going planning process. To prepare this TIA, JLB proposes the following Draft Scope of Work.

Scope of Work

- Request a Fresno Council of Governments (Fresno COG) traffic forecast model run for the Project (Select Zone Analysis) which will include the Project and the streets to be analyzed. The Fresno COG traffic forecasting model will be used to forecast traffic volumes for the Base Year (2019) and Cumulative Year (2039) Scenarios. To arrive at the Cumulative Year 2039 traffic volumes, JLB will utilize the projected annual growth rate in traffic between the Base Year (2019) and Cumulative Year (2035) Fresno COG models to expand the 2035 cumulative year traffic volumes for four (4) years.
- JLB will evaluate existing and forecast levels of service (LOS) at the study intersection(s). JLB will use HCM 6 or HCM 2000 methodologies (as appropriate) within Synchro to perform this analysis for the AM and PM peak hours.

- JLB will identify the causes of poor LOS and proposed improvement measures (if any).
- Evaluate onsite circulation and provide recommendations, as necessary, to improve circulation to the site and within the Project site.
- As necessary, schedule and conduct new traffic counts at the study facility(ies).
- Perform a site visit to observe existing traffic conditions, especially during the AM and PM peak hours. Existing roadway conditions, including geometrics and traffic controls, will be verified.
- Forecast trip distribution based on turn count information, input from Fresno COG staff, school boundaries, and knowledge of the existing and planned circulation network in the Project's vicinity.
- Prepare California Manual on Uniform Traffic Control Devices (CA MUTCD) peak hour signal warrants for un-signalized study intersections.
- JLB will conduct a qualitative safe routes to school evaluation from the Project site to the K-12 school(s) which would most likely serve the Project on opening day.
- JLB will qualitatively analyze existing and planned transit routes in the Project's vicinity.
- JLB will qualitatively analyze existing and planned bikeways in the Project's vicinity.

Study Scenarios:

1. Existing traffic conditions with needed improvements (if any);
2. Existing plus Project traffic conditions with proposed mitigation measures (if any);
3. Near Term plus Project, plus Approved and Pending Developments traffic conditions with proposed mitigation measures (if any);
4. Cumulative Year 2039 No Project traffic conditions with proposed improvement measures (if any); and
5. Cumulative Year 2039 plus Project Buildout traffic conditions with proposed mitigation measures (if any).

Weekday peak hours to be analyzed:

1. 7 - 9 AM peak hour
2. 4 - 6 PM peak hour

Study Intersections:

1. Shepherd Avenue / Clovis Avenue
2. Shepherd Avenue / Marion Avenue (Right-in and Right-out Access)
3. Shepherd Avenue / Sunnyside Avenue
4. Riordan Avenue / Clovis Avenue

Queuing analysis is included in the proposed scope of work for the study intersection(s) listed above under all study scenarios. This analysis will be utilized to recommend minimum storage lengths for left- and right-turn lanes at all study intersections.

Study Segments:

1. None

Project Only Trip Assignment to Caltrans Facilities:

1. SR 168 / Clovis Avenue

Project Trip Generation

Table I presents the trip generation for ~~the portion of~~ Tract 6263 ~~which would have access to the proposed right in and right out to Shepherd Avenue~~. The trip generation is pursuant to the 10th Edition of the Trip Generation Manual with trip generation rates for an Single-Family Detached Housing. At build-out, Tract 6263 is estimated to generate a maximum of 1,312 daily trips, 103 AM peak hour trips and 138 PM peak hour trips.

Table I: Project Only Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM Peak Hour*						*PM Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In %*	*Out %*	*In*	*Out*	*Total*	*Trip Rate*	*In %*	*Out %*	*In*	*Out*	*Total*
Single-Family Detached Housing (210)	139	d.u.	9.44	1,312	0.74	25	75	26	77	103	0.99	63	37	87	51	138
Gross Total Project Trips				**1,312**				**26**	**77**	**103**				**87**	**51**	**138**

Note: d.u. = dwelling units

Access to the Project

Access to and from the Project site will be provided from three (3) access points. The first access point will be a full access located along the east side of Clovis Avenue at its intersection with Riordan Avenue. The second access point will be limited to right-in, and right-out along the east side of Clovis Avenue at its intersection with Prescott Lane. The third access point will be limited to right-in, right-out only off Marion Avenue to be located along the south side of Shepherd Avenue approximately 1,200 feet east of Clovis Avenue. The third access point in effect relocates the existing right-in, right-out access to Shepherd Avenue from Preuss Avenue. Additional Project details are found on Exhibit B.

Near Term Projects to be Included

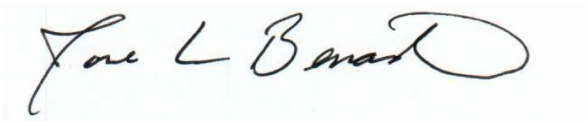
Based on our local knowledge of the study area, JLB proposes to include projects in the vicinity of the proposed Project under the Near Term plus Project Analysis. The projects proposed to be included in the Near Term Scenario are:

Project Name	General Location
1. Tract 6200	NE Corner of Clovis/Shepherd
2. Larsen Tract	NW corner of Teague/Locan
3. Locan 35	NE quadrant of Teague/Locan
4. Tract 6190	NE corner of Cook/Locan
5. Tract 6145	NW quadrant of Owens Mountain/DeWolf
6. Tract 6128	SE corner of Teague/Locan

7. Other Near Term Projects the City, County or Caltrans has knowledge and for which it is anticipated that said project(s) is/are projected to be whole or partially built by the Near Term Project Year 2022. City, County and Caltrans as appropriate would provide JLB with project details such as a project description, location, proposed land uses with breakdowns and type of residential units and amount of square footages for non-residential uses.

The above scope of work is based on our understanding of this Project and our experience with similar Traffic Impact Analysis Projects. In the absence of comments by April 15, 2019, it will be assumed that the above scope of work is acceptable to the agency(ies) that have not submitted any comments to the proposed TIA Scope of Work. If you have any questions or require additional information, please contact me by phone at (559) 570-8991 or by e-mail at jbenavides@JLBtraffic.com.

Sincerely,

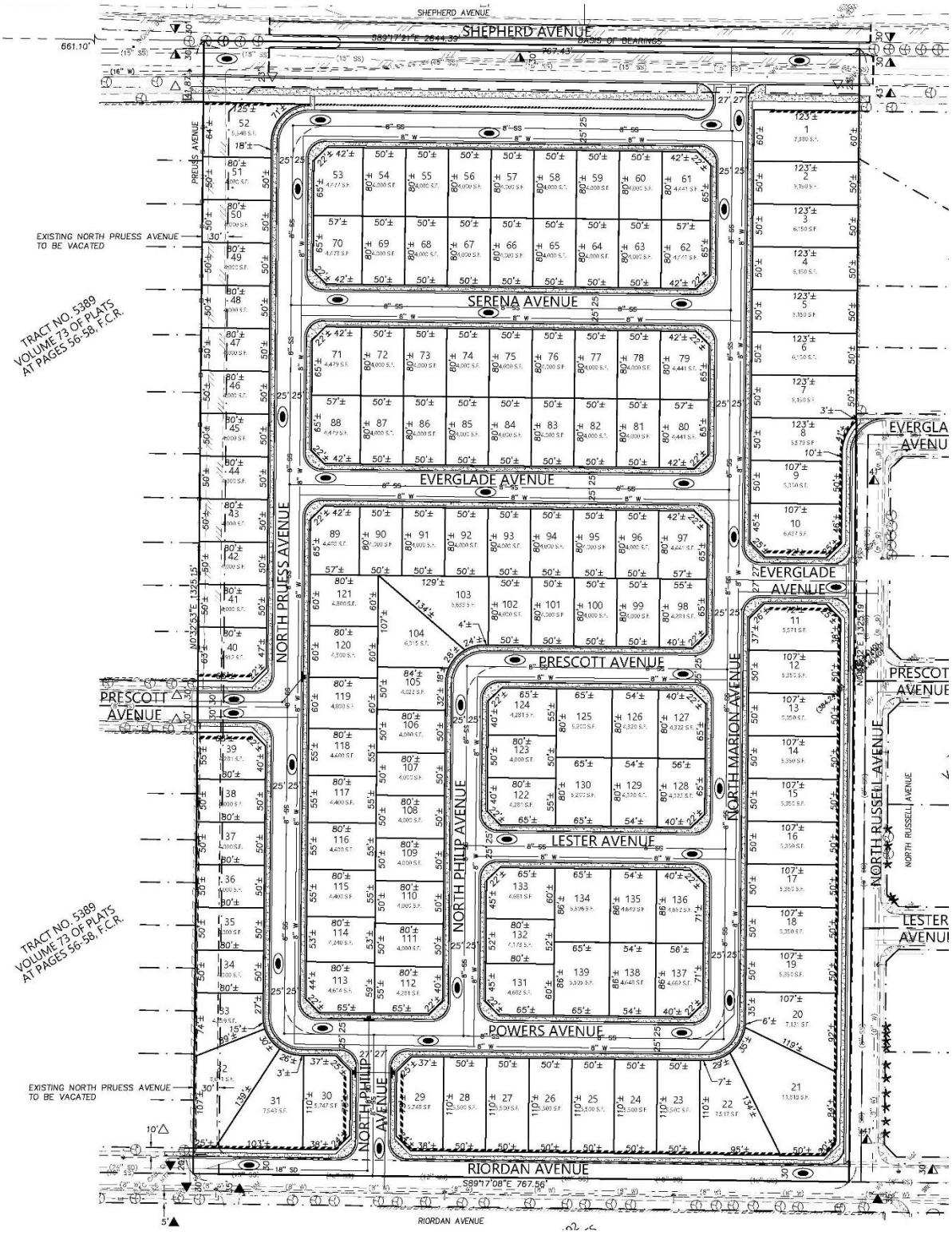


Jose Luis Benavides, P.E., T.E.
President

cc: Harmanjit Dhaliwal, PE, City of Fresno
Brian Spaunhurst, County of Fresno
David Padilla, Caltrans

Exhibit A – Aerial

Exhibit B – Tract Site Plan



Jose Benavides

From: Spaunhurst, Brian <bspaunhurst@fresnocountyca.gov>
Sent: Thursday, March 28, 2019 8:33 AM
To: Jose Benavides; Sean Smith
Cc: Harmanjit Dhaliwal; 'David Padilla'
Subject: RE: Tract 6263 TIA Draft Scope of Work

Good Morning Jose,

County is satisfied with the proposed SOW.

Respectfully,

Brian Spaunhurst | **Planner II**
Department of Public Works and Planning | Design Division
2220 Tulare St. 6th Floor Fresno, CA 93721
Main Office: (559) 600-4532 | Direct: (559) 600-4532
Email: bspaunhurst@FresnoCountyCa.gov
Your input matters! Customer Service Survey

From: Jose Benavides <jbenavides@jlbtraffic.com>
Sent: Tuesday, March 26, 2019 11:52 AM
To: Sean Smith <SeanS@ci.clovis.ca.us>
Cc: Harmanjit Dhaliwal <Harmanjit.Dhaliwal@fresno.gov>; Spaunhurst, Brian <bspaunhurst@fresnocountyca.gov>; 'David Padilla' <dave_padilla@dot.ca.gov>
Subject: Tract 6263 TIA Draft Scope of Work

County of Fresno

Internal Services Department (ISD) - IT Services

Service Desk 600-5900 (Help Desk)

CAUTION!!!

This email has been flagged as containing one or more attachments from an outside source.

Please check the senders email address carefully.

If you were not expecting to receive an email with attachments, please **DO NOT** open the file.

Forward the email to SPAM "SPAM@fresnocountyca.gov" and delete it.

Good afternoon,

Attached you will find a Revised Draft Scope of Work that has been prepared for Tract 6263 (Single-Family Residential) Project to be located at the southeast quadrant of Clovis Avenue and Shepherd Avenue in the City of Clovis for your review and comment. This Draft Scope of Work has been revised to correct the description of the trip generation and to add a discussion on the proposed Project Access points.

We kindly ask that you take a moment to review and comment on the proposed Scope of Work. [illegible] comments by April 15, 2019, it will be assumed that the proposed Scope of Work is acceptable t[illegible] have not submitted any comments.

If you have any questions or require additional information, please contact us at (559) 570-8991 or by e-mail. We sincerely appreciate your time and attention to this matter and look forward to hearing from all of you soon. Thanks.

Sincerely,

Jose Luis Benavides, P.E., T.E.
President

JLB Traffic Engineering, Inc.

Traffic Engineering, Transportation Planning and Parking Solutions
Certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE)

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
Direct: (559) 317-6249
Main: (559) 570-8991
Cell: (559) 694-6000
Fax: (559) 317-6854
www.JLBtraffic.com

Jose Benavides

From: Harmanjit Dhaliwal <Harmanjit.Dhaliwal@fresno.gov>
Sent: Thursday, March 28, 2019 8:45 AM
To: Jose Benavides
Cc: Spaunhurst, Brian; 'David Padilla'; Jill Gormley; Sean Smith
Subject: RE: Tract 6263 TIA Draft Scope of Work

Good Morning Jose,

The City of Fresno has no comments on the SOW as it will not impact any City of Fresno Intersections.

Thanks,

Harmanjit Dhaliwal, PE

City of FRESNO
Public Works Department
Traffic Operations & Planning Division
2600 Fresno Street, Room 4064
Fresno, CA 93721
Ph: (559) 621-8694
Harmanjit.Dhaliwal@fresno.gov

From: Jose Benavides [mailto:jbenavides@jlbtraffic.com]
Sent: Tuesday, March 26, 2019 11:52 AM
To: Sean Smith
Cc: Harmanjit Dhaliwal; Spaunhurst, Brian; 'David Padilla'
Subject: Tract 6263 TIA Draft Scope of Work

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Jose Benavides

From: Padilla, Dave@DOT <dave.padilla@dot.ca.gov>
Sent: Thursday, March 28, 2019 9:26 AM
To: Jose Benavides; Sean Smith
Cc: Harmanjit Dhaliwal; Spaunhurst, Brian
Subject: RE: Tract 6263 TIA Draft Scope of Work

Good Morning Jose,

We have no concerns with the scope of work.

Thank you

DAVID PADILLA
Associate Transportation Planner
Caltrans
Office of Planning & Local Assistance
1352 W. Olive Avenue
Fresno, CA 93778-2616
Office: (559) 444-2493, Fax: (559) 445-5875

From: Jose Benavides <jbenavides@jlbtraffic.com>
Sent: Tuesday, March 26, 2019 11:52 AM
To: Sean Smith <SeanS@ci.clovis.ca.us>
Cc: Harmanjit Dhaliwal <Harmanjit.Dhaliwal@fresno.gov>; Spaunhurst, Brian <bspaunhurst@fresnocountyca.gov>; Padilla, Dave@DOT <dave.padilla@dot.ca.gov>
Subject: Tract 6263 TIA Draft Scope of Work

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Sincerely,

Jose Luis Benavides, P.E., T.E.
President

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AGENDA ITEM NO.2

From: Gene Abella
To: Jose Benavides
Cc: Sean Smith
Subject: T6263 (SEA Clovis/Shepherd, Lennar) - TIA Scope of Work
Date: Monday, April 8, 2019 12:28:39 PM

Jose,

Please add the following to the scope:

1. Include the option of no Shepherd access and analyze how that impacts traffic.
2. Add TM 6154, TM 6109, TM 6180, TM 6190, TM 6134A as near term
3. Add the CUSD site at Minnewawa and International Avenues as near term.

Once added, please proceed with the TIA.

Gene G. Abella
Assistant Engineer
City of Clovis
1033 Fifth Street
Clovis, CA 93612
(559) 324-2373 Voice
(559) 324-2843 Fax
genea@cityofclovis.com

CITY of CLOVIS

PLANNING & DEVELOPMENT

1033 FIFTH STREET • CLOVIS, CA 93612

July 18, 2019

Bill Walls
Lennar Homes of California, Inc.
8080 N. Palm Avenue, Suite #110
Fresno, CA 93711

Subject: Follow-Up request for materials for General Plan Amendment GPA2019-01, Rezone R2019-03, and Tentative Tract Map TM6263 for the properties located on the south side of Shepherd Avenue, between Clovis and Sunnyside Avenues.

Dear Mr. Walls:

Thank you for your submittal of an application and various materials for a general plan amendment, rezone, and tentative tract map for the properties located on the south side of Shepherd Avenue, between Clovis and Sunnyside Avenues. Unfortunately, staff finds that the applications are still incomplete, requiring additional supporting materials. Please be advised, that in order to be considered a complete application, staff must have on file the following materials and documents:

- ❒ Hard copy of the completed, updated City of Clovis Planning Division Master Application (please revise to indicate the intended zoning of R-1-PRD as declared to staff, and clarify that the number of lots is 139)
- ❒ Land Use Standards
- ❒ Matrix or explanation of amenities provided for the subdivision
- ❒ Updated studies for consistency showing the latest site plan having no access to Shepherd Avenue, rezoning to R-1-PRD, and 139-lots (i.e. traffic study, air quality study, noise study)

In order to facilitate processing of this application, it is recommended that you please submit this information and materials at your earliest convenience. Please note that additional supporting materials and/or modified exhibits may be required during the processing of an application.

Your cooperation in this matter will be greatly appreciated. The project manager assigned to your application is Ricky Caperton. Should you have any questions, please feel free to contact me at (559) 324-2347 or email at rcaperton@cityofclovis.com.

Sincerely,

Ricky Caperton

Ricky Caperton, AICP
Senior Planner

Cc: Dirk Poeschel, Dirk Poeschel Land Development Services, Inc.

Appendix B: Traffic Counts

JLB Traffic Engineering, Inc.

1300 E. Shaw Ave., Ste. 103
Fresno, CA 93710
(559) 570-8991
Traffic Engineering, Transportation Planning & Parking Solutions
www.JLBtraffic.com

AGENDA ITEM NO.2

File Name : Clovis at Shepherd
Site Code : 00000000
Start Date : 3/20/2018
Page No : 1

Groups Printed- Unshifted

	SHEPHERD Westbound					CLOVIS Northbound				SHEPHERD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	U-turn	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	7	71	0	0	78	20	5	0	25	0	62	22	1	85	188
07:15 AM	18	112	0	0	130	27	13	0	40	1	64	34	1	100	270
07:30 AM	32	133	0	0	165	27	8	0	35	0	90	30	0	120	320
07:45 AM	33	88	0	0	121	14	23	0	37	0	116	41	0	157	315
Total	90	404	0	0	494	88	49	0	137	1	332	127	2	462	1093
08:00 AM	11	84	0	0	95	25	10	0	35	0	89	33	0	122	252
08:15 AM	14	77	0	0	91	24	7	0	31	0	57	36	1	94	216
08:30 AM	7	95	0	0	102	26	9	0	35	0	70	20	1	91	228
08:45 AM	2	72	0	0	74	20	6	0	26	0	57	18	0	75	175
Total	34	328	0	0	362	95	32	0	127	0	273	107	2	382	871
******															
04:00 PM	8	81	0	0	89	31	12	0	43	0	53	26	1	80	212
04:15 PM	3	80	1	0	84	37	22	0	59	0	67	20	0	87	230
04:30 PM	9	87	0	0	96	23	18	0	41	0	85	15	1	101	238
04:45 PM	11	78	0	0	89	31	19	0	50	1	87	16	0	104	243
Total	31	326	1	0	358	122	71	0	193	1	292	77	2	372	923
05:00 PM	10	91	0	0	101	46	25	0	71	0	92	12	2	106	278
05:15 PM	20	68	0	0	88	33	30	0	63	0	92	25	0	117	268
05:30 PM	8	94	0	0	102	35	19	0	54	0	85	13	0	98	254
05:45 PM	13	89	0	0	102	31	31	0	62	1	60	30	0	91	255
Total	51	342	0	0	393	145	105	0	250	1	329	80	2	412	1055
Grand Total	206	1400	1	0	1607	450	257	0	707	3	1226	391	8	1628	3942
Apprch %	12.8	87.1	0.1	0		63.6	36.4	0		0.2	75.3	24	0.5		
Total %	5.2	35.5	0	0	40.8	11.4	6.5	0	17.9	0.1	31.1	9.9	0.2	41.3	

JLB Traffic Engineering, Inc.

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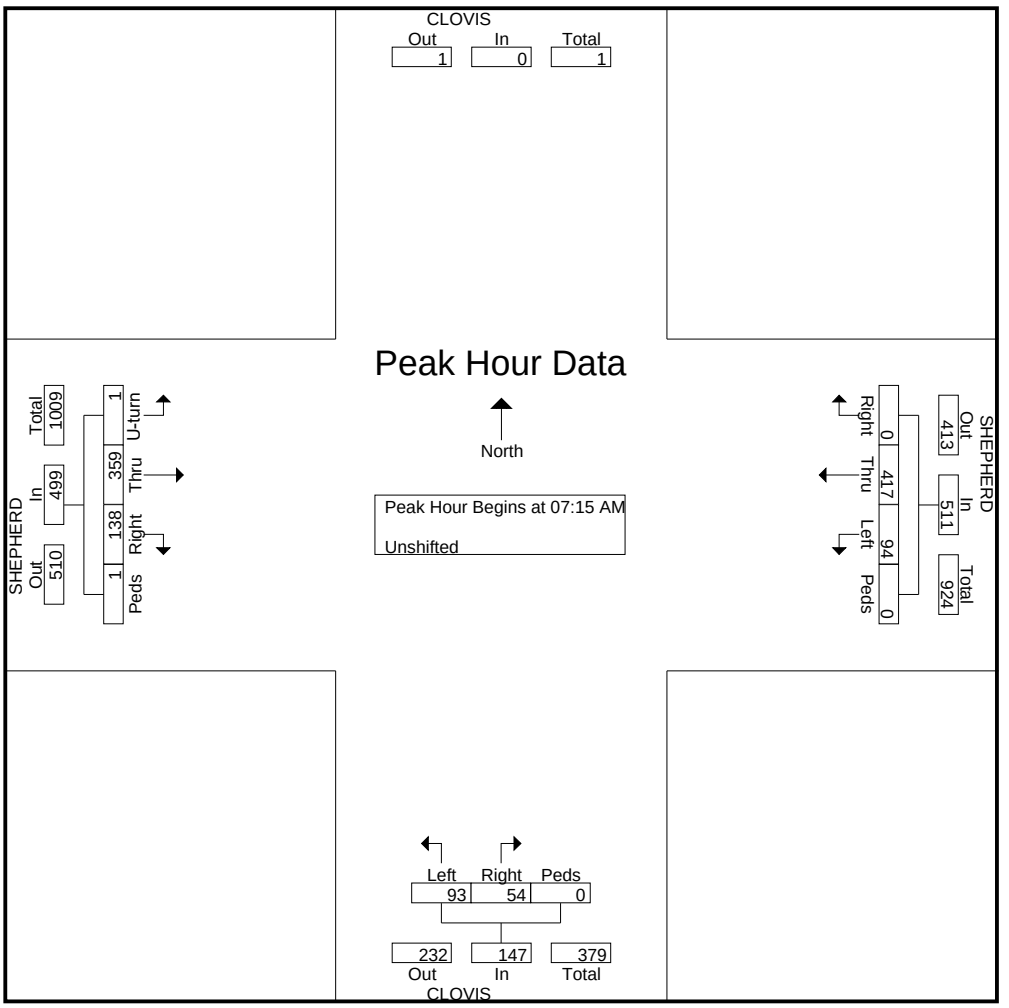
AGENDA ITEM NO.2

File Name : Clovis at Shepherd
Site Code : 00000000
Start Date : 3/20/2018
Page No : 2

	SHEPHERD Westbound					CLOVIS Northbound				SHEPHERD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	U-turn	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 07:15 AM															
07:15 AM	18	112	0	0	130	**27**	13	0	**40**	**1**	64	34	**1**	100	270
07:30 AM	32	**133**	0	0	**165**	27	8	0	35	0	90	30	0	120	**320**
07:45 AM	**33**	88	0	0	121	14	**23**	0	37	0	**116**	**41**	0	**157**	315
08:00 AM	11	84	0	0	95	25	10	0	35	0	89	33	0	122	252
Total Volume	94	417	0	0	511	93	54	0	147	1	359	138	1	499	1157
% App. Total	18.4	81.6	0	0		63.3	36.7	0		0.2	71.9	27.7	0.2		
PHF	.712	.784	.000	.000	.774	.861	.587	.000	.919	.250	.774	.841	.250	.795	.904



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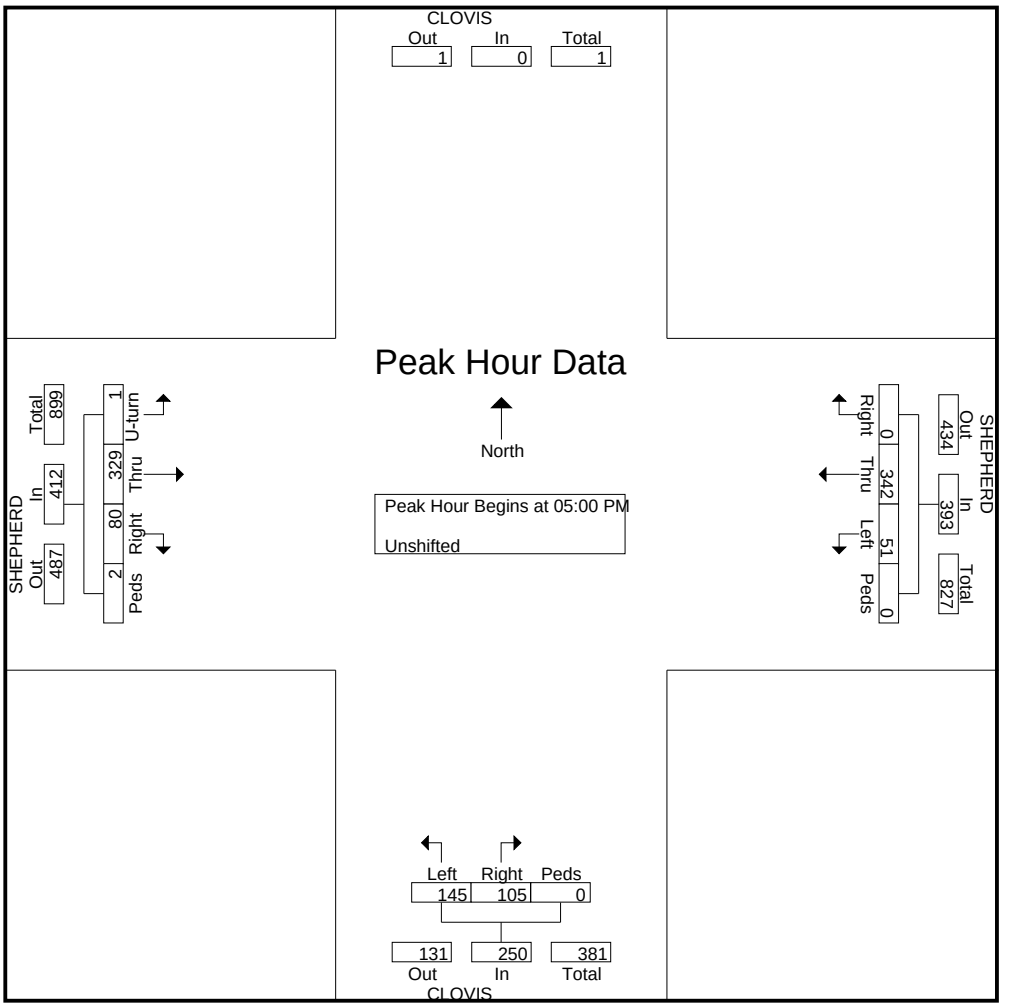
AGENDA ITEM NO.2

File Name : Clovis at Shepherd
Site Code : 00000000
Start Date : 3/20/2018
Page No : 3

	SHEPHERD Westbound					CLOVIS Northbound				SHEPHERD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	U-turn	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 05:00 PM															
05:00 PM	10	91	0	0	101	**46**	25	0	**71**	0	**92**	12	**2**	106	**278**
05:15 PM	**20**	68	0	0	88	33	30	0	63	0	92	25	0	**117**	268
05:30 PM	8	**94**	0	0	**102**	35	19	0	54	0	85	13	0	98	254
05:45 PM	13	89	0	0	102	31	**31**	0	62	**1**	60	**30**	0	91	255
Total Volume	51	342	0	0	393	145	105	0	250	1	329	80	2	412	1055
% App. Total	13	87	0	0		58	42	0		0.2	79.9	19.4	0.5		
PHF	.638	.910	.000	.000	.963	.788	.847	.000	.880	.250	.894	.667	.250	.880	.949



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AGENDA ITEM NO.2

File Name : Preuss at Shepherd
Site Code : 00000000
Start Date : 3/28/2019
Page No : 1

Groups Printed- Unshifted

	SHEPHERD Westbound		PREUSS Northbound		SHEPHERD Eastbound			
Start Time	Thru	Peds	Right	Peds	Thru	Right	Peds	Int. Total
07:00 AM	99	0	4	0	73	0	0	176
07:15 AM	139	0	4	0	98	2	2	245
07:30 AM	191	0	1	0	151	0	0	343
07:45 AM	117	0	2	0	129	2	0	250
Total	546	0	11	0	451	4	2	1014
08:00 AM	122	0	0	0	101	1	0	224
08:15 AM	127	0	1	0	109	0	0	237
08:30 AM	100	0	0	0	86	0	0	186
08:45 AM	91	0	2	0	63	1	0	157
Total	440	0	3	0	359	2	0	804
******								
04:00 PM	90	0	0	0	105	2	0	197
04:15 PM	104	0	1	0	111	1	0	217
04:30 PM	104	0	0	0	111	0	0	215
04:45 PM	125	0	1	0	135	2	0	263
Total	423	0	2	0	462	5	0	892
05:00 PM	111	0	2	0	151	4	0	268
05:15 PM	107	0	2	0	175	11	0	295
05:30 PM	121	0	2	0	142	3	1	269
05:45 PM	130	0	1	0	132	2	1	266
Total	469	0	7	0	600	20	2	1098
Grand Total	1878	0	23	0	1872	31	4	3808
Apprch %	100	0	100	0	98.2	1.6	0.2	
Total %	49.3	0	0.6	0	49.2	0.8	0.1	

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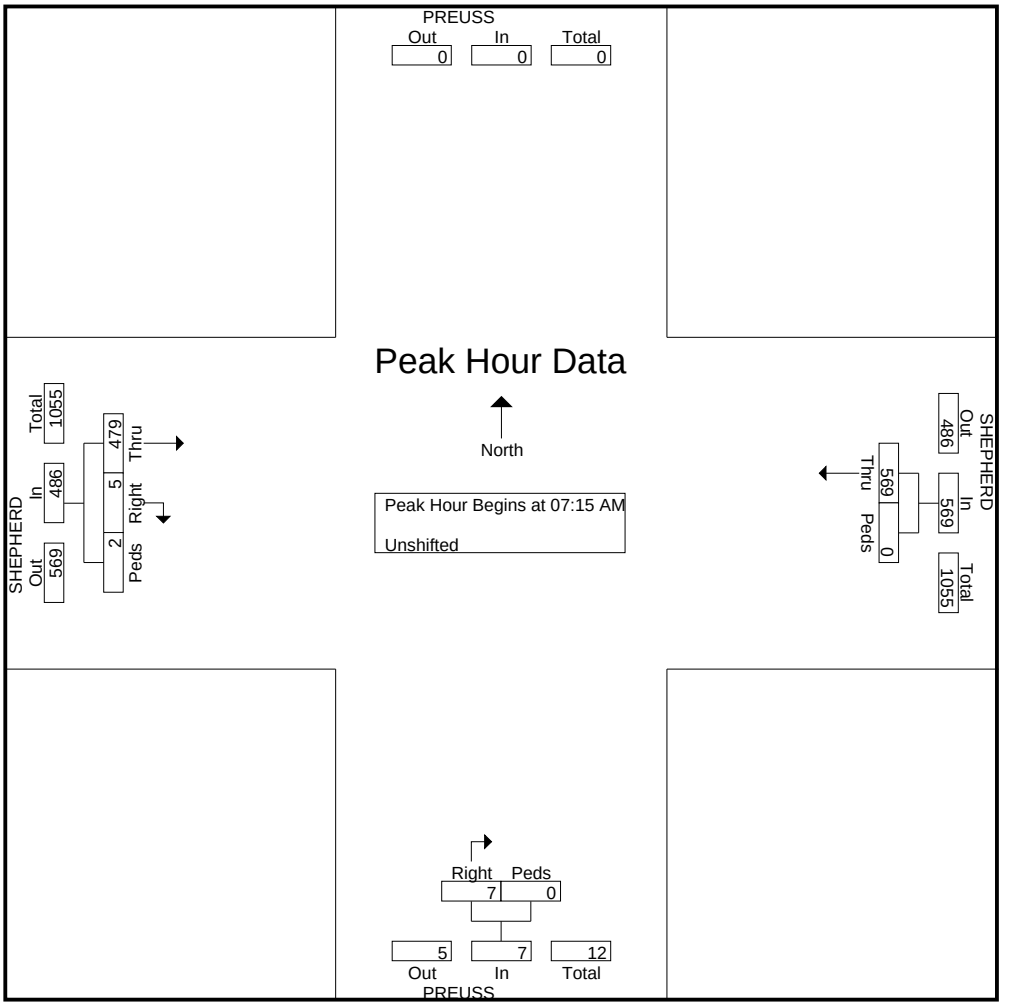
File Name : Preuss at Shepherd
Site Code : 00000000
Start Date : 3/28/2019
Page No : 2

	SHEPHERD Westbound			PREUSS Northbound			SHEPHERD Eastbound				
Start Time	Thru	Peds	App. Total	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 07:15 AM											
07:15 AM	139	0	139	**4**	0	**4**	98	**2**	**2**	102	245
07:30 AM	**191**	0	**191**	1	0	1	**151**	0	0	**151**	**343**
07:45 AM	117	0	117	2	0	2	129	2	0	131	250
08:00 AM	122	0	122	0	0	0	101	1	0	102	224
Total Volume	569	0	569	7	0	7	479	5	2	486	1062
% App. Total	100	0		100	0		98.6	1	0.4		
PHF	.745	.000	.745	.438	.000	.438	.793	.625	.250	.805	.774



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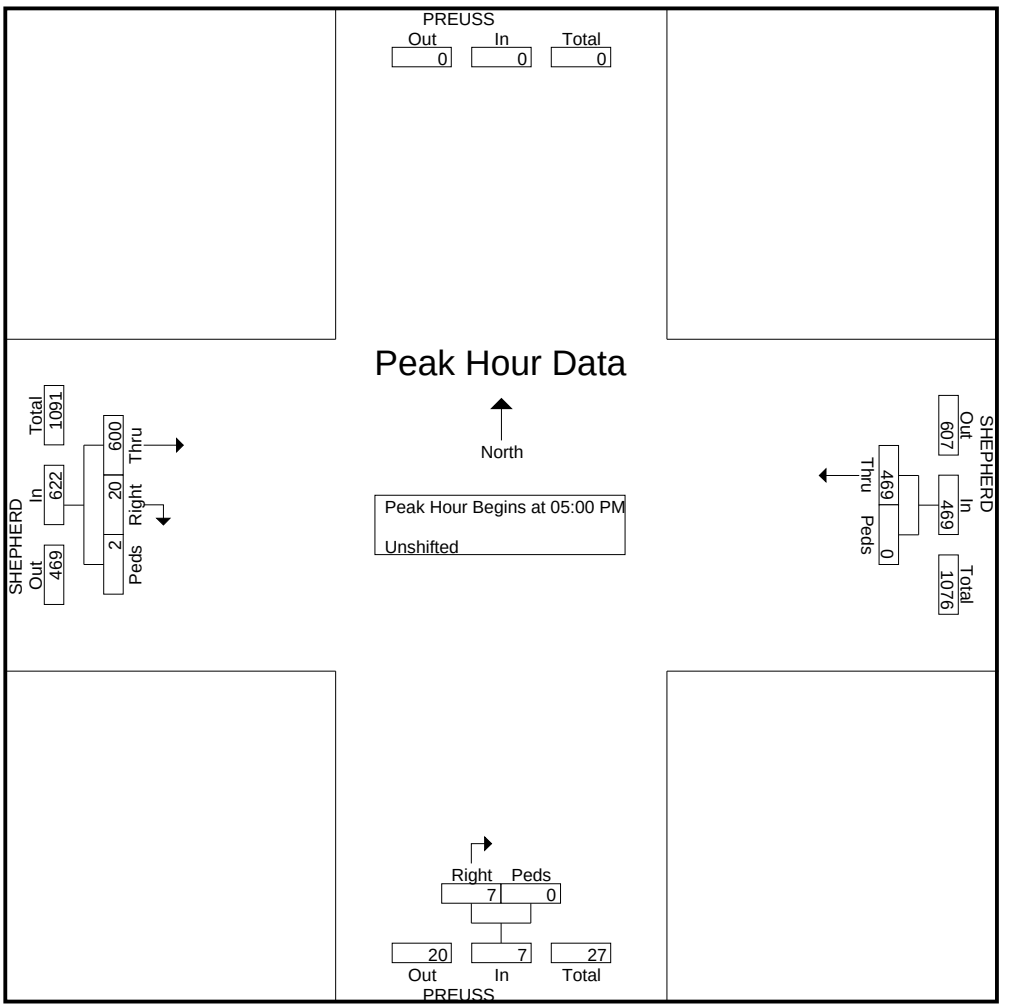
File Name : Preuss at Shepherd
Site Code : 00000000
Start Date : 3/28/2019
Page No : 3

	SHEPHERD Westbound			PREUSS Northbound			SHEPHERD Eastbound				
Start Time	Thru	Peds	App. Total	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1											
Peak Hour for Entire Intersection Begins at 05:00 PM											
05:00 PM	111	0	111	**2**	0	**2**	151	4	0	155	268
05:15 PM	107	0	107	2	0	2	**175**	**11**	0	**186**	**295**
05:30 PM	121	0	121	2	0	2	142	3	**1**	146	269
05:45 PM	**130**	0	**130**	1	0	1	132	2	1	135	266
Total Volume	469	0	469	7	0	7	600	20	2	622	1098
% App. Total	100	0		100	0		96.5	3.2	0.3		
PHF	.902	.000	.902	.875	.000	.875	.857	.455	.500	.836	.931



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AGENDA ITEM NO.2

File Name : Shepherd at Sunnyside
Site Code : 00000000
Start Date : 3/15/2018
Page No : 1

Groups Printed- Unshifted

	SUNNYSIDE Southbound					SHEPHERD Westbound					SUNNYSIDE Northbound					SHEPHERD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	3	3	0	6	5	68	0	0	73	12	0	0	1	13	0	39	13	0	52	144
07:15 AM	0	3	5	0	8	1	134	2	0	137	16	0	0	0	16	0	44	11	0	55	216
07:30 AM	1	4	7	0	12	5	150	2	0	157	30	5	0	0	35	4	88	29	0	121	325
07:45 AM	1	5	3	0	9	1	97	3	0	101	11	2	2	0	15	5	95	52	0	152	277
Total	2	15	18	0	35	12	449	7	0	468	69	7	2	1	79	9	266	105	0	380	962
08:00 AM	1	3	3	0	7	5	77	1	0	83	21	2	6	0	29	2	60	27	0	89	208
08:15 AM	4	4	2	0	10	5	79	0	0	84	14	1	3	0	18	2	46	20	0	68	180
08:30 AM	0	1	2	0	3	2	66	3	0	71	15	4	2	0	21	1	44	13	0	58	153
08:45 AM	0	2	0	0	2	4	65	1	0	70	17	0	4	0	21	3	34	10	0	47	140
Total	5	10	7	0	22	16	287	5	0	308	67	7	15	0	89	8	184	70	0	262	681
******																					
04:00 PM	1	1	1	0	3	4	61	0	0	65	13	3	6	0	22	1	68	10	0	79	169
04:15 PM	0	3	2	0	5	4	70	2	0	76	23	1	5	0	29	2	84	19	0	105	215
04:30 PM	0	1	2	0	3	7	82	4	0	93	28	1	2	0	31	1	87	22	0	110	237
04:45 PM	1	1	1	0	3	3	87	2	0	92	35	3	2	0	40	4	92	16	0	112	247
Total	2	6	6	0	14	18	300	8	0	326	99	8	15	0	122	8	331	67	0	406	868
05:00 PM	0	1	2	0	3	3	87	0	0	90	21	6	6	0	33	3	108	24	0	135	261
05:15 PM	2	4	4	0	10	7	93	3	0	103	18	1	10	0	29	3	105	22	0	130	272
05:30 PM	1	3	3	0	7	3	92	0	0	95	11	2	8	0	21	2	116	19	0	137	260
05:45 PM	0	3	3	0	6	5	73	0	0	78	15	5	6	0	26	3	105	17	0	125	235
Total	3	11	12	0	26	18	345	3	0	366	65	14	30	0	109	11	434	82	0	527	1028
Grand Total	12	42	43	0	97	64	1381	23	0	1468	300	36	62	1	399	36	1215	324	0	1575	3539
Apprch %	12.4	43.3	44.3	0		4.4	94.1	1.6	0		75.2	9	15.5	0.3		2.3	77.1	20.6	0		
Total %	0.3	1.2	1.2	0	2.7	1.8	39	0.6	0	41.5	8.5	1	1.8	0	11.3	1	34.3	9.2	0	44.5	

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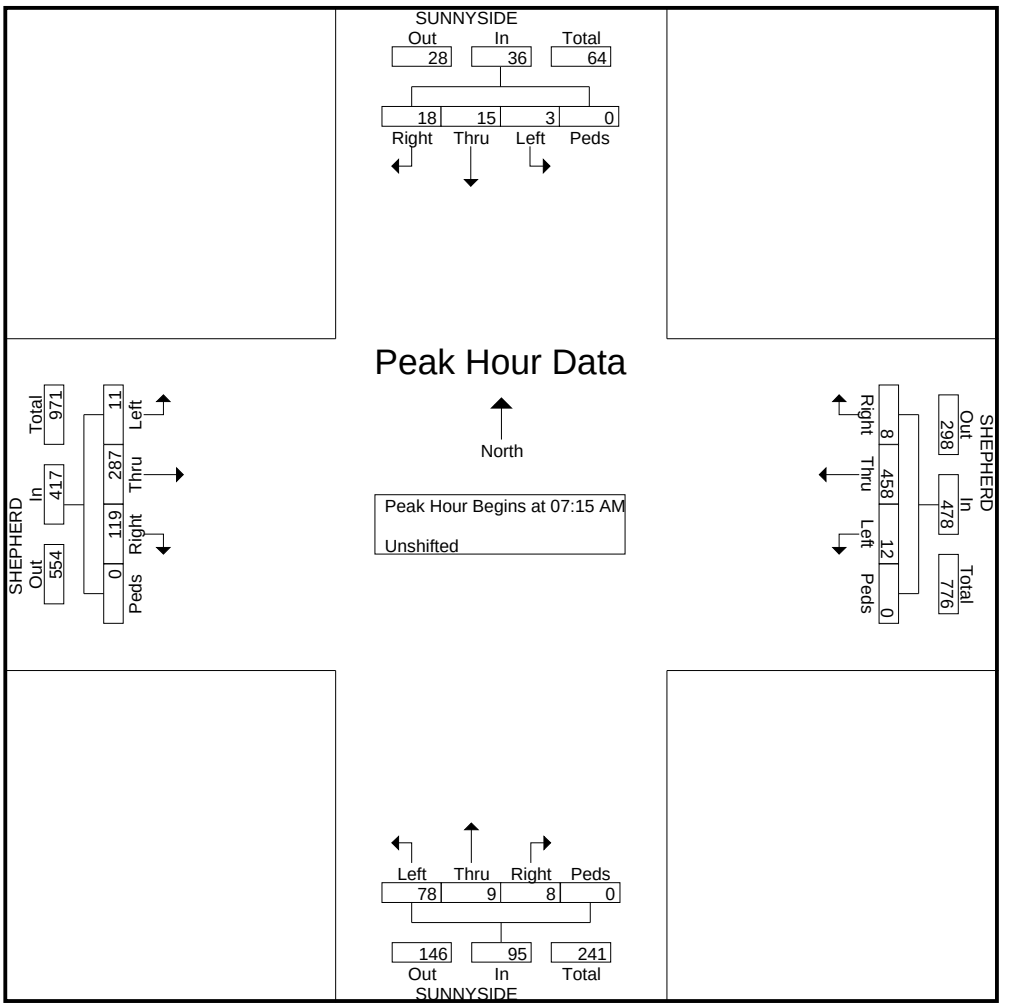
AGENDA ITEM NO.2

File Name : Shepherd at Sunnyside
Site Code : 00000000
Start Date : 3/15/2018
Page No : 2

	SUNNYSIDE Southbound					SHEPHERD Westbound					SUNNYSIDE Northbound					SHEPHERD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	3	5	0	8	1	134	2	0	137	16	0	0	0	16	0	44	11	0	55	216
07:30 AM	**1**	4	**7**	0	**12**	**5**	**150**	2	0	**157**	**30**	**5**	0	0	**35**	4	88	29	0	121	**325**
07:45 AM	1	**5**	3	0	9	1	97	**3**	0	101	11	2	2	0	15	**5**	**95**	**52**	0	**152**	277
08:00 AM	1	3	3	0	7	5	77	1	0	83	21	2	**6**	0	29	2	60	27	0	89	208
Total Volume	3	15	18	0	36	12	458	8	0	478	78	9	8	0	95	11	287	119	0	417	1026
% App. Total	8.3	41.7	50	0		2.5	95.8	1.7	0		82.1	9.5	8.4	0		2.6	68.8	28.5	0		
PHF	.750	.750	.643	.000	.750	.600	.763	.667	.000	.761	.650	.450	.333	.000	.679	.550	.755	.572	.000	.686	.789



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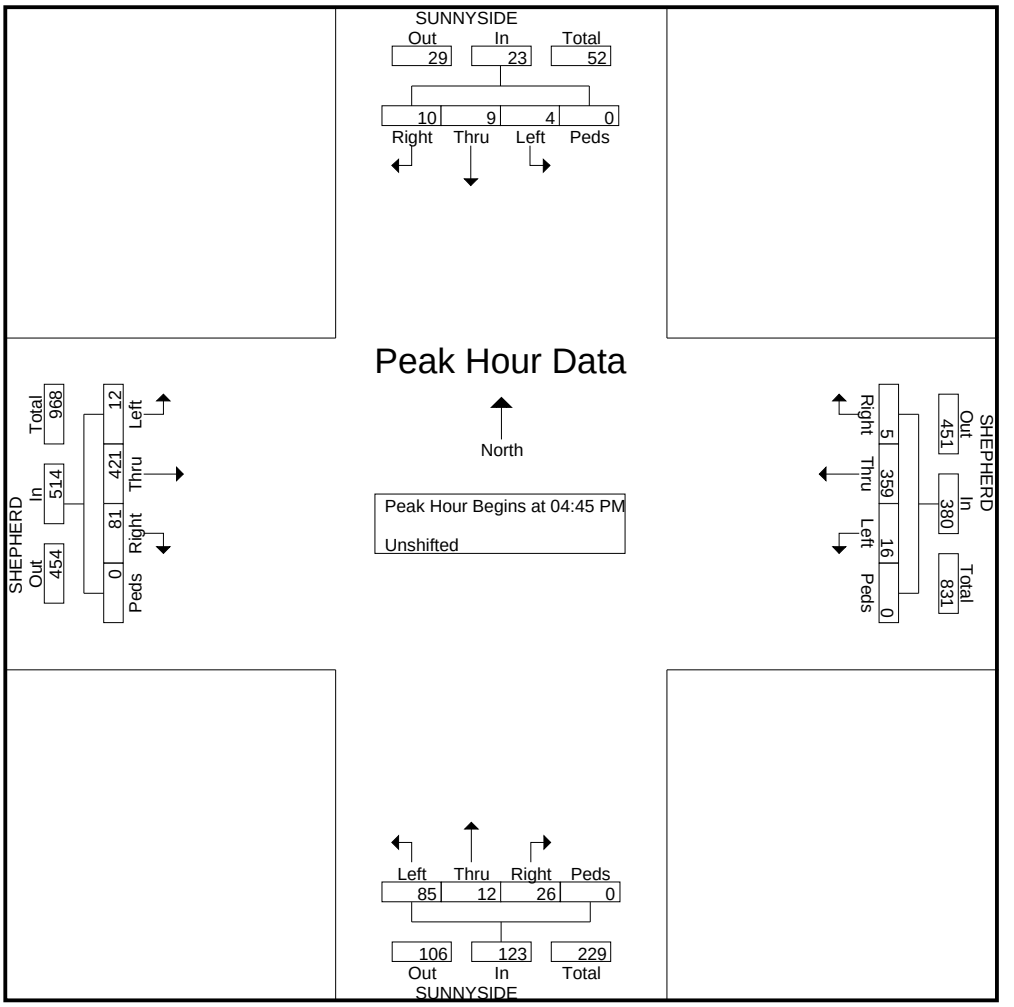
File Name : Shepherd at Sunnyside
Site Code : 00000000
Start Date : 3/15/2018
Page No : 3

	SUNNYSIDE Southbound					SHEPHERD Westbound					SUNNYSIDE Northbound					SHEPHERD Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	1	1	1	0	3	3	87	2	0	92	**35**	3	2	0	**40**	**4**	92	16	0	112	247
05:00 PM	0	1	2	0	3	3	87	0	0	90	21	**6**	6	0	33	3	108	**24**	0	135	261
05:15 PM	**2**	**4**	**4**	0	**10**	**7**	**93**	**3**	0	**103**	18	1	**10**	0	29	3	105	22	0	130	**272**
05:30 PM	1	3	3	0	7	3	92	0	0	95	11	2	8	0	21	2	**116**	19	0	**137**	260
Total Volume	4	9	10	0	23	16	359	5	0	380	85	12	26	0	123	12	421	81	0	514	1040
% App. Total	17.4	39.1	43.5	0		4.2	94.5	1.3	0		69.1	9.8	21.1	0		2.3	81.9	15.8	0		
PHF	.500	.563	.625	.000	.575	.571	.965	.417	.000	.922	.607	.500	.650	.000	.769	.750	.907	.844	.000	.938	.956



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AGENDA ITEM NO.2

File Name : Clovis at Riordan
Site Code : 00000000
Start Date : 3/21/2019
Page No : 1

Groups Printed- Unshifted - Bank 1 (U-turns)

	CLOVIS Southbound			RIORDAN Westbound			CLOVIS Northbound			
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Int. Total
07:00 AM	8	62	0	9	1	0	22	0	0	102
07:15 AM	0	110	0	16	1	0	38	3	0	168
07:30 AM	4	123	0	15	3	0	46	4	1	196
07:45 AM	4	69	0	8	0	1	28	5	3	118
Total	16	364	0	48	5	1	134	12	4	584
08:00 AM	0	88	0	13	1	0	42	8	2	154
08:15 AM	3	65	0	14	2	0	57	11	4	156
08:30 AM	4	51	0	7	2	0	31	4	0	99
08:45 AM	1	29	0	7	3	0	31	2	2	75
Total	8	233	0	41	8	0	161	25	8	484
******										
04:00 PM	0	48	0	3	1	0	63	8	1	124
04:15 PM	3	51	0	4	0	0	74	12	0	144
04:30 PM	4	38	0	7	2	0	71	7	2	131
04:45 PM	5	46	0	14	0	0	59	6	1	131
Total	12	183	0	28	3	0	267	33	4	530
05:00 PM	2	55	0	4	2	0	74	18	0	155
05:15 PM	4	58	0	9	0	0	89	11	0	171
05:30 PM	3	66	0	7	0	0	81	12	3	172
05:45 PM	6	73	0	3	0	0	72	13	1	168
Total	15	252	0	23	2	0	316	54	4	666
Grand Total	51	1032	0	140	18	1	878	124	20	2264
Apprch %	4.7	95.3	0	88.1	11.3	0.6	85.9	12.1	2	
Total %	2.3	45.6	0	6.2	0.8	0	38.8	5.5	0.9	
Unshifted	25	1032	0	140	18	1	878	124	20	2238
% Unshifted	49	100	0	100	100	100	100	100	100	98.9
Bank 1 (Pedestrians)	26	0	0	0	0	0	0	0	0	26
% Bank 1 (Pedestrians)	51	0	0	0	0	0	0	0	0	1.1

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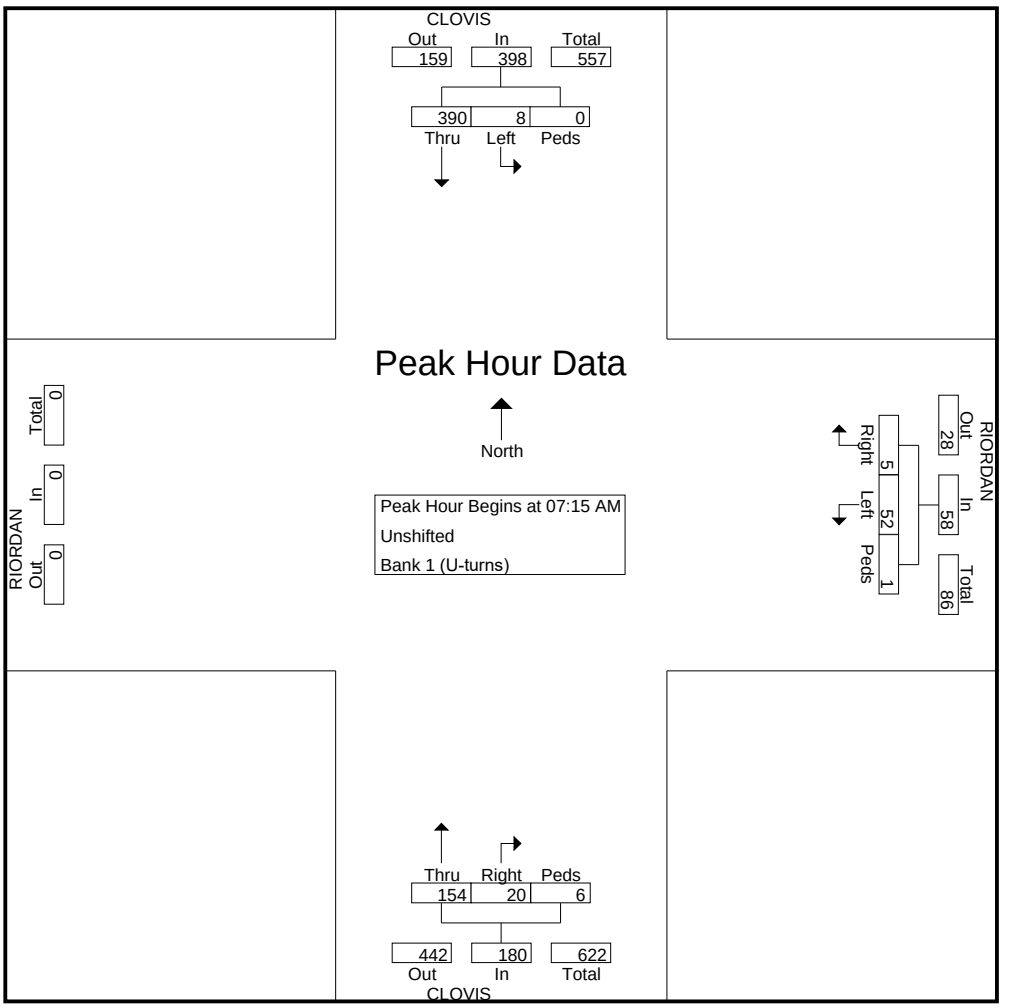
File Name : Clovis at Riordan
Site Code : 00000000
Start Date : 3/21/2019
Page No : 2

	CLOVIS Southbound				RIORDAN Westbound				CLOVIS Northbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	0	110	0	110	**16**	1	0	17	38	3	0	41	168
07:30 AM	**4**	**123**	0	**127**	15	**3**	0	**18**	**46**	4	1	51	**196**
07:45 AM	4	69	0	73	8	0	**1**	9	28	5	**3**	36	118
08:00 AM	0	88	0	88	13	1	0	14	42	**8**	2	**52**	154
Total Volume	8	390	0	398	52	5	1	58	154	20	6	180	636
% App. Total	2	98	0		89.7	8.6	1.7		85.6	11.1	3.3		
PHF	.500	.793	.000	.783	.813	.417	.250	.806	.837	.625	.500	.865	.811



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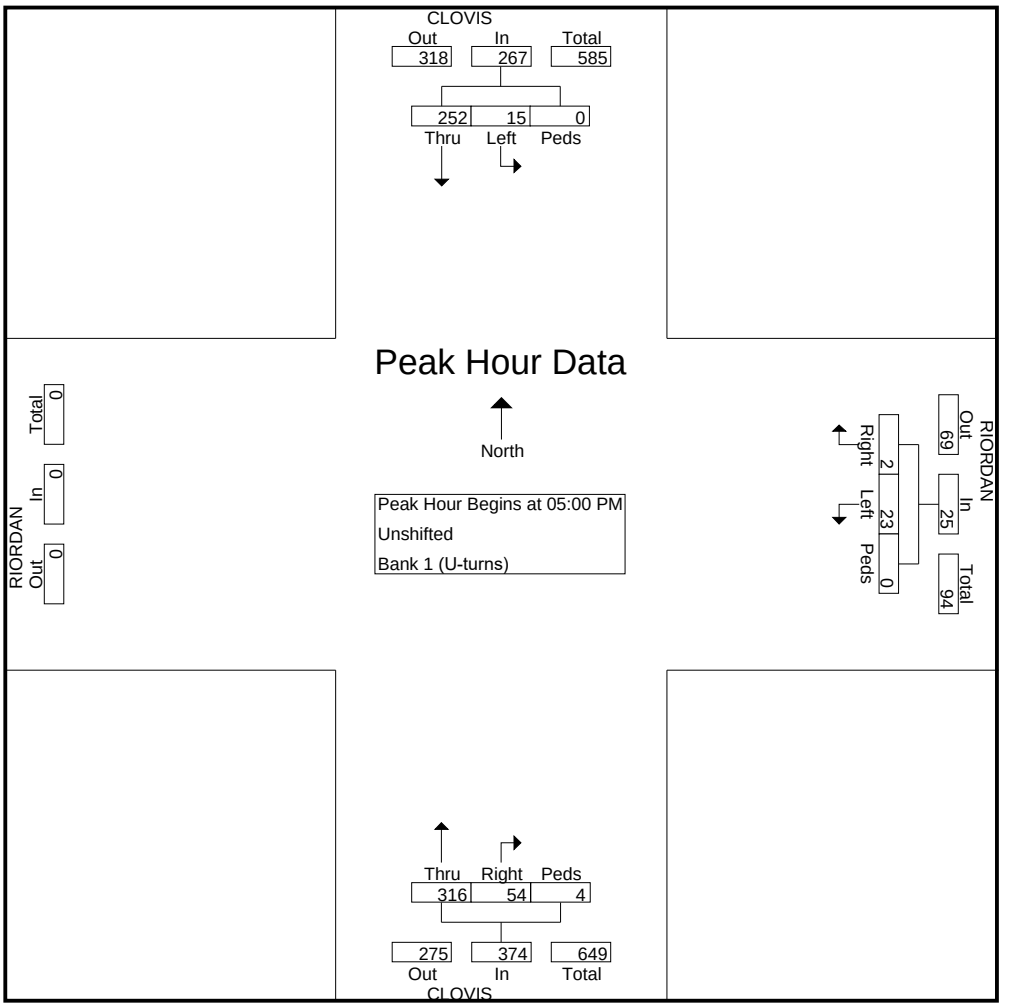
AGENDA ITEM NO.2

File Name : Clovis at Riordan
Site Code : 00000000
Start Date : 3/21/2019
Page No : 3

	CLOVIS Southbound				RIORDAN Westbound				CLOVIS Northbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	2	55	0	57	4	**2**	0	6	74	**18**	0	92	155
05:15 PM	4	58	0	62	**9**	0	0	**9**	**89**	11	0	**100**	171
05:30 PM	3	66	0	69	7	0	0	7	81	12	**3**	96	**172**
05:45 PM	**6**	**73**	0	**79**	3	0	0	3	72	13	1	86	168
Total Volume	15	252	0	267	23	2	0	25	316	54	4	374	666
% App. Total	5.6	94.4	0		92	8	0		84.5	14.4	1.1		
PHF	.625	.863	.000	.845	.639	.250	.000	.694	.888	.750	.333	.935	.968



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AGENDA ITEM NO.2

File Name : Clovis at Riordan
Site Code : 00000000
Start Date : 3/21/2019
Page No : 1

Groups Printed- Bank 1 (U-turns)

	CLOVIS Southbound			RIORDAN Westbound			CLOVIS Northbound			
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Int. Total
07:00 AM	7	0	0	0	0	0	0	0	0	7
******										
07:45 AM	1	0	0	0	0	0	0	0	0	1
Total	8	0	0	0	0	0	0	0	0	8
******										
08:30 AM	4	0	0	0	0	0	0	0	0	4
******										
Total	4	0	0	0	0	0	0	0	0	4
******										
04:30 PM	1	0	0	0	0	0	0	0	0	1
04:45 PM	2	0	0	0	0	0	0	0	0	2
Total	3	0	0	0	0	0	0	0	0	3
05:00 PM	1	0	0	0	0	0	0	0	0	1
05:15 PM	2	0	0	0	0	0	0	0	0	2
05:30 PM	3	0	0	0	0	0	0	0	0	3
05:45 PM	5	0	0	0	0	0	0	0	0	5
Total	11	0	0	0	0	0	0	0	0	11
Grand Total	26	0	0	0	0	0	0	0	0	26
Apprch %	100	0	0	0	0	0	0	0	0	
Total %	100	0	0	0	0	0	0	0	0	

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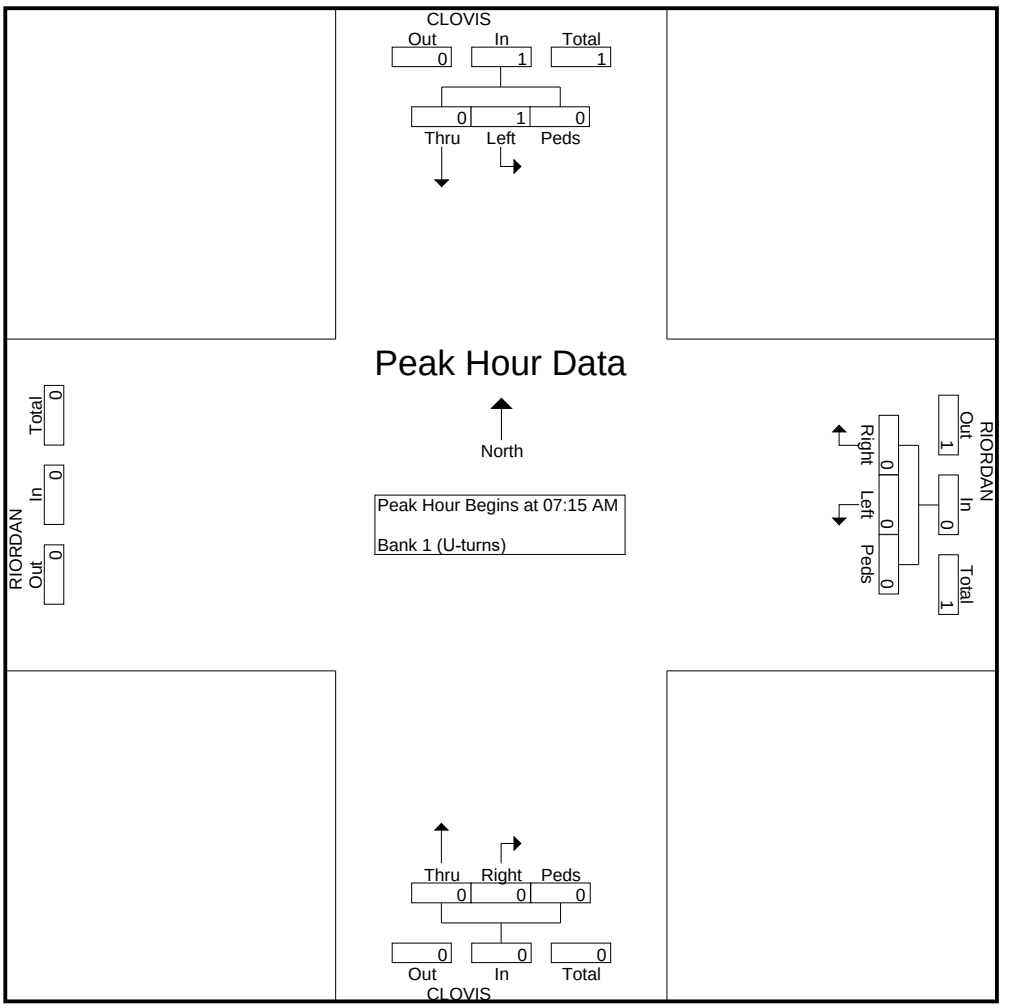
File Name : Clovis at Riordan
Site Code : 00000000
Start Date : 3/21/2019
Page No : 2

	CLOVIS Southbound				RIORDAN Westbound				CLOVIS Northbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**1**
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	0	0	0	0	0	0	0	1
% App. Total	100	0	0		0	0	0		0	0	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250



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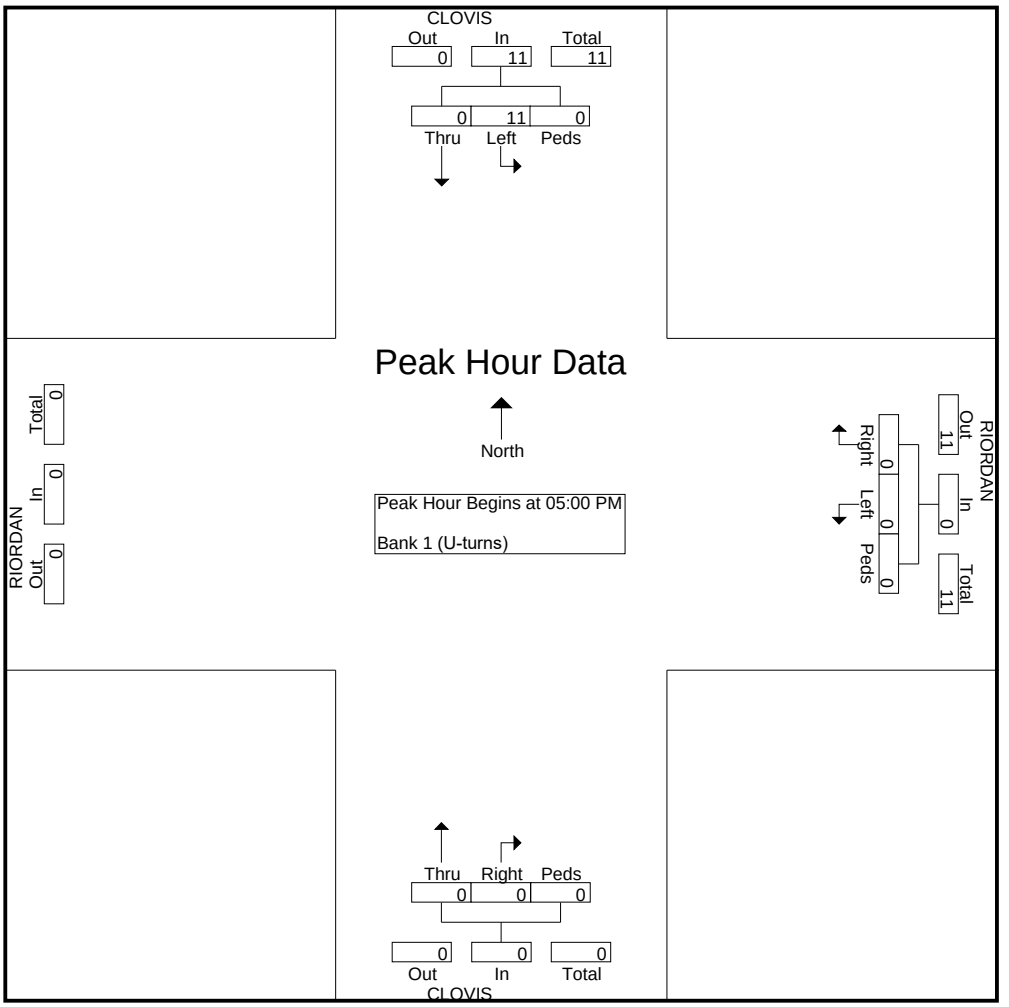
File Name : Clovis at Riordan
Site Code : 00000000
Start Date : 3/21/2019
Page No : 3

	CLOVIS Southbound				RIORDAN Westbound				CLOVIS Northbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
05:30 PM	3	0	0	3	0	0	0	0	0	0	0	0	3
05:45 PM	**5**	0	0	**5**	0	0	0	0	0	0	0	0	**5**
Total Volume	11	0	0	11	0	0	0	0	0	0	0	0	11
% App. Total	100	0	0		0	0	0		0	0	0		
PHF	.550	.000	.000	.550	.000	.000	.000	.000	.000	.000	.000	.000	.550



Appendix C: Traffic Modeling

March 26, 2019

Kai Han, TE
Council of Fresno County Governments
2035 Tulare Street, Suite 201
Fresno, CA 93721

Via E-mail Only: khan@fresnocog.org

Subject: ***Traffic Modeling Request for the Preparation of a Traffic Impact Analysis for Tract 6263 Located on the Southeast Quadrant of Shepherd Avenue and Clovis Avenue in the City of Clovis (JLB Project 006-028)***

Dear Mr. Han,

JLB Traffic Engineering, Inc. (JLB) hereby requests traffic modeling for the preparation of a Traffic Impact Analysis (TIA) for the Project described below. Tract 6263 (Project) proposes to develop approximately 23.35 acres with up to 139 single family residential units. Furthermore, Tract 6263 proposes to include a right-in, right-out access point to the south side of Shepherd Avenue. The right-in, right-out access is proposed at a point approximately 1,300 feet east of Clovis Avenue. Based on information provided to JLB, the Project will undergo a General Plan Amendment to reclassify the designation of Shepherd Avenue between Clovis Avenue to Sunnyside Avenue from an Expressway to an "Expressway with Limited Access" and to modify the existing land use from Low Density Residential to Medium Density Residential under the R-1-MD zoning. An aerial of the Project vicinity and the Project site plan are shown in Exhibits A and B, respectively.

The purpose of this TIA is to evaluate the potential traffic impacts, identify short-term roadway and circulation needs, determine potential mitigation measures and identify any critical traffic issues that should be addressed in the on-going planning process.

Scenarios:

The following scenarios are requested:

1. Base Year 2019 (with Link and TAZ modifications)
2. Cumulative Year 2035 plus Project Select Zone (with Link and TAZ modifications)
3. Differences between model runs 2 and 1 above.

Changes and/or additions to the Model Network or TAZ's

JLB reviewed the Fresno COG model network for the Base Year 2019 and Cumulative Year 2035. Based on this review, JLB requests the following link and TAZ Network modifications. Details on the requested Link and TAZ modifications for the Base Year 2019 and Cumulative Year 2035 are illustrated in Exhibit C.

LINK and TAZ MODIFICATIONS (For Base Year 2019 Project Select Zone Scenario Only):

1. Modify Shepherd Avenue as follows:
    A. Reduce the lanes between Node 4927 to Node 6835 from two lanes to one lane in the eastbound direction.

LINK and TAZ MODIFICATIONS (For Base Year 2019 and Cumulative Year 2035 plus Project Select Zone Scenarios):

1. Modify Clovis Avenue to increase the speed limit between Shepherd Avenue and Nees Avenue from 40 MPH to 45 MPH in each direction.
2. Create Sunnyside Avenue between Node 6835 to Node 6960.
    A. Classification: Collector
    B. Lanes: One in each direction
    C. Speed: 45 MPH
3. Modify TAZ 1815 as follows:
    A. Split TAZ 1815 into two TAZ's, 1815A and 1815B as illustrated in Exhibit D.
        i. TAZ 1815A shall have two connectors, one north to Shepherd Avenue and another west to Clovis Avenue.
        ii. TAZ 1815B shall have one connector east to Sunnyside Avenue.

LINK and TAZ ZONE MODIFICATIONS (For Cumulative Year 2035 plus Project Select Zone Scenario Only):

1. Create Project TAZ A. TAZ A shall have two TAZ connectors, one west to Clovis Avenue and another north to Shepherd Avenue.

TAZ A Project Only Trip Generation (For Cumulative Year 2035 plus Project Select Zone Scenario Only)

Table I presents the trip generation for Tract 6263. The trip generation is pursuant to the 10th Edition of the Trip Generation Manual with trip generation rates for a Single-Family Detached Housing. At build-out, Tract 6263 is estimated to generate a maximum of 1,312 daily trips, 103 AM peak hour trips and 138 PM peak hour trips.

Table I: TAZ A Project Only Trip Generation

Land Use (ITE Code)	Size	Unit	Daily		AM Peak Hour						PM Peak Hour					
			Rate	Total	Trip Rate	In %	Out %	In	Out	Total	Trip Rate	In %	Out %	In	Out	Total
Single-Family Detached Housing (210)	139	d.u.	9.44	1,312	0.74	25	75	26	77	103	0.99	63	37	87	51	138
Gross Total Project Trips				**1,312**				**26**	**77**	**103**				**87**	**51**	**138**

Note: d.u. = dwelling units

Access to the Project

Access to and from the Project site will be provided from three (3) access points. The first access point will be a full access located along the east side of Clovis Avenue at its intersection with Riordan Avenue. The second access point will be limited to right-in, and right-out along the east side of Clovis Avenue at its intersection with Prescott Lane. The third access point will be limited to right-in, right-out only off Marion Avenue to be located along the south side of Shepherd Avenue approximately 1,200 feet east of Clovis Avenue. The third access point in effect relocates the existing right-in, right-out access to Shepherd Avenue from Preuss Avenue. Additional Project details are found on Exhibit B.

Please invoice JLB Traffic Engineering, Inc. and reference JLB Project No. 006-028 on the invoice. If you have any questions or require additional information, please do not hesitate to contact me by phone at (559) 317-6245 or by e-mail at jrios@JLBtraffic.com.

Sincerely,

Javier Rios
Engineer I/II

cc: Lang Yu. Fresno COG
Jose Benavides, JLB Traffic Engineering, Inc.

Exhibit A – Project Site Aerial

Exhibit B – Project Site Plan

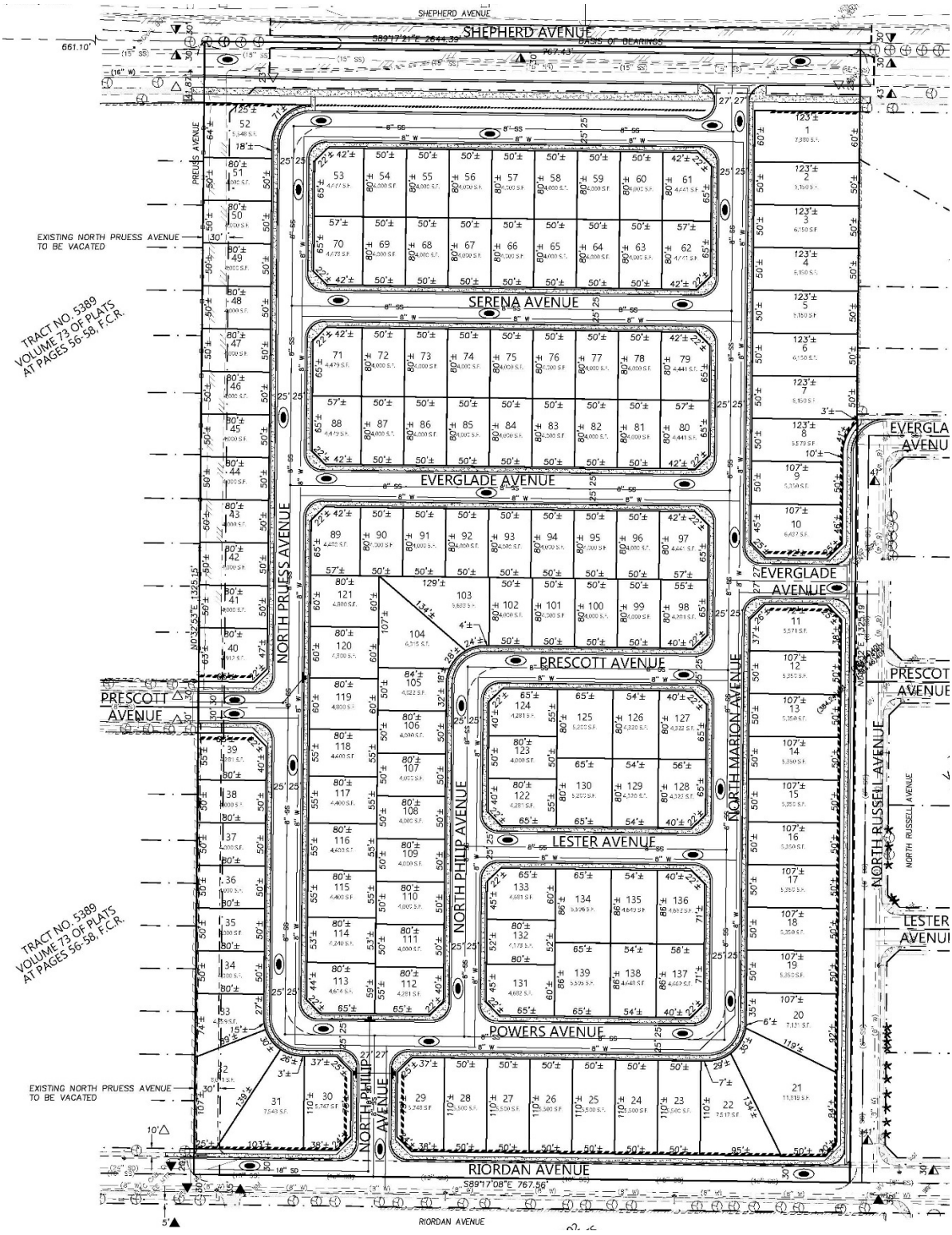
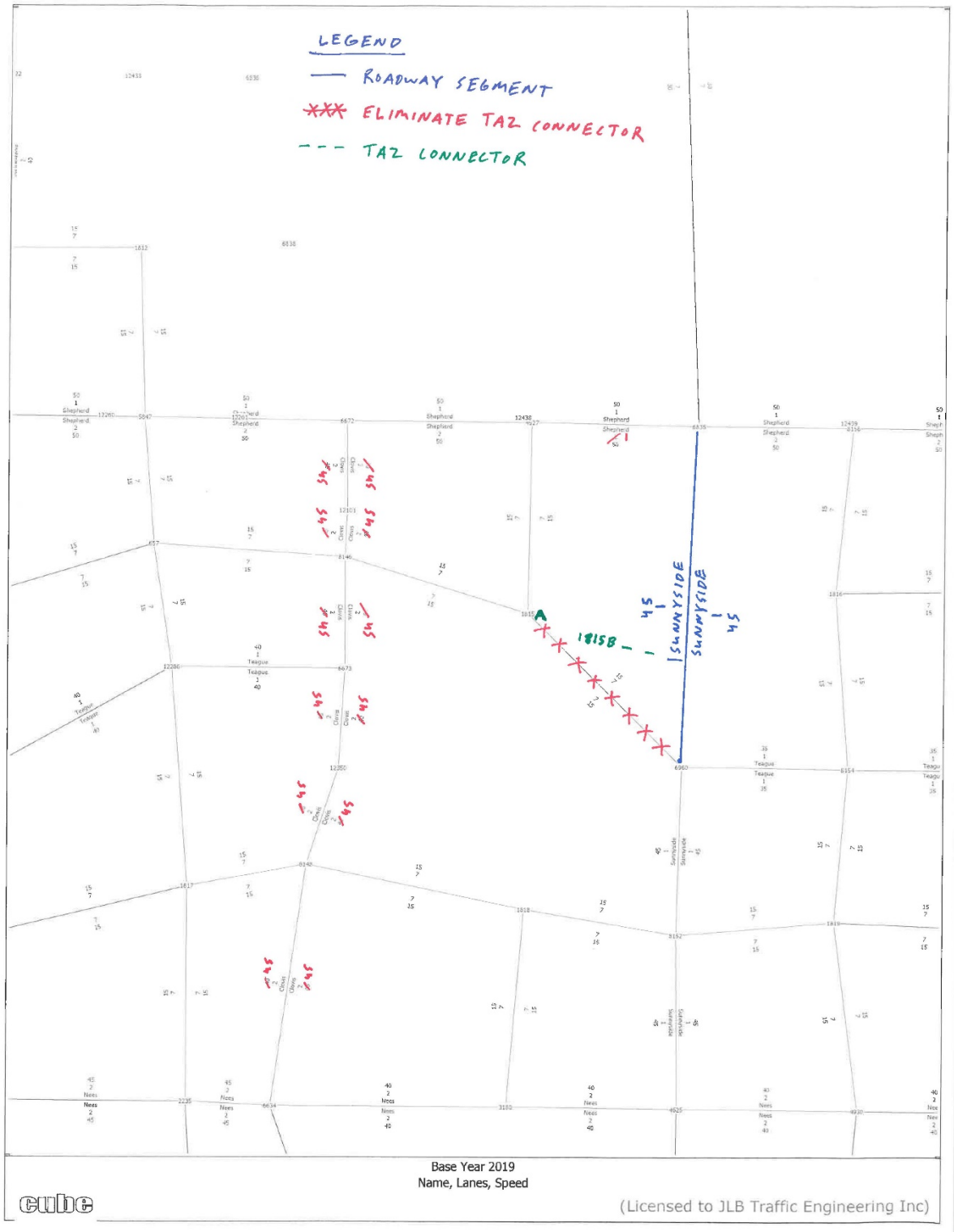


Exhibit C – Model Link and TAZ Modifications



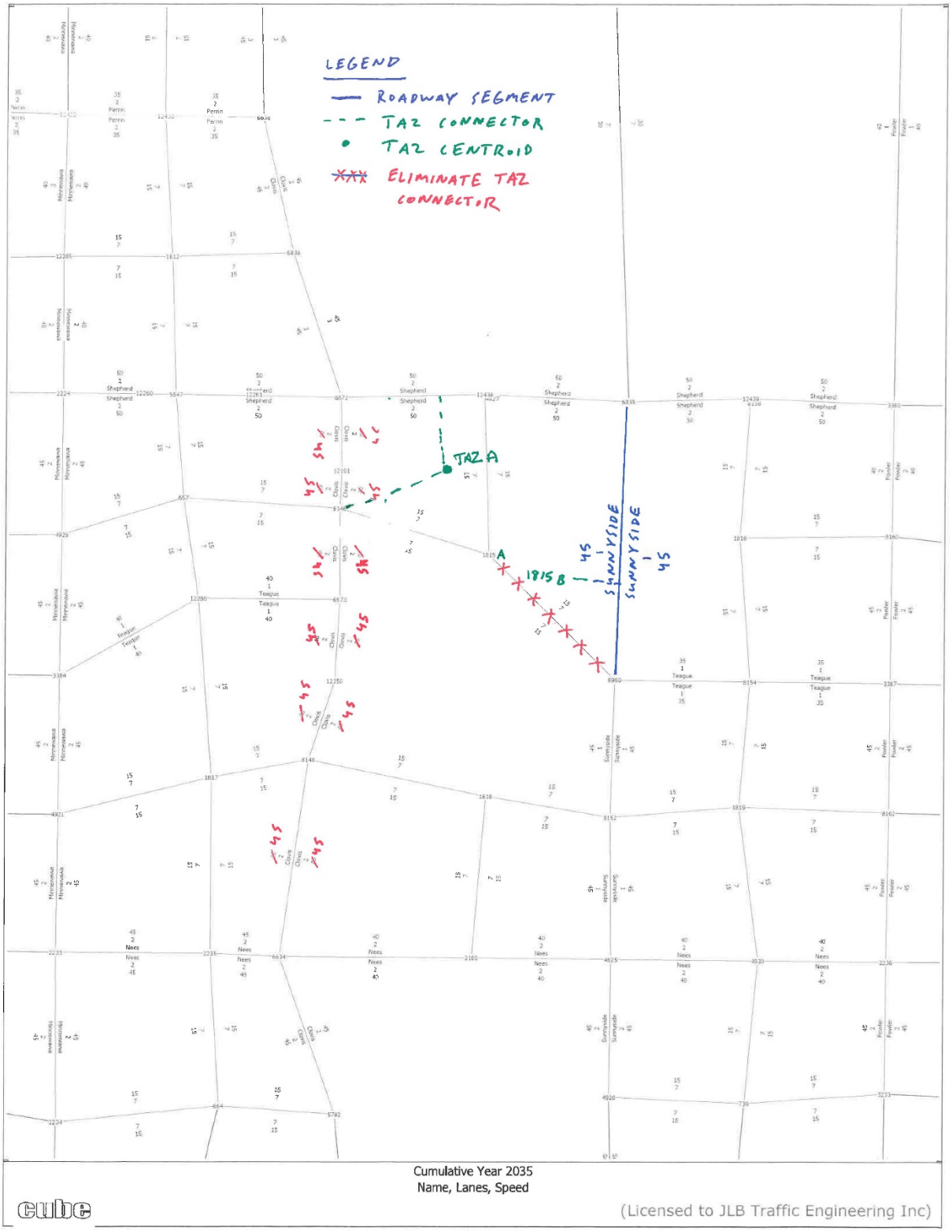
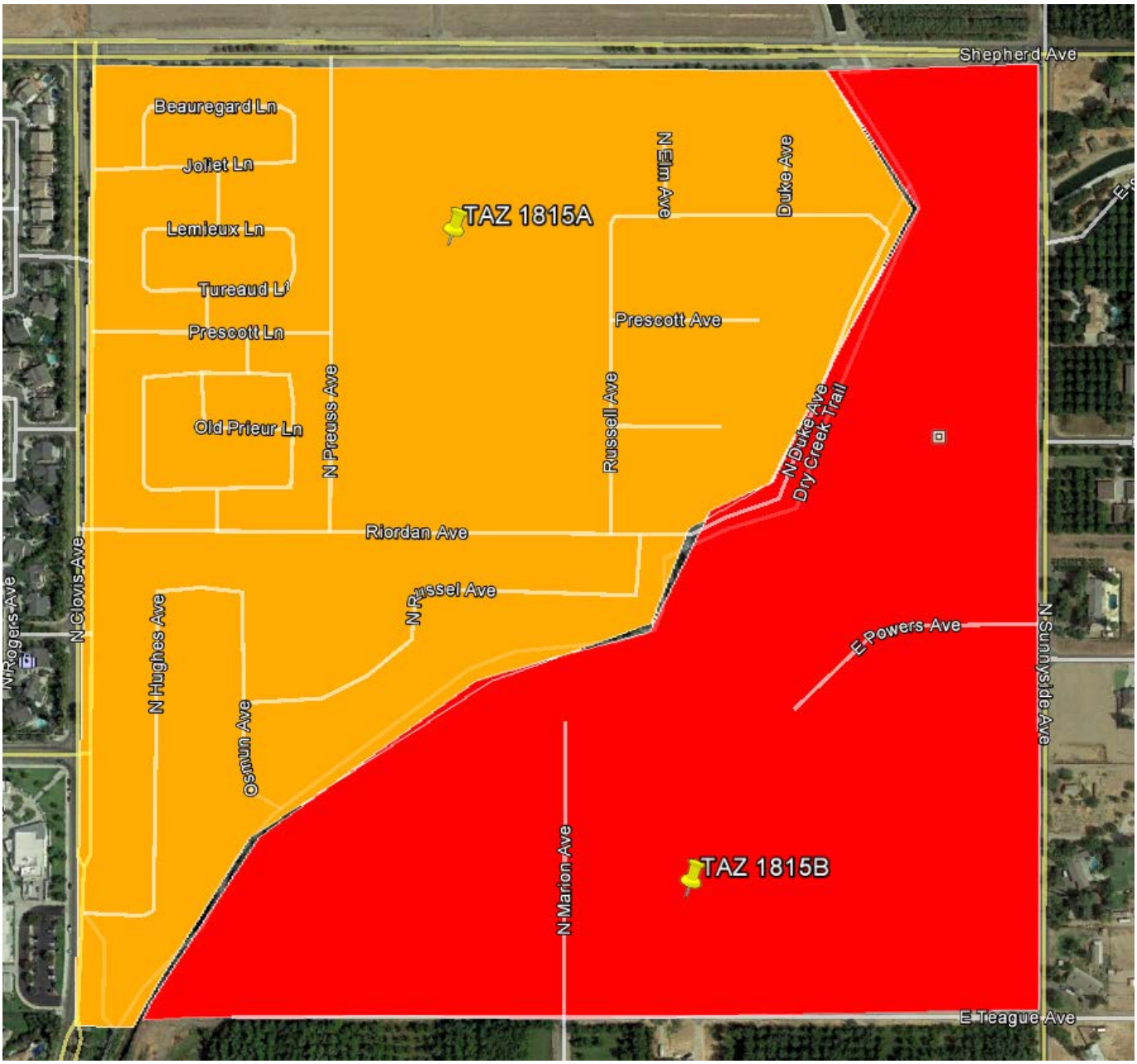
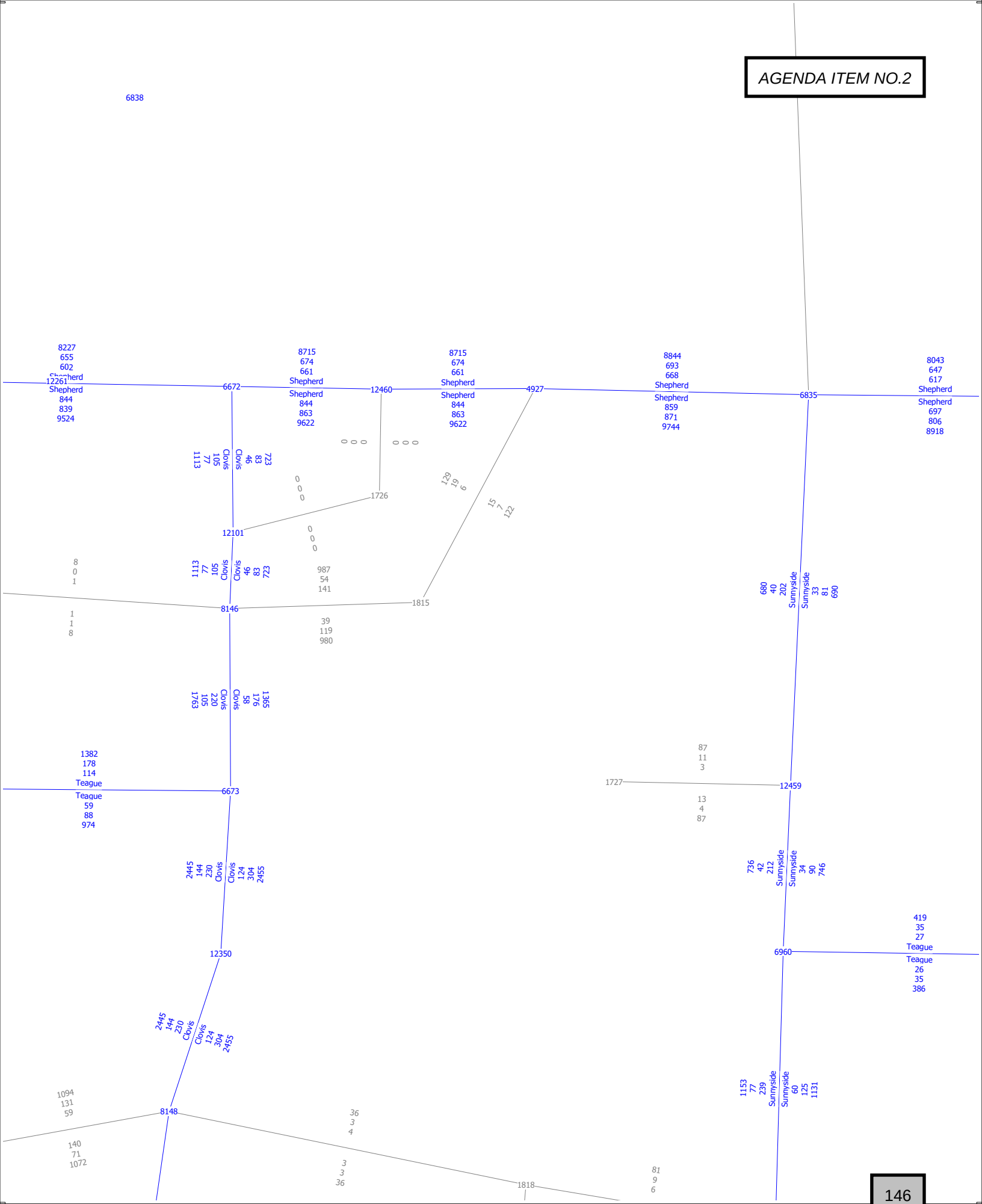
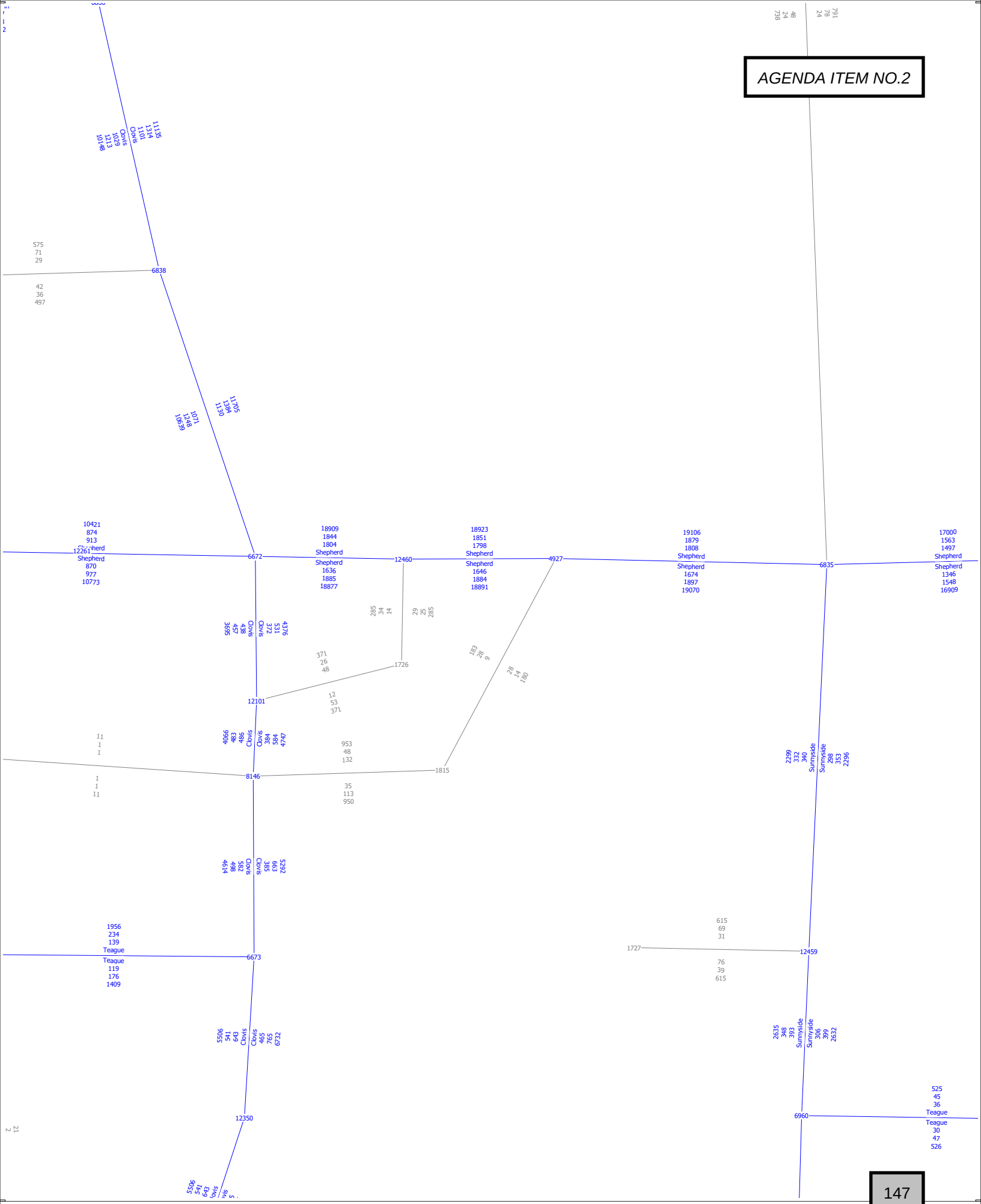

LEGEND
ROADWAY SEGMENT
TAZ CONNECTOR
TAZ CENTROID
ELIMINATE TAZ CONNECTOR
TAZ A
1815 A
1815 B
SUNNYSIDE
SUNNYSIDE
Cumulative Year 2035
Name, Lanes, Speed
cube
(Licensed to JLB Traffic Engineering Inc)

Exhibit D – TAZ 1815 Modification



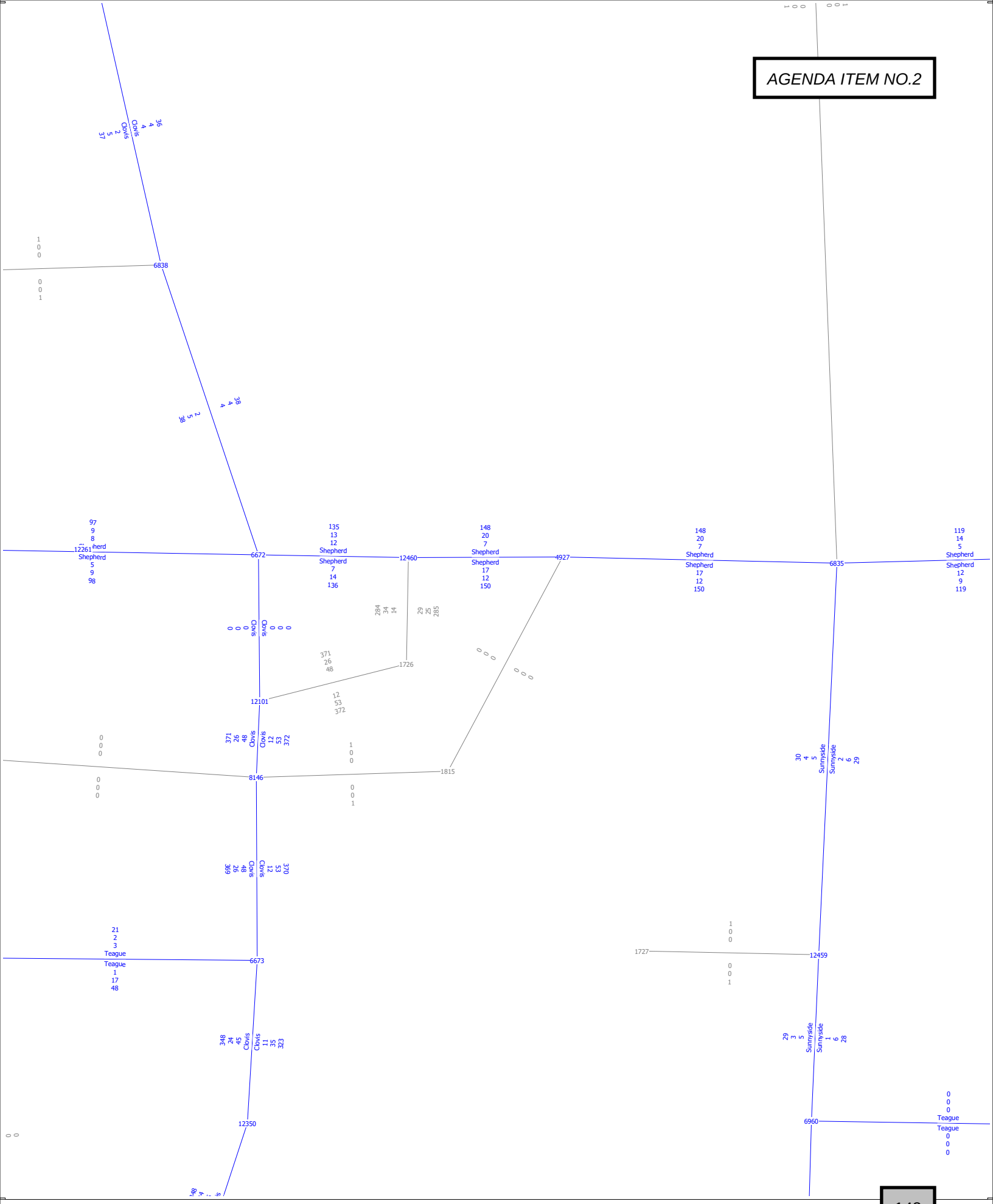


BASE YEAR 2019
AM, PM & DAILY VOLUMES

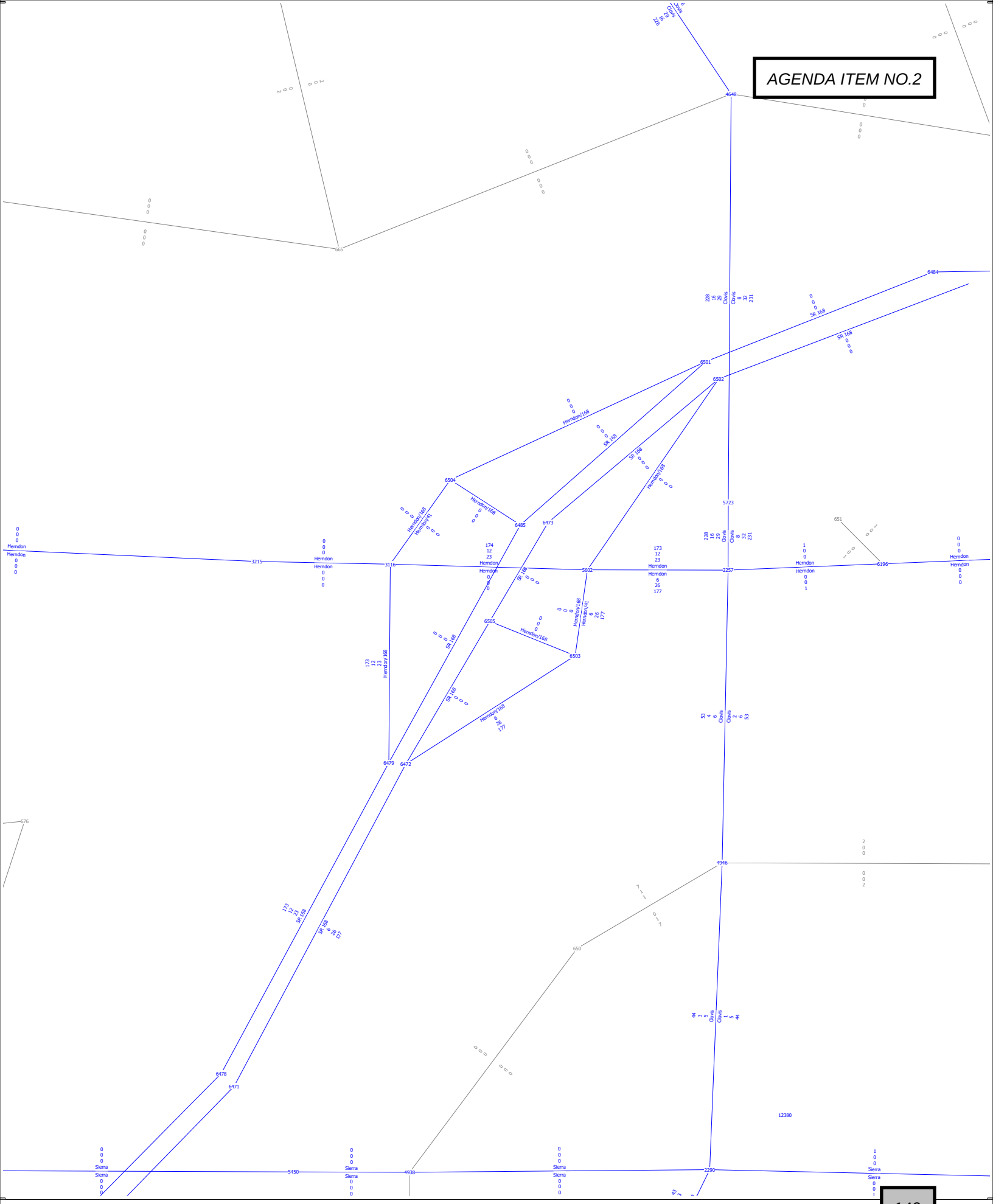


CUMULATIVE YEAR 2035
AM, PM & DAILY VOLUMES

AGENDA ITEM NO.2



CUMULATIVE YEAR 2035
AM, PM & DAILY VOLUMES
SELECT ZONE 1



Appendix D: Methodology

Levels of Service Methodology

The description and procedures for calculating capacity and level of service (LOS) are found in the Transportation Research Board, Highway Capacity Manual (HCM). The HCM 2010 represents the research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level of service (LOS), from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish a LOS.

Urban Streets (Automobile Mode)

The term "urban streets" refers to urban arterials and collectors, including those in downtown areas. Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials. Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials their operation is not always dominated by traffic signals. Downtown streets are signalized facilities that often resemble arterials. They not only move through traffic but also provide access to local businesses for passenger cars, transit buses, and trucks. Pedestrian conflicts and lane obstructions created by stopping or standing taxicabs, buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

Flow Characteristics

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control.

The street environment includes the geometric characteristics of the facility, the character of roadside activity, and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway/access point density, spacing between signalized intersections, existence of parking, level of pedestrian and bicyclist activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses, and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic controls (including signals and signs) forces a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds; however, such controls are needed to establish right-of-way.

Levels of Service (automobile Mode)

The average travel speed for through vehicles along an urban street is the determinant of the operating level of service (LOS). The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections.

LOS A describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal. Travel speeds exceed 85 of the base free flow speed (FFS).

LOS B describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67 and 85 percent of the base FFS.

LOS C describes stable operations. The ability to maneuver and change lanes in midblock location may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50 and 67 percent of the base FFS.

LOS D indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volumes, inappropriate signal timing, at the boundary intersections. The travel speed is between 40 and 50 percent of the base FFS.

LOS E is characterized unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30 and 40 percent of the base FFS.

LOS F is characterized by street flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30 percent or less of the base FFS.

Table A-1: Urban Street Levels of Service (Automobile Mode)

Travel Speed as a Percentage of Base Free-Flow Speed (%)	LOS by Critical Volume-to-Capacity Ratio[a]	
	≤1.0	>1.0
>85	A	F
>67 to 85	B	F
>50 to 67	C	F
>40 to 50	D	F
>30 to 40	E	F
≤30	F	F

a = The Critical volume-to-capacity ratio is based on consideration of the through movement-to-capacity ratio at each boundary intersection in the subject direction of travel. The critical volume-to-capacity ratio is the largest ratio of those considered.
Source: Highway Capacity Manual 2010, Exhibit 16-4. Urban Street LOS Criteria (Automobile Mode)

Intersection Levels of Service

One of the more important elements limiting, and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop and yield signs.

Signalized Intersections – Performance Measures

For signalized intersections the performance measures include automobile volume-to-capacity ratio, automobile delay, queue storage length, ratio of pedestrian delay, pedestrian circulation area, pedestrian perception score, bicycle delay, and bicycle perception score. LOS is also considered a performance measure. For the automobile mode average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. A LOS designation is given to the weighted average control delay to better describe the level of operation. A description of LOS for signalized intersections is found in Table A-2.

Table A-2: Signalized Intersection Level of Service Description (Automobile Mode)

Level of Service	Description	Average Control Delay (seconds per vehicle)
A	Operations with a control delay of 10 seconds/vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when volume-to-capacity ratio is and either progression is exceptionally favorable or the cycle length is very short. If it's due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Operations with control delay between 10.1 to 20.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	>10.0 to 20.0
C	Operations with average control delays between 20.1 to 35.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 to 35
D	Operations with control delay between 35.1 to 55.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop, and i ndividual cycle failures are noticeable.	>35 to 55
E	Operations with control delay between 55.1 to 80.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.	>55 to 80
F	Operations with unacceptable control delay exceeding 80.0 seconds/vehicle and a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80

Source: Highway Capacity Manual 2010

Unsignalized Intersections

The HCM 2010 procedures use control delay as a measure of effectiveness to determine level of service. Delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, i. e., in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

All-Way Stop Controlled Intersections

All-way stop controlled intersections is a form of traffic controls in which all approaches to an intersection are required to stop. Similar to signalized intersections, at all-way stop controlled intersections the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection as a whole. In other words the delay measured for all-way stop controlled intersections is a measure of the average delay for all vehicles passing through the intersection during the peak hour. A LOS designation is given to the weighted average control delay to better describe the level of operation.

Two-Way Stop Controlled Intersections

Two-way stop controlled (TWSC) intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At TWSC intersections the stop-controlled approaches are referred as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. A LOS for TWSC intersection is determined by the computed or measured control delay for each minor movement. LOS is not defined for the intersection as a whole for three main reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at the typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay from all vehicles; and (c) the resulting low delay can mask important LOS deficiencies for minor movements. Table A-3 provides a description of LOS at unsignalized intersections.

Table A-3: Unsignalized Intersection Level of Service Description (Automobile Mode)

Control Delay (seconds per vehicle)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	**v/c > 1.0**
≤10	A	F
>10 to 15	B	F
>15 to 25	C	F
>25 to 35	D	F
>35 to 50	E	F
>50	F	F

Source: HCM 2010 Exhibit 19-1.

Appendix E: Existing Traffic Conditions

AGENDA ITEM NO.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	359	138	94	417	93	54
Future Volume (vph)	1	359	138	94	417	93	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7	5.7	4.2	5.7	4.2	4.2
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1564	3433	1863	1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1564	3433	1863	1770	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	399	153	104	463	103	60
RTOR Reduction (vph)	0	0	83	0	0	0	49
Lane Group Flow (vph)	1	399	70	104	463	103	11
Confl. Peds. (#/hr)			1				
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	7	4		3	8	2	
Permitted Phases			4				2
Actuated Green, G (s)	0.5	22.3	22.3	3.4	25.2	8.6	8.6
Effective Green, g (s)	0.5	22.3	22.3	3.4	25.2	8.6	8.6
Actuated g/C Ratio	0.01	0.46	0.46	0.07	0.52	0.18	0.18
Clearance Time (s)	4.2	5.7	5.7	4.2	5.7	4.2	4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	18	1630	720	241	969	314	281
v/s Ratio Prot	0.00	0.11		c0.03	c0.25	c0.06	
v/s Ratio Perm			0.05				0.01
v/c Ratio	0.06	0.24	0.10	0.43	0.48	0.33	0.04
Uniform Delay, d1	23.7	7.9	7.4	21.6	7.4	17.4	16.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	0.1	1.2	0.4	0.6	0.1
Delay (s)	25.0	8.0	7.4	22.8	7.8	18.0	16.5
Level of Service	C	A	A	C	A	B	B
Approach Delay (s)		7.9			10.5	17.5	
Approach LOS		A			B	B	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	14.1
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	479	5	0	569	0	7
Future Vol, veh/h	479	5	0	569	0	7
Conflicting Peds, #/hr	0	2	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	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	622	6	0	739	0	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	627
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	484
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	483
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	483	-	-	-
HCM Lane V/C Ratio	0.019	-	-	-
HCM Control Delay (s)	12.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Intersection Delay, s/veh	26.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	287	119	12	458	8	78	9	8	3	15	18
Future Vol, veh/h	11	287	119	12	458	8	78	9	8	3	15	18
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	363	151	15	580	10	99	11	10	4	19	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	22.9	34.6	12.1	10.6
HCM LOS	C	D	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	82%	3%	3%	8%
Vol Thru, %	9%	69%	96%	42%
Vol Right, %	8%	29%	2%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	417	478	36
LT Vol	78	11	12	3
Through Vol	9	287	458	15
RT Vol	8	119	8	18
Lane Flow Rate	120	528	605	46
Geometry Grp	1	1	1	1
Degree of Util (X)	0.231	0.761	0.881	0.087
Departure Headway (Hd)	6.913	5.192	5.24	6.905
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	516	691	690	522
Service Time	4.998	3.248	3.293	4.905
HCM Lane V/C Ratio	0.233	0.764	0.877	0.088
HCM Control Delay	12.1	22.9	34.6	10.6
HCM Lane LOS	B	C	D	B
HCM 95th-tile Q	0.9	7.1	10.8	0.3

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	52	5	154	20	1	8	390
Future Vol, veh/h	52	5	154	20	1	8	390
Conflicting Peds, #/hr	0	1	0	6	0	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	64	6	190	25	1	10	481

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	472	115	0	0	215	221	0
Stage 1	209	-	-	-	-	-	-
Stage 2	263	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	521	916	-	-	1047	1345	-
Stage 1	806	-	-	-	-	-	-
Stage 2	757	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	514	910	-	-	1296	1296	-
Mov Cap-2 Maneuver	514	-	-	-	-	-	-
Stage 1	801	-	-	-	-	-	-
Stage 2	751	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	534	1296	-
HCM Lane V/C Ratio	-	-	0.132	0.009	-
HCM Control Delay (s)	-	-	12.8	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	-

AGENDA ITEM NO.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	329	80	51	342	145	105
Future Volume (vph)	1	329	80	51	342	145	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7	5.7	4.2	5.7	4.2	4.2
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1563	3433	1863	1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1563	3433	1863	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	346	84	54	360	153	111
RTOR Reduction (vph)	0	0	49	0	0	0	83
Lane Group Flow (vph)	1	346	35	54	360	153	28
Confl. Peds. (#/hr)			2				
Turn Type	Prot	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	7	4		3	8	2	
Permitted Phases			4				2
Actuated Green, G (s)	0.5	19.1	19.1	1.7	20.3	11.5	11.5
Effective Green, g (s)	0.5	19.1	19.1	1.7	20.3	11.5	11.5
Actuated g/C Ratio	0.01	0.41	0.41	0.04	0.44	0.25	0.25
Clearance Time (s)	4.2	5.7	5.7	4.2	5.7	4.2	4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	19	1456	643	125	815	438	392
v/s Ratio Prot	0.00	0.10		c0.02	c0.19	c0.09	
v/s Ratio Perm			0.02				0.02
v/c Ratio	0.05	0.24	0.05	0.43	0.44	0.35	0.07
Uniform Delay, d1	22.7	8.9	8.2	21.9	9.1	14.4	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.0	2.4	0.4	0.5	0.1
Delay (s)	23.9	9.0	8.2	24.3	9.5	14.9	13.4
Level of Service	C	A	A	C	A	B	B
Approach Delay (s)		8.9			11.4	14.3	
Approach LOS		A			B	B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	14.1
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	600	20	0	469	0	7
Future Vol, veh/h	600	20	0	469	0	7
Conflicting Peds, #/hr	0	2	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	645	22	0	504	0	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	658
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	464
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	463
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	463	-	-	-
HCM Lane V/C Ratio	0.016	-	-	-
HCM Control Delay (s)	12.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	421	81	16	359	5	85	12	26	4	9	10
Future Vol, veh/h	12	421	81	16	359	5	85	12	26	4	9	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	439	84	17	374	5	89	13	27	4	9	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.8	14.5	11	9.6
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	69%	2%	4%	17%
Vol Thru, %	10%	82%	94%	39%
Vol Right, %	21%	16%	1%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	514	380	23
LT Vol	85	12	16	4
Through Vol	12	421	359	9
RT Vol	26	81	5	10
Lane Flow Rate	128	535	396	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.221	0.727	0.561	0.042
Departure Headway (Hd)	6.215	4.889	5.106	6.281
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	577	744	705	568
Service Time	4.264	2.889	3.139	4.341
HCM Lane V/C Ratio	0.222	0.719	0.562	0.042
HCM Control Delay	11	19.8	14.5	9.6
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	0.8	6.4	3.5	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	23	2	316	54	11	15	252
Future Vol, veh/h	23	2	316	54	11	15	252
Conflicting Peds, #/hr	0	1	0	4	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	24	2	326	56	11	15	260

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	540	196	0	0	381	386	0
Stage 1	358	-	-	-	-	-	-
Stage 2	182	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	472	812	-	-	823	1169	-
Stage 1	678	-	-	-	-	-	-
Stage 2	831	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	457	808	-	-	990	990	-
Mov Cap-2 Maneuver	457	-	-	-	-	-	-
Stage 1	675	-	-	-	-	-	-
Stage 2	809	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	473	990	-
HCM Lane V/C Ratio	-	-	0.054	0.027	-
HCM Control Delay (s)	-	-	13	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	L	T	L	R
Maximum Queue (ft)	131	51	90	31	71	118	83	64
Average Queue (ft)	58	3	30	11	33	47	36	18
95th Queue (ft)	113	24	54	33	60	97	66	39
Link Distance (ft)	2563	2563				316	1227	1227
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			50	250	250			
Storage Blk Time (%)		0	0					
Queuing Penalty (veh)		0	0					

Intersection: 2: Preuss Avenue & Shepherd Avenue

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	1258
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	121	151	54	54
Average Queue (ft)	65	72	31	20
95th Queue (ft)	97	105	48	46
Link Distance (ft)	406	776	2613	2625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	SB
Directions Served	LR	UL
Maximum Queue (ft)	56	27
Average Queue (ft)	31	2
95th Queue (ft)	47	12
Link Distance (ft)	1367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	R	L	L	T	L	R
Maximum Queue (ft)	94	54	53	52	158	87	54
Average Queue (ft)	44	18	10	24	51	44	20
95th Queue (ft)	71	44	37	46	98	80	37
Link Distance (ft)	2563				316	1227	1227
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		50	250	250			
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Intersection: 2: Preuss Avenue & Shepherd Avenue

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	24
Link Distance (ft)	1258
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	116	89	76	51
Average Queue (ft)	72	57	41	14
95th Queue (ft)	101	82	67	39
Link Distance (ft)	406	776	2613	2625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

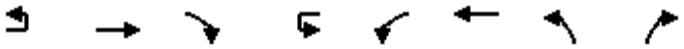
Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	SB
Directions Served	LR	UL
Maximum Queue (ft)	32	29
Average Queue (ft)	19	5
95th Queue (ft)	43	22
Link Distance (ft)	1367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Appendix F: Existing plus Project Traffic Conditions



Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	1	364	140	5	96	417	105	54
Future Volume (vph)	1	364	140	5	96	417	105	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7	5.7		4.2	5.7	4.2	4.2
Lane Util. Factor	1.00	0.95	1.00		0.97	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1564		3433	1863	1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1564		3433	1863	1770	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	404	156	6	107	463	117	60
RTOR Reduction (vph)	0	0	89	0	0	0	0	49
Lane Group Flow (vph)	1	404	67	0	113	463	117	11
Confl. Peds. (#/hr)			1					
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Prot	Perm
Protected Phases	7	4		3	3	8	2	
Permitted Phases			4					2
Actuated Green, G (s)	0.5	21.1	21.1		4.8	25.4	8.8	8.8
Effective Green, g (s)	0.5	21.1	21.1		4.8	25.4	8.8	8.8
Actuated g/C Ratio	0.01	0.43	0.43		0.10	0.52	0.18	0.18
Clearance Time (s)	4.2	5.7	5.7		4.2	5.7	4.2	4.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	18	1530	676		337	969	319	285
v/s Ratio Prot	0.00	0.11			c0.03	c0.25	c0.07	
v/s Ratio Perm			0.04					0.01
v/c Ratio	0.06	0.26	0.10		0.34	0.48	0.37	0.04
Uniform Delay, d1	23.9	8.9	8.2		20.5	7.5	17.6	16.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	0.1		0.6	0.4	0.7	0.1
Delay (s)	25.2	9.0	8.3		21.1	7.8	18.3	16.6
Level of Service	C	A	A		C	A	B	B
Approach Delay (s)		8.8				10.4	17.7	
Approach LOS		A				B	B	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	14.1
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	479	15	0	576	0	24
Future Vol, veh/h	479	15	0	576	0	24
Conflicting Peds, #/hr	0	2	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	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	622	19	0	748	0	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	634
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	479
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	478
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	478	-	-	-
HCM Lane V/C Ratio	0.065	-	-	-
HCM Control Delay (s)	13.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Intersection	
Intersection Delay, s/veh	29.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	299	124	12	463	8	80	9	8	3	15	18
Future Vol, veh/h	11	299	124	12	463	8	80	9	8	3	15	18
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	378	157	15	586	10	101	11	10	4	19	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	25.7	37.4	12.3	10.7
HCM LOS	D	E	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	82%	3%	2%	8%
Vol Thru, %	9%	69%	96%	42%
Vol Right, %	8%	29%	2%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	434	483	36
LT Vol	80	11	12	3
Through Vol	9	299	463	15
RT Vol	8	124	8	18
Lane Flow Rate	123	549	611	46
Geometry Grp	1	1	1	1
Degree of Util (X)	0.238	0.797	0.899	0.089
Departure Headway (Hd)	6.992	5.226	5.292	7.01
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	510	687	685	514
Service Time	5.085	3.287	3.349	5.01
HCM Lane V/C Ratio	0.241	0.799	0.892	0.089
HCM Control Delay	12.3	25.7	37.4	10.7
HCM Lane LOS	B	D	E	B
HCM 95th-tile Q	0.9	8	11.4	0.3

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	86	5	160	26	2	11	404
Future Vol, veh/h	86	5	160	26	2	11	404
Conflicting Peds, #/hr	0	1	0	6	0	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	106	6	198	32	2	14	499

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	502	122	0	0	230	236	0
Stage 1	220	-	-	-	-	-	-
Stage 2	282	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	499	906	-	-	1025	1328	-
Stage 1	795	-	-	-	-	-	-
Stage 2	741	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	490	900	-	-	1263	1263	-
Mov Cap-2 Maneuver	490	-	-	-	-	-	-
Stage 1	790	-	-	-	-	-	-
Stage 2	731	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	503	1263	-
HCM Lane V/C Ratio	-	-	0.223	0.013	-
HCM Control Delay (s)	-	-	14.2	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	1	340	83	15	56	342	158	105
Future Volume (vph)	1	340	83	15	56	342	158	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7	5.7		4.2	5.7	4.2	4.2
Lane Util. Factor	1.00	0.95	1.00		0.97	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1563		3433	1863	1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1563		3433	1863	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	358	87	16	59	360	166	111
RTOR Reduction (vph)	0	0	52	0	0	0	0	84
Lane Group Flow (vph)	1	358	35	0	75	360	166	27
Confl. Peds. (#/hr)			2					
Turn Type	Prot	NA	Perm	Prot	Prot	NA	Prot	Perm
Protected Phases	7	4		3	3	8	2	
Permitted Phases			4					2
Actuated Green, G (s)	0.5	19.3	19.3		3.1	21.9	11.7	11.7
Effective Green, g (s)	0.5	19.3	19.3		3.1	21.9	11.7	11.7
Actuated g/C Ratio	0.01	0.40	0.40		0.06	0.45	0.24	0.24
Clearance Time (s)	4.2	5.7	5.7		4.2	5.7	4.2	4.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	18	1417	625		220	846	429	384
v/s Ratio Prot	0.00	0.10			c0.02	c0.19	c0.09	
v/s Ratio Perm			0.02					0.02
v/c Ratio	0.06	0.25	0.06		0.34	0.43	0.39	0.07
Uniform Delay, d1	23.6	9.6	8.9		21.6	8.9	15.3	14.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	0.0		0.9	0.3	0.6	0.1
Delay (s)	24.9	9.7	8.9		22.5	9.2	15.8	14.1
Level of Service	C	A	A		C	A	B	B
Approach Delay (s)		9.6				11.5	15.1	
Approach LOS		A				B	B	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	14.1
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	600	46	0	489	0	19
Future Vol, veh/h	600	46	0	489	0	19
Conflicting Peds, #/hr	0	2	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	645	49	0	526	0	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	672
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	456
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	455
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	455	-	-	-
HCM Lane V/C Ratio	0.045	-	-	-
HCM Control Delay (s)	13.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	430	84	16	373	5	91	12	26	4	9	10
Future Vol, veh/h	12	430	84	16	373	5	91	12	26	4	9	10
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	448	88	17	389	5	95	13	27	4	9	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	21.1	15.3	11.3	9.7
HCM LOS	C	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	71%	2%	4%	17%
Vol Thru, %	9%	82%	95%	39%
Vol Right, %	20%	16%	1%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	526	394	23
LT Vol	91	12	16	4
Through Vol	12	430	373	9
RT Vol	26	84	5	10
Lane Flow Rate	134	548	410	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.235	0.748	0.588	0.043
Departure Headway (Hd)	6.301	4.917	5.16	6.388
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	568	734	698	558
Service Time	4.349	2.947	3.194	4.45
HCM Lane V/C Ratio	0.236	0.747	0.587	0.043
HCM Control Delay	11.3	21.1	15.3	9.7
HCM Lane LOS	B	C	C	A
HCM 95th-tile Q	0.9	6.9	3.9	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	41	2	342	81	13	21	260
Future Vol, veh/h	41	2	342	81	13	21	260
Conflicting Peds, #/hr	0	1	0	4	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	42	2	353	84	13	22	268

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	603	224	0	0	436	441	0
Stage 1	399	-	-	-	-	-	-
Stage 2	204	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	430	779	-	-	760	1115	-
Stage 1	647	-	-	-	-	-	-
Stage 2	810	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	412	775	-	-	943	943	-
Mov Cap-2 Maneuver	412	-	-	-	-	-	-
Stage 1	644	-	-	-	-	-	-
Stage 2	780	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	421	943	-
HCM Lane V/C Ratio	-	-	0.105	0.037	-
HCM Control Delay (s)	-	-	14.6	9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	UL	L	T	L	R
Maximum Queue (ft)	140	56	69	52	64	155	65	61
Average Queue (ft)	65	3	30	17	35	48	31	16
95th Queue (ft)	124	25	50	41	62	94	60	41
Link Distance (ft)	2563	2563				316	1227	1227
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			50	250	250			
Storage Blk Time (%)		0	1					
Queuing Penalty (veh)		0	2					

Intersection: 2: Preuss Avenue & Shepherd Avenue

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	39	31
Average Queue (ft)	1	16
95th Queue (ft)	13	41
Link Distance (ft)	242	1258
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	149	177	54	32
Average Queue (ft)	70	76	30	21
95th Queue (ft)	117	126	50	41
Link Distance (ft)	406	776	2613	2625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	SB
Directions Served	LR	UL
Maximum Queue (ft)	99	26
Average Queue (ft)	44	2
95th Queue (ft)	76	15
Link Distance (ft)	1367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	T	R	UL	L	T	L	R
Maximum Queue (ft)	120	52	69	64	96	94	150	58
Average Queue (ft)	66	2	24	20	30	44	49	20
95th Queue (ft)	117	17	48	48	66	73	99	38
Link Distance (ft)	2563	2563				316	1227	1227
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			50	250	250			
Storage Blk Time (%)		0	0					
Queuing Penalty (veh)		0	0					

Intersection: 2: Preuss Avenue & Shepherd Avenue

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	34	52
Average Queue (ft)	2	19
95th Queue (ft)	15	47
Link Distance (ft)	242	1258
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	345	118	90	31
Average Queue (ft)	111	66	41	16
95th Queue (ft)	235	94	70	38
Link Distance (ft)	406	776	2613	2625
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	NB	SB
Directions Served	LR	TR	UL
Maximum Queue (ft)	89	31	31
Average Queue (ft)	26	1	10
95th Queue (ft)	60	10	31
Link Distance (ft)	1367	1260	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Appendix G: Near Term plus Project Traffic Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	26	700	140	116	145	555	15	105	23	54	47
Future Volume (vph)	1	26	700	140	116	145	555	15	105	23	54	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	1.00	1.00	1.00	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1563		3433	1863	1583	1770	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1563		3433	1863	1583	1770	3539	1583	3433
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	29	778	156	129	161	617	17	117	26	60	52
RTOR Reduction (vph)	0	0	0	73	0	0	0	9	0	0	50	0
Lane Group Flow (vph)	0	30	778	83	0	290	617	8	117	26	10	52
Confl. Peds. (#/hr)				1								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8		5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		1.5	26.4	26.4		6.4	31.3	31.3	6.5	10.5	10.5	2.6
Effective Green, g (s)		1.5	26.4	26.4		6.4	31.3	31.3	6.5	10.5	10.5	2.6
Actuated g/C Ratio		0.02	0.40	0.40		0.10	0.48	0.48	0.10	0.16	0.16	0.04
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		78	1430	631		336	892	758	176	569	254	136
v/s Ratio Prot		0.01	0.22			c0.08	c0.33		c0.07	c0.01		0.02
v/s Ratio Perm				0.05				0.01			0.01	
v/c Ratio		0.38	0.54	0.13		0.86	0.69	0.01	0.66	0.05	0.04	0.38
Uniform Delay, d1		31.4	14.9	12.2		29.0	13.2	8.9	28.3	23.2	23.1	30.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		3.1	0.4	0.1		19.8	2.3	0.0	9.1	0.0	0.1	1.8
Delay (s)		34.6	15.3	12.3		48.8	15.6	8.9	37.5	23.2	23.2	32.4
Level of Service		C	B	B		D	B	A	D	C	C	C
Approach Delay (s)			15.4				25.9			31.4		
Approach LOS			B				C			C		

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	19.4
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	20	55
Future Volume (vph)	20	55
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.90	0.90
Adj. Flow (vph)	22	61
RTOR Reduction (vph)	0	55
Lane Group Flow (vph)	22	6
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	6.6	6.6
Effective Green, g (s)	6.6	6.6
Actuated g/C Ratio	0.10	0.10
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	188	159
v/s Ratio Prot	c0.01	
v/s Ratio Perm		0.00
v/c Ratio	0.12	0.04
Uniform Delay, d1	26.7	26.5
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	27.0	26.6
Level of Service	C	C
Approach Delay (s)	28.9	
Approach LOS	C	

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	973	15	0	735	0	24
Future Vol, veh/h	973	15	0	735	0	24
Conflicting Peds, #/hr	0	2	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	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1264	19	0	955	0	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1276
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	203
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	203
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	25.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	203	-	-	-
HCM Lane V/C Ratio	0.154	-	-	-
HCM Control Delay (s)	25.9	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

Intersection	
Intersection Delay, s/veh	260.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	697	183	12	585	8	104	9	8	3	15	31
Future Vol, veh/h	47	697	183	12	585	8	104	9	8	3	15	31
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	882	232	15	741	10	132	11	10	4	19	39
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	388.5	132.5	16.2	13.7
HCM LOS	F	F	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	5%	2%	6%
Vol Thru, %	7%	75%	97%	31%
Vol Right, %	7%	20%	1%	63%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	927	605	49
LT Vol	104	47	12	3
Through Vol	9	697	585	15
RT Vol	8	183	8	31
Lane Flow Rate	153	1173	766	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.317	1.815	1.207	0.128
Departure Headway (Hd)	9.03	5.955	6.71	9.306
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	401	622	551	388
Service Time	7.03	3.955	4.71	7.306
HCM Lane V/C Ratio	0.382	1.886	1.39	0.16
HCM Control Delay	16.2	388.5	132.5	13.7
HCM Lane LOS	C	F	F	B
HCM 95th-tile Q	1.3	67.7	24	0.4

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	86	5	183	26	2	11	424
Future Vol, veh/h	86	5	183	26	2	11	424
Conflicting Peds, #/hr	0	1	0	6	0	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	106	6	226	32	2	14	523

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	542	136	0	0	258	264	0
Stage 1	248	-	-	-	-	-	-
Stage 2	294	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	470	888	-	-	984	1297	-
Stage 1	770	-	-	-	-	-	-
Stage 2	730	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	461	882	-	-	1230	1230	-
Mov Cap-2 Maneuver	461	-	-	-	-	-	-
Stage 1	765	-	-	-	-	-	-
Stage 2	721	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	473	1230	-
HCM Lane V/C Ratio	-	-	0.238	0.013	-
HCM Control Delay (s)	-	-	15	8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	95	474	83	87	89	723	22	158	82	105	39
Future Volume (vph)	1	95	474	83	87	89	723	22	158	82	105	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	1.00	1.00	1.00	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1562		3433	1863	1583	1770	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1562		3433	1863	1583	1770	3539	1583	3433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	100	499	87	92	94	761	23	166	86	111	41
RTOR Reduction (vph)	0	0	0	48	0	0	0	11	0	0	90	0
Lane Group Flow (vph)	0	101	499	39	0	186	761	12	166	86	21	41
Confl. Peds. (#/hr)				2								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8		5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		5.2	39.2	39.2		9.8	43.8	43.8	11.7	16.2	16.2	2.7
Effective Green, g (s)		5.2	39.2	39.2		9.8	43.8	43.8	11.7	16.2	16.2	2.7
Actuated g/C Ratio		0.06	0.45	0.45		0.11	0.50	0.50	0.13	0.19	0.19	0.03
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		204	1589	701		385	934	794	237	656	293	106
v/s Ratio Prot		0.03	0.14			c0.05	c0.41		c0.09	c0.02		0.01
v/s Ratio Perm				0.03				0.01			0.01	
v/c Ratio		0.50	0.31	0.06		0.48	0.81	0.01	0.70	0.13	0.07	0.39
Uniform Delay, d1		39.8	15.4	13.6		36.4	18.3	10.9	36.1	29.7	29.3	41.5
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.9	0.1	0.0		1.0	5.5	0.0	9.0	0.1	0.1	2.3
Delay (s)		41.7	15.5	13.6		37.3	23.9	10.9	45.1	29.8	29.4	43.8
Level of Service		D	B	B		D	C	B	D	C	C	D
Approach Delay (s)			19.1				26.1			36.7		
Approach LOS			B				C			D		

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	87.3	Sum of lost time (s)	19.4
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	13	36
Future Volume (vph)	13	36
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	14	38
RTOR Reduction (vph)	0	35
Lane Group Flow (vph)	14	3
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	7.2	7.2
Effective Green, g (s)	7.2	7.2
Actuated g/C Ratio	0.08	0.08
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	153	130
v/s Ratio Prot	0.01	
v/s Ratio Perm		0.00
v/c Ratio	0.09	0.02
Uniform Delay, d1	37.0	36.8
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	37.3	36.9
Level of Service	D	D
Approach Delay (s)	40.0	
Approach LOS	D	

Intersection Summary

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	845	46	0	1039	0	19
Future Vol, veh/h	845	46	0	1039	0	19
Conflicting Peds, #/hr	0	2	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	909	49	0	1117	0	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	936
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	320
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	319
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	319	-	-	-
HCM Lane V/C Ratio	0.064	-	-	-
HCM Control Delay (s)	17.1	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Intersection	
Intersection Delay, s/veh	183
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	612	124	16	804	5	164	12	26	4	9	56
Future Vol, veh/h	35	612	124	16	804	5	164	12	26	4	9	56
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	638	129	17	838	5	171	13	27	4	9	58
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	186.2	234.5	18.3	13.9
HCM LOS	F	F	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	81%	5%	2%	6%
Vol Thru, %	6%	79%	97%	13%
Vol Right, %	13%	16%	1%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	202	771	825	69
LT Vol	164	35	16	4
Through Vol	12	612	804	9
RT Vol	26	124	5	56
Lane Flow Rate	210	803	859	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.435	1.342	1.457	0.153
Departure Headway (Hd)	8.762	6.632	6.589	9.28
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	415	554	559	389
Service Time	6.762	4.632	4.589	7.28
HCM Lane V/C Ratio	0.506	1.449	1.537	0.185
HCM Control Delay	18.3	186.2	234.5	13.9
HCM Lane LOS	C	F	F	B
HCM 95th-tile Q	2.2	31.8	38.9	0.5

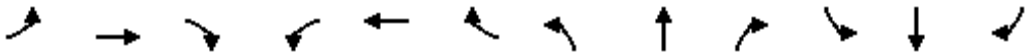
Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	41	2	424	81	13	21	273
Future Vol, veh/h	41	2	424	81	13	21	273
Conflicting Peds, #/hr	0	0	0	4	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	42	2	437	84	13	22	281

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	694	265	0	0	521	525	0
Stage 1	483	-	-	-	-	-	-
Stage 2	211	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	377	733	-	-	671	1038	-
Stage 1	586	-	-	-	-	-	-
Stage 2	804	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	360	730	-	-	856	856	-
Mov Cap-2 Maneuver	360	-	-	-	-	-	-
Stage 1	584	-	-	-	-	-	-
Stage 2	771	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	369	856	-
HCM Lane V/C Ratio	-	-	0.12	0.041	-
HCM Control Delay (s)	-	-	16.1	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



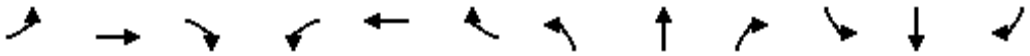
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	697	183	12	585	8	104	9	8	3	15	31
Future Volume (veh/h)	47	697	183	12	585	8	104	9	8	3	15	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	882	232	15	741	10	132	11	10	4	19	39
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	986	259	29	1223	17	131	114	104	9	27	55
Arrive On Green	0.04	0.69	0.69	0.02	0.66	0.66	0.07	0.13	0.13	0.01	0.05	0.05
Sat Flow, veh/h	1781	1427	375	1781	1841	25	1781	902	820	1781	547	1122
Grp Volume(v), veh/h	59	0	1114	15	0	751	132	0	21	4	0	58
Grp Sat Flow(s),veh/h/ln	1781	0	1803	1781	0	1866	1781	0	1723	1781	0	1668
Q Serve(g_s), s	3.9	0.0	60.1	1.0	0.0	27.1	8.8	0.0	1.3	0.3	0.0	4.1
Cycle Q Clear(g_c), s	3.9	0.0	60.1	1.0	0.0	27.1	8.8	0.0	1.3	0.3	0.0	4.1
Prop In Lane	1.00		0.21	1.00		0.01	1.00		0.48	1.00		0.67
Lane Grp Cap(c), veh/h	76	0	1245	29	0	1239	131	0	217	9	0	82
V/C Ratio(X)	0.78	0.00	0.89	0.51	0.00	0.61	1.01	0.00	0.10	0.43	0.00	0.71
Avail Cap(c_a), veh/h	101	0	1245	74	0	1239	131	0	356	74	0	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	0.0	15.0	58.5	0.0	11.3	55.6	0.0	46.4	59.5	0.0	56.2
Incr Delay (d2), s/veh	23.4	0.0	10.1	13.3	0.0	2.2	81.6	0.0	0.2	28.7	0.0	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	22.6	0.5	0.0	10.3	6.8	0.0	0.6	0.2	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.3	0.0	25.2	71.8	0.0	13.5	137.2	0.0	46.6	88.2	0.0	67.0
LnGrp LOS	F	A	C	E	A	B	F	A	D	F	A	E
Approach Vol, veh/h		1173			766			153			62	
Approach Delay, s/veh		28.0			14.7			124.7			68.4	
Approach LOS		C			B			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	20.5	6.2	88.6	14.1	11.2	9.3	85.4
Change Period (Y+Rc), s	* 4.2	5.3	* 4.2	5.7	5.3	* 5.3	* 4.2	* 5.7
Max Green Setting (Gmax), s	* 5	24.8	* 5	65.8	8.8	* 21	* 6.8	* 64
Max Q Clear Time (g_c+I1), s	2.3	3.3	3.0	62.1	10.8	6.1	5.9	29.1
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.0	0.2	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	612	124	16	804	5	164	12	26	4	9	56
Future Volume (veh/h)	35	612	124	16	804	5	164	12	26	4	9	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	638	129	17	838	5	171	12	27	4	9	58
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	945	191	34	1138	7	182	80	180	9	13	84
Arrive On Green	0.03	0.63	0.63	0.02	0.61	0.61	0.10	0.16	0.16	0.01	0.06	0.06
Sat Flow, veh/h	1781	1510	305	1781	1857	11	1781	512	1151	1781	217	1401
Grp Volume(v), veh/h	36	0	767	17	0	843	171	0	39	4	0	67
Grp Sat Flow(s),veh/h/ln	1781	0	1815	1781	0	1868	1781	0	1663	1781	0	1618
Q Serve(g_s), s	2.0	0.0	27.4	0.9	0.0	31.8	9.5	0.0	2.0	0.2	0.0	4.1
Cycle Q Clear(g_c), s	2.0	0.0	27.4	0.9	0.0	31.8	9.5	0.0	2.0	0.2	0.0	4.1
Prop In Lane	1.00		0.17	1.00		0.01	1.00		0.69	1.00		0.87
Lane Grp Cap(c), veh/h	56	0	1136	34	0	1145	182	0	260	9	0	97
V/C Ratio(X)	0.64	0.00	0.68	0.51	0.00	0.74	0.94	0.00	0.15	0.43	0.00	0.69
Avail Cap(c_a), veh/h	89	0	1136	89	0	1145	182	0	436	89	0	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.9	0.0	12.1	48.6	0.0	13.7	44.6	0.0	36.4	49.6	0.0	46.1
Incr Delay (d2), s/veh	11.4	0.0	3.2	11.4	0.0	4.2	49.9	0.0	0.3	27.9	0.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	9.8	0.5	0.0	12.4	6.6	0.0	0.8	0.2	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	0.0	15.4	60.0	0.0	17.9	94.5	0.0	36.7	77.5	0.0	54.7
LnGrp LOS	E	A	B	E	A	B	F	A	D	E	A	D
Approach Vol, veh/h		803			860			210			71	
Approach Delay, s/veh		17.3			18.7			83.7			56.0	
Approach LOS		B			B			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	20.9	6.1	68.3	14.4	11.3	7.4	67.0
Change Period (Y+Rc), s	* 4.2	5.3	* 4.2	5.7	* 4.2	5.3	* 4.2	* 5.7
Max Green Setting (Gmax), s	* 5	26.2	* 5	44.4	* 10	21.0	* 5	* 45
Max Q Clear Time (g_c+I1), s	2.2	4.0	2.9	29.4	11.5	6.1	4.0	33.8
Green Ext Time (p_c), s	0.0	0.1	0.0	4.3	0.0	0.2	0.0	4.2

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	L	T	T
Maximum Queue (ft)	30	370	506	545	74	157	125	278	24	131	24	22
Average Queue (ft)	1	35	217	68	35	91	78	144	3	51	11	3
95th Queue (ft)	10	142	382	294	67	148	118	269	16	107	28	15
Link Distance (ft)			2563	2563				293	293		1227	1227
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	250	250			50	250	250			250		
Storage Blk Time (%)			6	0	2			1				
Queuing Penalty (veh)			2	0	7			2				

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	20	51	54	38	60
Average Queue (ft)	13	19	6	6	13
95th Queue (ft)	24	39	30	21	35
Link Distance (ft)				2532	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	60	250	250		60
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 2: Preuss Avenue & Shepherd Avenue

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	36
Link Distance (ft)	1258
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	L	TR	TR
Maximum Queue (ft)	369	475	29	250	186	52	73
Average Queue (ft)	48	192	8	107	106	14	33
95th Queue (ft)	152	379	27	210	173	41	60
Link Distance (ft)		499		774		2611	2623
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	250		250		250		
Storage Blk Time (%)		5		0			
Queuing Penalty (veh)		2		0			

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	SB
Directions Served	LR	UL
Maximum Queue (ft)	75	26
Average Queue (ft)	41	3
95th Queue (ft)	63	18
Link Distance (ft)	1367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 14

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	B17	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	R	T	L	T
Maximum Queue (ft)	46	90	278	173	54	173	289	362	26	128	170	62
Average Queue (ft)	12	40	142	11	24	68	63	202	4	7	86	28
95th Queue (ft)	38	77	244	66	46	125	190	336	19	54	158	51
Link Distance (ft)			2563	2563				290	290	242		1227
Upstream Blk Time (%)							0	3				
Queuing Penalty (veh)							0	16				
Storage Bay Dist (ft)	250	250			50	250	250				250	
Storage Blk Time (%)			1	2	1			5				
Queuing Penalty (veh)			1	2	1			9				

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	R
Maximum Queue (ft)	77	68	64	40	38	77
Average Queue (ft)	21	26	19	6	5	10
95th Queue (ft)	57	48	42	29	22	37
Link Distance (ft)	1227				2531	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		60	250	250		60
Storage Blk Time (%)	1	0				0
Queuing Penalty (veh)	1	0				0

Intersection: 2: Preuss Avenue & Shepherd Avenue

Movement	NB
Directions Served	R
Maximum Queue (ft)	32
Average Queue (ft)	15
95th Queue (ft)	39
Link Distance (ft)	1258
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	111	327	77	342	271	233	30	93
Average Queue (ft)	32	142	13	194	151	31	3	42
95th Queue (ft)	78	285	44	337	242	108	15	76
Link Distance (ft)		502		774		2611		2623
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		250		250		250	
Storage Blk Time (%)		1		5	2	0		
Queuing Penalty (veh)		0		1	1	0		

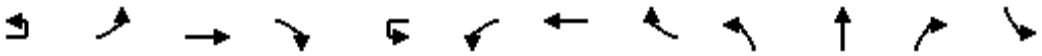
Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	NB	SB
Directions Served	LR	TR	UL
Maximum Queue (ft)	55	20	31
Average Queue (ft)	31	1	11
95th Queue (ft)	51	6	32
Link Distance (ft)	1367	1260	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			250
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 32

Appendix H: Cumulative Year 2039 plus Project Traffic Conditions



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	26	699	140	116	251	750	936	123	256	174	749
Future Volume (vph)	1	26	699	140	116	251	750	936	123	256	174	749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	1.00	1.00	1.00	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1563		3433	1863	1583	1770	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1563		3433	1863	1583	1770	3539	1583	3433
Peak-hour factor, PHF	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)	1	28	760	152	126	273	815	1017	134	278	189	814
RTOR Reduction (vph)	0	0	0	112	0	0	0	348	0	0	128	0
Lane Group Flow (vph)	0	29	760	40	0	399	815	669	134	278	61	814
Confl. Peds. (#/hr)				1								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8		5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		2.8	27.2	27.2		20.0	44.4	44.4	16.0	16.6	16.6	20.1
Effective Green, g (s)		2.8	27.2	27.2		20.0	44.4	44.4	16.0	16.6	16.6	20.1
Actuated g/C Ratio		0.03	0.26	0.26		0.19	0.43	0.43	0.15	0.16	0.16	0.19
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		93	931	411		664	800	680	274	568	254	667
v/s Ratio Prot		0.01	0.21			c0.12	c0.44		0.08	c0.08		c0.24
v/s Ratio Perm				0.03				0.42			0.04	
v/c Ratio		0.31	0.82	0.10		0.60	1.02	0.98	0.49	0.49	0.24	1.22
Uniform Delay, d1		49.3	35.7	28.8		38.0	29.4	29.1	39.9	39.5	37.8	41.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.9	5.6	0.1		1.5	36.6	30.3	1.4	0.7	0.5	112.4
Delay (s)		51.2	41.3	28.9		39.5	66.1	59.4	41.3	40.2	38.3	154.0
Level of Service		D	D	C		D	E	E	D	D	D	F
Approach Delay (s)			39.6				58.3			39.8		
Approach LOS			D				E			D		

Intersection Summary			
HCM 2000 Control Delay	66.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	103.3	Sum of lost time (s)	19.4
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	253	220
Future Volume (vph)	253	220
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	275	239
RTOR Reduction (vph)	0	130
Lane Group Flow (vph)	275	109
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	20.7	20.7
Effective Green, g (s)	20.7	20.7
Actuated g/C Ratio	0.20	0.20
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	373	317
v/s Ratio Prot	0.15	
v/s Ratio Perm		0.07
v/c Ratio	0.74	0.34
Uniform Delay, d1	38.7	35.5
Progression Factor	1.00	1.00
Incremental Delay, d2	7.4	0.7
Delay (s)	46.2	36.1
Level of Service	D	D
Approach Delay (s)	110.4	
Approach LOS	F	

Intersection Summary

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1470	15	0	1917	0	24
Future Vol, veh/h	1470	15	0	1917	0	24
Conflicting Peds, #/hr	0	2	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	1598	16	0	2084	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1608
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	129
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	129
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	39.8
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	129	-	-	-
HCM Lane V/C Ratio	0.202	-	-	-
HCM Control Delay (s)	39.8	-	-	-
HCM Lane LOS	E	-	-	-
HCM 95th %tile Q(veh)	0.7	-	-	-

Intersection	
Intersection Delay, s/veh	927.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	986	417	48	1518	8	366	9	50	3	15	31
Future Vol, veh/h	47	986	417	48	1518	8	366	9	50	3	15	31
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	1072	453	52	1650	9	398	10	54	3	16	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	981.1	1135.8	74.4	28.8
HCM LOS	F	F	F	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	3%	3%	6%
Vol Thru, %	2%	68%	96%	31%
Vol Right, %	12%	29%	1%	63%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	425	1450	1574	49
LT Vol	366	47	48	3
Through Vol	9	986	1518	15
RT Vol	50	417	8	31
Lane Flow Rate	462	1576	1711	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.953	3.115	3.462	0.134
Departure Headway (Hd)	11.376	10.752	10.437	22.333
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	323	362	376	162
Service Time	9.376	8.752	8.437	20.333
HCM Lane V/C Ratio	1.43	4.354	4.551	0.327
HCM Control Delay	74.4	981.1	1135.8	28.8
HCM Lane LOS	F	F	F	D
HCM 95th-tile Q	9.7	92.7	110.2	0.5

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	94	5	555	27	2	12	862
Future Vol, veh/h	94	5	555	27	2	12	862
Conflicting Peds, #/hr	0	1	0	6	0	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	102	5	603	29	2	13	937

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	1123	323	0	0	633	638	0
Stage 1	624	-	-	-	-	-	-
Stage 2	499	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	199	673	-	-	570	942	-
Stage 1	496	-	-	-	-	-	-
Stage 2	575	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	194	669	-	-	857	857	-
Mov Cap-2 Maneuver	194	-	-	-	-	-	-
Stage 1	493	-	-	-	-	-	-
Stage 2	565	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.8	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	201	857	-
HCM Lane V/C Ratio	-	-	0.535	0.018	-
HCM Control Delay (s)	-	-	41.8	9.3	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	2.8	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	112	636	93	87	200	784	999	169	378	261	811
Future Volume (vph)	1	112	636	93	87	200	784	999	169	378	261	811
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	1.00	1.00	1.00	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1561		3433	1863	1583	1770	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1561		3433	1863	1583	1770	3539	1583	3433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	118	669	98	92	211	825	1052	178	398	275	854
RTOR Reduction (vph)	0	0	0	65	0	0	0	299	0	0	112	0
Lane Group Flow (vph)	0	119	669	33	0	303	825	753	178	398	163	854
Confl. Peds. (#/hr)				2								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8		5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		5.0	36.3	36.3		12.7	44.0	44.0	16.4	21.0	21.0	19.9
Effective Green, g (s)		5.0	36.3	36.3		12.7	44.0	44.0	16.4	21.0	21.0	19.9
Actuated g/C Ratio		0.05	0.33	0.33		0.12	0.40	0.40	0.15	0.19	0.19	0.18
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		157	1175	518		398	749	637	265	679	304	625
v/s Ratio Prot		0.03	0.19			c0.09	0.44		c0.10	0.11		c0.25
v/s Ratio Perm				0.02				c0.48			0.10	
v/c Ratio		0.76	0.57	0.06		0.76	1.10	1.18	0.67	0.59	0.54	1.37
Uniform Delay, d1		51.6	30.1	24.9		46.8	32.6	32.6	43.9	40.2	39.8	44.7
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		18.7	0.6	0.1		8.4	64.2	97.2	6.5	1.3	1.8	175.0
Delay (s)		70.2	30.7	24.9		55.2	96.9	129.8	50.5	41.5	41.6	219.7
Level of Service		E	C	C		E	F	F	D	D	D	F
Approach Delay (s)			35.4				107.0			43.4		
Approach LOS			D				F			D		

Intersection Summary			
HCM 2000 Control Delay	96.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	109.3	Sum of lost time (s)	19.4
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	311	167
Future Volume (vph)	311	167
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	327	176
RTOR Reduction (vph)	0	116
Lane Group Flow (vph)	327	60
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	24.5	24.5
Effective Green, g (s)	24.5	24.5
Actuated g/C Ratio	0.22	0.22
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	417	354
v/s Ratio Prot	c0.18	
v/s Ratio Perm		0.04
v/c Ratio	0.78	0.17
Uniform Delay, d1	39.9	34.2
Progression Factor	1.00	1.00
Incremental Delay, d2	9.3	0.2
Delay (s)	49.2	34.4
Level of Service	D	C
Approach Delay (s)	154.6	
Approach LOS	F	

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1894	46	0	2006	0	19
Future Vol, veh/h	1894	46	0	2006	0	19
Conflicting Peds, #/hr	0	2	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2037	49	0	2157	0	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	2064
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	68
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	68
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	79.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	68	-	-	-
HCM Lane V/C Ratio	0.3	-	-	-
HCM Control Delay (s)	79.2	-	-	-
HCM Lane LOS	F	-	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-

Intersection	
Intersection Delay, s/veh	1085.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	1451	292	72	1606	5	375	12	113	4	9	56
Future Vol, veh/h	35	1451	292	72	1606	5	375	12	113	4	9	56
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	1511	304	75	1673	5	391	13	118	4	9	58
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	1280	1212.7	111.5	35.9
HCM LOS	F	F	F	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	75%	2%	4%	6%
Vol Thru, %	2%	82%	95%	13%
Vol Right, %	23%	16%	0%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	500	1778	1683	69
LT Vol	375	35	72	4
Through Vol	12	1451	1606	9
RT Vol	113	292	5	56
Lane Flow Rate	521	1852	1753	72
Geometry Grp	1	1	1	1
Degree of Util (X)	1.078	3.776	3.624	0.183
Departure Headway (Hd)	12.152	11.869	12.218	26.955
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	302	333	316	134
Service Time	10.152	9.869	10.218	24.955
HCM Lane V/C Ratio	1.725	5.562	5.547	0.537
HCM Control Delay	111.5	1280	1212.7	35.9
HCM Lane LOS	F	F	F	E
HCM 95th-tile Q	12.5	109.2	100.6	0.6

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	45	2	890	88	13	22	751
Future Vol, veh/h	45	2	890	88	13	22	751
Conflicting Peds, #/hr	0	0	0	4	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	46	2	918	91	13	23	774

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	1427	509	0	0	1008	1013	0
Stage 1	968	-	-	-	-	-	-
Stage 2	459	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	126	509	-	-	328	680	-
Stage 1	329	-	-	-	-	-	-
Stage 2	603	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	116	507	-	-	484	484	-
Mov Cap-2 Maneuver	116	-	-	-	-	-	-
Stage 1	328	-	-	-	-	-	-
Stage 2	558	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	54	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	120	484	-
HCM Lane V/C Ratio	-	-	0.404	0.075	-
HCM Control Delay (s)	-	-	54	13	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	26	699	140	116	251	750	936	123	256	174	749
Future Volume (vph)	1	26	699	140	116	251	750	936	123	256	174	749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	0.95	1.00	0.97	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1563		3433	3539	1583	3433	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1563		3433	3539	1583	3433	3539	1583	3433
Peak-hour factor, PHF	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)	1	28	760	152	126	273	815	1017	134	278	189	814
RTOR Reduction (vph)	0	0	0	98	0	0	0	108	0	0	161	0
Lane Group Flow (vph)	0	29	760	54	0	399	815	909	134	278	28	814
Confl. Peds. (#/hr)				1								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	pm+ov	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8	1	5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		6.3	33.0	33.0		22.8	49.5	76.7	9.0	17.6	17.6	27.2
Effective Green, g (s)		6.3	33.0	33.0		22.8	49.5	76.7	9.0	17.6	17.6	27.2
Actuated g/C Ratio		0.05	0.28	0.28		0.19	0.41	0.64	0.08	0.15	0.15	0.23
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		180	973	429		652	1459	1011	257	519	232	778
v/s Ratio Prot		0.01	c0.21			0.12	0.23	c0.20	0.04	c0.08		c0.24
v/s Ratio Perm				0.03				0.37			0.02	
v/c Ratio		0.16	0.78	0.13		0.61	0.56	0.90	0.52	0.54	0.12	1.05
Uniform Delay, d1		54.3	40.2	32.7		44.5	26.9	18.4	53.4	47.4	44.5	46.4
Progression Factor		1.00	1.00	1.00		0.86	0.77	1.60	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.4	6.2	0.6		1.2	1.1	7.6	1.9	1.1	0.2	45.0
Delay (s)		54.7	46.4	33.3		39.6	21.7	37.1	55.3	48.5	44.7	91.4
Level of Service		D	D	C		D	C	D	E	D	D	F
Approach Delay (s)			44.5				31.9			48.8		
Approach LOS			D				C			D		

Intersection Summary			
HCM 2000 Control Delay	45.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	253	220
Future Volume (vph)	253	220
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	275	239
RTOR Reduction (vph)	0	107
Lane Group Flow (vph)	275	132
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	35.8	35.8
Effective Green, g (s)	35.8	35.8
Actuated g/C Ratio	0.30	0.30
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1055	472
v/s Ratio Prot	0.08	
v/s Ratio Perm		0.08
v/c Ratio	0.26	0.28
Uniform Delay, d1	32.0	32.2
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.3
Delay (s)	32.2	32.5
Level of Service	C	C
Approach Delay (s)	68.6	
Approach LOS	E	

Intersection Summary

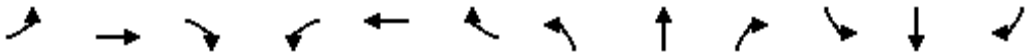
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1470	15	0	1917	0	24
Future Vol, veh/h	1470	15	0	1917	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	0	3	0	3
Mvmt Flow	1598	16	0	2084	0	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	799
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.33
Pot Cap-1 Maneuver	-	-	0	-	0	326
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	326
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	326	-	-	-
HCM Lane V/C Ratio	0.08	-	-	-
HCM Control Delay (s)	17	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	986	417	48	1518	8	366	9	50	3	15	31
Future Volume (vph)	47	986	417	48	1518	8	366	9	50	3	15	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3382		1770	3536		3433	1627		1770	1673	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3382		1770	3536		3433	1627		1770	1673	
Peak-hour factor, PHF	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)	51	1072	453	52	1650	9	398	10	54	3	16	34
RTOR Reduction (vph)	0	34	0	0	0	0	0	43	0	0	31	0
Lane Group Flow (vph)	51	1491	0	52	1659	0	398	21	0	3	19	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.6	67.0		7.2	70.0		15.9	25.4		1.0	10.5	
Effective Green, g (s)	4.6	67.0		7.2	70.0		15.9	25.4		1.0	10.5	
Actuated g/C Ratio	0.04	0.56		0.06	0.58		0.13	0.21		0.01	0.09	
Clearance Time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	67	1888		106	2062		454	344		14	146	
v/s Ratio Prot	0.03	0.44		c0.03	c0.47		c0.12	0.01		0.00	c0.01	
v/s Ratio Perm												
v/c Ratio	0.76	0.79		0.49	0.80		0.88	0.06		0.21	0.13	
Uniform Delay, d1	57.2	20.9		54.6	19.6		51.1	37.8		59.1	50.5	
Progression Factor	0.90	0.33		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.4	2.0		3.5	3.5		17.1	0.1		7.6	0.4	
Delay (s)	75.7	8.8		58.2	23.1		68.2	37.9		66.7	50.9	
Level of Service	E	A		E	C		E	D		E	D	
Approach Delay (s)		11.0			24.1			64.0			51.8	
Approach LOS		B			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	0	99	555	27	2	12	956
Future Vol, veh/h	0	99	555	27	2	12	956
Conflicting Peds, #/hr	0	1	0	6	0	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	108	603	29	2	13	1039

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	-	323	0	0	633	638	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	0	673	-	-	570	942	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	-	669	-	-	827	827	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	669	827	-
HCM Lane V/C Ratio	-	-	0.161	0.018	-
HCM Control Delay (s)	-	-	11.4	9.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	112	636	93	87	200	784	999	169	378	261	811
Future Volume (vph)	1	112	636	93	87	200	784	999	169	378	261	811
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	0.95	1.00	0.97	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1561		3433	3539	1583	3433	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1561		3433	3539	1583	3433	3539	1583	3433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	118	669	98	92	211	825	1052	178	398	275	854
RTOR Reduction (vph)	0	0	0	73	0	0	0	57	0	0	157	0
Lane Group Flow (vph)	0	119	669	25	0	303	825	995	178	398	118	854
Confl. Peds. (#/hr)				2								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	pm+ov	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8	1	5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		8.0	30.5	30.5		18.3	40.8	71.4	10.6	21.2	21.2	30.6
Effective Green, g (s)		8.0	30.5	30.5		18.3	40.8	71.4	10.6	21.2	21.2	30.6
Actuated g/C Ratio		0.07	0.25	0.25		0.15	0.34	0.60	0.09	0.18	0.18	0.26
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		228	899	396		523	1203	941	303	625	279	875
v/s Ratio Prot		0.03	c0.19			0.09	0.23	c0.27	0.05	c0.11		0.25
v/s Ratio Perm				0.02				0.36			0.07	
v/c Ratio		0.52	0.74	0.06		0.58	0.69	1.06	0.59	0.64	0.42	0.98
Uniform Delay, d1		54.2	41.2	33.9		47.3	34.1	24.3	52.6	45.8	43.9	44.3
Progression Factor		1.00	1.00	1.00		0.90	0.81	1.25	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.2	5.6	0.3		1.0	2.1	40.7	2.9	2.1	1.0	24.4
Delay (s)		56.3	46.7	34.2		43.8	29.7	71.0	55.5	48.0	45.0	68.8
Level of Service		E	D	C		D	C	E	E	D	D	E
Approach Delay (s)			46.6				51.5			48.6		
Approach LOS			D				D			D		

Intersection Summary			
HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	311	167
Future Volume (vph)	311	167
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	327	176
RTOR Reduction (vph)	0	100
Lane Group Flow (vph)	327	76
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	41.2	41.2
Effective Green, g (s)	41.2	41.2
Actuated g/C Ratio	0.34	0.34
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1215	543
v/s Ratio Prot	0.09	
v/s Ratio Perm		0.05
v/c Ratio	0.27	0.14
Uniform Delay, d1	28.5	27.2
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.1
Delay (s)	28.6	27.3
Level of Service	C	C
Approach Delay (s)	53.7	
Approach LOS	D	

Intersection Summary

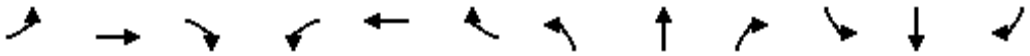
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1894	46	0	2006	0	19
Future Vol, veh/h	1894	46	0	2006	0	19
Conflicting Peds, #/hr	0	3	0	0	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	0	3	0	3
Mvmt Flow	2059	50	0	2180	0	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1036
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.33
Pot Cap-1 Maneuver	-	-	0	-	0	227
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	226
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	226	-	-	-
HCM Lane V/C Ratio	0.091	-	-	-
HCM Control Delay (s)	22.5	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	1451	292	72	1606	5	375	12	113	4	9	56
Future Volume (vph)	35	1451	292	72	1606	5	375	12	113	4	9	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3450		1770	3538		3433	1611		1770	1621	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3450		1770	3538		3433	1611		1770	1621	
Peak-hour factor, PHF	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)	36	1511	304	75	1673	5	391	12	118	4	9	58
RTOR Reduction (vph)	0	12	0	0	0	0	0	95	0	0	53	0
Lane Group Flow (vph)	36	1803	0	75	1678	0	391	36	0	4	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.1	68.8		7.6	73.7		13.8	23.2		1.0	10.4	
Effective Green, g (s)	3.1	68.8		7.6	73.7		13.8	23.2		1.0	10.4	
Actuated g/C Ratio	0.03	0.57		0.06	0.61		0.12	0.19		0.01	0.09	
Clearance Time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	45	1978		112	2172		394	311		14	140	
v/s Ratio Prot	0.02	c0.52		c0.04	0.47		c0.11	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.80	0.91		0.67	0.77		0.99	0.12		0.29	0.10	
Uniform Delay, d1	58.1	22.9		55.0	17.0		53.0	39.9		59.1	50.5	
Progression Factor	0.95	0.49		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	49.9	5.8		14.2	2.7		43.1	0.2		10.9	0.3	
Delay (s)	105.0	17.1		69.1	19.7		96.2	40.1		70.1	50.8	
Level of Service	F	B		E	B		F	D		E	D	
Approach Delay (s)		18.8			21.9			82.1			51.9	
Approach LOS		B			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	0	47	890	88	13	22	796
Future Vol, veh/h	0	47	890	88	13	22	796
Conflicting Peds, #/hr	0	0	0	4	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	48	918	91	13	23	821

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	-	509	0	0	1008	1013	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	0	509	-	-	328	680	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	-	507	-	-	460	460	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	507	460	-
HCM Lane V/C Ratio	-	-	0.096	0.078	-
HCM Control Delay (s)	-	-	12.9	13.5	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	T	R	L	L
Maximum Queue (ft)	46	48	384	380	100	238	236	330	587	500	75	107
Average Queue (ft)	8	8	202	199	57	146	137	170	238	250	35	50
95th Queue (ft)	28	30	295	309	117	221	212	265	447	489	64	96
Link Distance (ft)			2552	2552				713	713			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			50	250	250			350	250	250
Storage Blk Time (%)			3	50	2	0	0	1	0	9		
Queuing Penalty (veh)			1	70	6	0	0	4	1	33		

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	R
Maximum Queue (ft)	193	212	120	325	399	883	783	185
Average Queue (ft)	105	106	80	279	316	154	72	53
95th Queue (ft)	172	189	132	366	430	558	296	118
Link Distance (ft)	1221	1221				2521	2521	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			60	250	250			250
Storage Blk Time (%)		15	12	19	31			
Queuing Penalty (veh)		27	16	24	39			

Intersection: 2: Preuss Ave & Shepherd Avenue

Movement	NB
Directions Served	R
Maximum Queue (ft)	45
Average Queue (ft)	14
95th Queue (ft)	34
Link Distance (ft)	552
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	TR	L	TR
Maximum Queue (ft)	118	480	516	369	378	480	305	283	192	25	94
Average Queue (ft)	40	142	177	60	212	243	116	142	36	3	42
95th Queue (ft)	97	315	337	162	348	416	202	214	94	15	85
Link Distance (ft)		1784	1784		764	764			2595		2607
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250			250	250		250	
Storage Blk Time (%)		3			4			1			
Queuing Penalty (veh)		1			2			0			

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	SB
Directions Served	R	UL
Maximum Queue (ft)	94	29
Average Queue (ft)	41	4
95th Queue (ft)	70	21
Link Distance (ft)	1367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 225

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	UL	L	T	T	R	UL	L	T	T	R	L	L
Maximum Queue (ft)	93	112	292	322	100	251	337	661	676	500	117	111
Average Queue (ft)	33	48	200	202	47	150	145	272	596	477	56	70
95th Queue (ft)	67	91	279	285	116	230	243	513	867	593	100	108
Link Distance (ft)			2552	2552				662	662			
Upstream Blk Time (%)								0	11			
Queuing Penalty (veh)								0	106			
Storage Bay Dist (ft)	250	250			50	250	250			350	250	250
Storage Blk Time (%)			2	46	1	0	1	7	1	61		
Queuing Penalty (veh)			2	43	2	1	6	21	5	239		

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	R
Maximum Queue (ft)	218	214	120	325	400	2530	2369	169
Average Queue (ft)	115	125	99	314	386	1433	1304	44
95th Queue (ft)	191	219	148	375	460	2717	2564	102
Link Distance (ft)	1221	1221				2521	2521	
Upstream Blk Time (%)						0		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)			60	250	250			250
Storage Blk Time (%)		25	24	58	69			
Queuing Penalty (veh)		65	45	90	107			

Intersection: 2: Preuss Ave & Shepherd Avenue

Movement	EB	WB	WB	NB
Directions Served	T	T	T	R
Maximum Queue (ft)	53	1809	1816	70
Average Queue (ft)	3	633	737	12
95th Queue (ft)	21	1712	1738	43
Link Distance (ft)	662	1816	1816	523
Upstream Blk Time (%)		0	0	
Queuing Penalty (veh)		0	1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	TR	L	TR
Maximum Queue (ft)	93	313	362	369	545	564	287	369	482	30	136
Average Queue (ft)	36	175	189	90	263	282	157	183	103	4	62
95th Queue (ft)	73	286	310	248	482	497	250	281	276	19	111
Link Distance (ft)		1816	1816		764	764			2595		2607
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250			250	250		250	
Storage Blk Time (%)		2			9		0	1	2		
Queuing Penalty (veh)		1			7		0	1	6		

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	SB
Directions Served	R	UL
Maximum Queue (ft)	76	53
Average Queue (ft)	33	17
95th Queue (ft)	58	47
Link Distance (ft)	1367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 748

Appendix I: Cumulative Year 2039 plus Project (No Shepherd Avenue Access) Traffic Conditions

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	26	690	157	111	251	750	936	127	256	211	740
Future Volume (vph)	1	26	690	157	111	251	750	936	127	256	211	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	1.00	1.00	1.00	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1563		3433	1863	1583	1770	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1563		3433	1863	1583	1770	3539	1583	3433
Peak-hour factor, PHF	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)	1	28	750	171	121	273	815	1017	138	278	229	804
RTOR Reduction (vph)	0	0	0	126	0	0	0	349	0	0	128	0
Lane Group Flow (vph)	0	29	750	45	0	394	815	668	138	278	101	804
Confl. Peds. (#/hr)				1								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8		5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		2.8	27.1	27.1		20.1	44.4	44.4	16.0	17.0	17.0	20.1
Effective Green, g (s)		2.8	27.1	27.1		20.1	44.4	44.4	16.0	17.0	17.0	20.1
Actuated g/C Ratio		0.03	0.26	0.26		0.19	0.43	0.43	0.15	0.16	0.16	0.19
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		92	924	408		665	797	677	273	580	259	665
v/s Ratio Prot		0.01	0.21			c0.11	c0.44		0.08	c0.08		c0.23
v/s Ratio Perm				0.03				0.42			0.06	
v/c Ratio		0.32	0.81	0.11		0.59	1.02	0.99	0.51	0.48	0.39	1.21
Uniform Delay, d1		49.5	35.9	29.1		38.1	29.7	29.4	40.2	39.3	38.7	41.8
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.0	5.5	0.1		1.4	37.7	31.0	1.5	0.6	1.0	107.7
Delay (s)		51.5	41.4	29.2		39.5	67.4	60.4	41.7	40.0	39.7	149.5
Level of Service		D	D	C		D	E	E	D	D	D	F
Approach Delay (s)			39.5				59.2			40.2		
Approach LOS			D				E			D		

Intersection Summary			
HCM 2000 Control Delay	65.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	103.7	Sum of lost time (s)	19.4
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	260	220
Future Volume (vph)	260	220
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	283	239
RTOR Reduction (vph)	0	130
Lane Group Flow (vph)	283	109
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	21.1	21.1
Effective Green, g (s)	21.1	21.1
Actuated g/C Ratio	0.20	0.20
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	379	322
v/s Ratio Prot	0.15	
v/s Ratio Perm		0.07
v/c Ratio	0.75	0.34
Uniform Delay, d1	38.8	35.3
Progression Factor	1.00	1.00
Incremental Delay, d2	7.8	0.6
Delay (s)	46.6	36.0
Level of Service	D	D
Approach Delay (s)	107.1	
Approach LOS	F	

Intersection Summary

Intersection	
Intersection Delay, s/veh	927.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	47	986	417	48	1518	8	366	9	50	3	15	31
Future Vol, veh/h	47	986	417	48	1518	8	366	9	50	3	15	31
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	1072	453	52	1650	9	398	10	54	3	16	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	981.1	1135.8	74.4	28.8
HCM LOS	F	F	F	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	3%	3%	6%
Vol Thru, %	2%	68%	96%	31%
Vol Right, %	12%	29%	1%	63%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	425	1450	1574	49
LT Vol	366	47	48	3
Through Vol	9	986	1518	15
RT Vol	50	417	8	31
Lane Flow Rate	462	1576	1711	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.953	3.115	3.462	0.134
Departure Headway (Hd)	11.376	10.752	10.437	22.333
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	323	362	376	162
Service Time	9.376	8.752	8.437	20.333
HCM Lane V/C Ratio	1.43	4.354	4.551	0.327
HCM Control Delay	74.4	981.1	1135.8	28.8
HCM Lane LOS	F	F	F	D
HCM 95th-tile Q	9.7	92.7	110.2	0.5

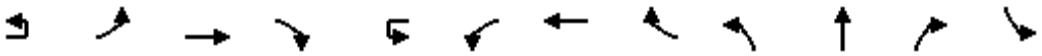
Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	94	12	555	27	12	25	862
Future Vol, veh/h	94	12	555	27	12	25	862
Conflicting Peds, #/hr	0	1	0	6	0	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	102	13	603	29	13	27	937

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	1173	323	0	0	633	638	0
Stage 1	624	-	-	-	-	-	-
Stage 2	549	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	185	673	-	-	570	942	-
Stage 1	496	-	-	-	-	-	-
Stage 2	542	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	174	669	-	-	769	769	-
Mov Cap-2 Maneuver	174	-	-	-	-	-	-
Stage 1	493	-	-	-	-	-	-
Stage 2	514	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	49.5	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	190	769	-
HCM Lane V/C Ratio	-	-	0.606	0.052	-
HCM Control Delay (s)	-	-	49.5	9.9	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	3.4	0.2	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	112	587	146	72	200	784	999	173	378	292	783
Future Volume (vph)	1	112	587	146	72	200	784	999	173	378	292	783
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	1.00	1.00	1.00	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1561		3433	1863	1583	1770	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1561		3433	1863	1583	1770	3539	1583	3433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	118	618	154	76	211	825	1052	182	398	307	824
RTOR Reduction (vph)	0	0	0	103	0	0	0	301	0	0	111	0
Lane Group Flow (vph)	0	119	618	51	0	287	825	751	182	398	196	824
Confl. Peds. (#/hr)				2								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8		5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		5.0	36.5	36.5		12.5	44.0	44.0	15.8	21.8	21.8	19.9
Effective Green, g (s)		5.0	36.5	36.5		12.5	44.0	44.0	15.8	21.8	21.8	19.9
Actuated g/C Ratio		0.05	0.33	0.33		0.11	0.40	0.40	0.14	0.20	0.20	0.18
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	5.7	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		155	1173	517		389	744	632	254	700	313	620
v/s Ratio Prot		0.03	0.17			c0.08	0.44		c0.10	0.11		c0.24
v/s Ratio Perm				0.03				c0.47			0.12	
v/c Ratio		0.77	0.53	0.10		0.74	1.11	1.19	0.72	0.57	0.62	1.33
Uniform Delay, d1		52.0	29.8	25.4		47.2	33.0	33.0	45.0	39.9	40.4	45.1
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.01	1.01	1.02	1.00
Incremental Delay, d2		20.1	0.4	0.1		7.1	67.0	100.1	9.3	1.1	3.9	159.0
Delay (s)		72.1	30.2	25.5		54.4	100.1	133.2	54.7	41.4	44.9	204.1
Level of Service		E	C	C		D	F	F	D	D	D	F
Approach Delay (s)			35.0				110.1			45.3		
Approach LOS			D				F			D		

Intersection Summary			
HCM 2000 Control Delay	94.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	110.1	Sum of lost time (s)	19.4
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	335	167
Future Volume (vph)	335	167
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	353	176
RTOR Reduction (vph)	0	114
Lane Group Flow (vph)	353	62
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	25.9	25.9
Effective Green, g (s)	25.9	25.9
Actuated g/C Ratio	0.24	0.24
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	438	372
v/s Ratio Prot	c0.19	
v/s Ratio Perm		0.04
v/c Ratio	0.81	0.17
Uniform Delay, d1	39.7	33.5
Progression Factor	1.00	1.00
Incremental Delay, d2	10.4	0.2
Delay (s)	50.1	33.7
Level of Service	D	C
Approach Delay (s)	141.8	
Approach LOS	F	

Intersection Summary

Intersection	
Intersection Delay, s/veh	1085.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	1451	292	72	1606	5	375	12	113	4	9	56
Future Vol, veh/h	35	1451	292	72	1606	5	375	12	113	4	9	56
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	1511	304	75	1673	5	391	13	118	4	9	58
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	1280	1212.7	111.5	35.9
HCM LOS	F	F	F	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	75%	2%	4%	6%
Vol Thru, %	2%	82%	95%	13%
Vol Right, %	23%	16%	0%	81%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	500	1778	1683	69
LT Vol	375	35	72	4
Through Vol	12	1451	1606	9
RT Vol	113	292	5	56
Lane Flow Rate	521	1852	1753	72
Geometry Grp	1	1	1	1
Degree of Util (X)	1.078	3.776	3.624	0.183
Departure Headway (Hd)	12.152	11.869	12.218	26.955
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	302	333	316	134
Service Time	10.152	9.869	10.218	24.955
HCM Lane V/C Ratio	1.725	5.562	5.547	0.537
HCM Control Delay	111.5	1280	1212.7	35.9
HCM Lane LOS	F	F	F	E
HCM 95th-tile Q	12.5	109.2	100.6	0.6

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	45	8	890	88	42	71	751
Future Vol, veh/h	45	8	890	88	42	71	751
Conflicting Peds, #/hr	0	0	0	4	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	46	8	918	91	43	73	774

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	1587	509	0	0	1008	1013	0
Stage 1	968	-	-	-	-	-	-
Stage 2	619	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	99	509	-	-	328	680	-
Stage 1	329	-	-	-	-	-	-
Stage 2	499	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	75	507	-	-	481	481	-
Mov Cap-2 Maneuver	75	-	-	-	-	-	-
Stage 1	328	-	-	-	-	-	-
Stage 2	379	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	101.6	0	1.9
HCM LOS	F		

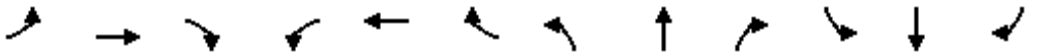
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	86	481	-
HCM Lane V/C Ratio	-	-	0.635	0.242	-
HCM Control Delay (s)	-	-	101.6	14.9	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	3	0.9	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	26	690	157	111	251	750	936	127	256	211	740
Future Volume (vph)	1	26	690	157	111	251	750	936	127	256	211	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	0.95	1.00	0.97	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1563		3433	3539	1583	3433	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1563		3433	3539	1583	3433	3539	1583	3433
Peak-hour factor, PHF	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)	1	28	750	171	121	273	815	1017	138	278	229	804
RTOR Reduction (vph)	0	0	0	98	0	0	0	108	0	0	163	0
Lane Group Flow (vph)	0	29	750	73	0	394	815	909	138	278	66	804
Confl. Peds. (#/hr)				1								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	pm+ov	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8	1	5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		6.2	33.2	33.2		22.4	49.4	76.8	9.1	17.6	17.6	27.4
Effective Green, g (s)		6.2	33.2	33.2		22.4	49.4	76.8	9.1	17.6	17.6	27.4
Actuated g/C Ratio		0.05	0.28	0.28		0.19	0.41	0.64	0.08	0.15	0.15	0.23
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		177	979	432		640	1456	1013	260	519	232	783
v/s Ratio Prot		0.01	c0.21			0.11	0.23	c0.20	0.04	c0.08		c0.23
v/s Ratio Perm				0.05				0.37			0.04	
v/c Ratio		0.16	0.77	0.17		0.62	0.56	0.90	0.53	0.54	0.28	1.03
Uniform Delay, d1		54.4	39.8	32.9		44.8	27.0	18.3	53.4	47.4	45.6	46.3
Progression Factor		1.00	1.00	1.00		0.86	0.77	1.62	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.4	5.7	0.9		1.2	1.1	7.5	2.1	1.1	0.7	39.2
Delay (s)		54.9	45.5	33.8		39.9	21.8	37.0	55.5	48.5	46.3	85.5
Level of Service		D	D	C		D	C	D	E	D	D	F
Approach Delay (s)			43.7				32.0			49.2		
Approach LOS			D				C			D		

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	260	220
Future Volume (vph)	260	220
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	283	239
RTOR Reduction (vph)	0	107
Lane Group Flow (vph)	283	132
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	35.9	35.9
Effective Green, g (s)	35.9	35.9
Actuated g/C Ratio	0.30	0.30
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1058	473
v/s Ratio Prot	0.08	
v/s Ratio Perm		0.08
v/c Ratio	0.27	0.28
Uniform Delay, d1	32.0	32.1
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.3
Delay (s)	32.2	32.5
Level of Service	C	C
Approach Delay (s)	64.5	
Approach LOS	E	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	986	417	48	1518	8	366	9	50	3	15	31
Future Volume (vph)	47	986	417	48	1518	8	366	9	50	3	15	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.87		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3382		1770	3536		3433	1627		1770	1673	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3382		1770	3536		3433	1627		1770	1673	
Peak-hour factor, PHF	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)	51	1072	453	52	1650	9	398	10	54	3	16	34
RTOR Reduction (vph)	0	34	0	0	0	0	0	43	0	0	31	0
Lane Group Flow (vph)	51	1491	0	52	1659	0	398	21	0	3	19	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.6	67.0		7.2	70.0		15.9	25.4		1.0	10.5	
Effective Green, g (s)	4.6	67.0		7.2	70.0		15.9	25.4		1.0	10.5	
Actuated g/C Ratio	0.04	0.56		0.06	0.58		0.13	0.21		0.01	0.09	
Clearance Time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	67	1888		106	2062		454	344		14	146	
v/s Ratio Prot	0.03	0.44		c0.03	c0.47		c0.12	0.01		0.00	c0.01	
v/s Ratio Perm												
v/c Ratio	0.76	0.79		0.49	0.80		0.88	0.06		0.21	0.13	
Uniform Delay, d1	57.2	20.9		54.6	19.6		51.1	37.8		59.1	50.5	
Progression Factor	0.89	0.36		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.4	2.0		3.5	3.5		17.1	0.1		7.6	0.4	
Delay (s)	75.1	9.6		58.2	23.1		68.2	37.9		66.7	50.9	
Level of Service	E	A		E	C		E	D		E	D	
Approach Delay (s)		11.7			24.1			64.0			51.8	
Approach LOS		B			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	0	106	555	27	12	25	956
Future Vol, veh/h	0	106	555	27	12	25	956
Conflicting Peds, #/hr	0	1	0	6	0	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	115	603	29	13	27	1039

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	-	323	0	0	633	638	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	0	673	-	-	570	942	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	-	669	-	-	716	716	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.4
HCM LOS	B		

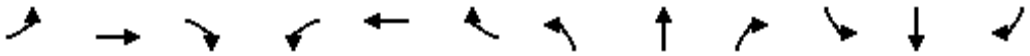
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	669	716	-
HCM Lane V/C Ratio	-	-	0.172	0.056	-
HCM Control Delay (s)	-	-	11.5	10.3	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	112	587	146	72	200	784	999	169	378	292	783
Future Volume (vph)	1	112	587	146	72	200	784	999	169	378	292	783
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Lane Util. Factor		0.97	0.95	1.00		0.97	0.95	1.00	0.97	0.95	1.00	0.97
Frpb, ped/bikes		1.00	1.00	0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		3433	3539	1561		3433	3539	1583	3433	3539	1583	3433
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		3433	3539	1561		3433	3539	1583	3433	3539	1583	3433
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	118	618	154	76	211	825	1052	178	398	307	824
RTOR Reduction (vph)	0	0	0	100	0	0	0	57	0	0	157	0
Lane Group Flow (vph)	0	119	618	54	0	287	825	995	178	398	150	824
Confl. Peds. (#/hr)				2								
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	pm+ov	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	3	8	1	5	2		1
Permitted Phases				4				8			2	
Actuated Green, G (s)		8.0	31.3	31.3		17.5	40.8	71.4	10.6	21.2	21.2	30.6
Effective Green, g (s)		8.0	31.3	31.3		17.5	40.8	71.4	10.6	21.2	21.2	30.6
Actuated g/C Ratio		0.07	0.26	0.26		0.15	0.34	0.60	0.09	0.18	0.18	0.26
Clearance Time (s)		4.2	5.7	5.7		4.2	5.7	4.2	4.2	5.3	5.3	4.2
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		228	923	407		500	1203	941	303	625	279	875
v/s Ratio Prot		0.03	c0.17			0.08	0.23	c0.27	0.05	c0.11		0.24
v/s Ratio Perm				0.03				0.36			0.09	
v/c Ratio		0.52	0.67	0.13		0.57	0.69	1.06	0.59	0.64	0.54	0.94
Uniform Delay, d1		54.2	39.7	34.0		47.8	34.1	24.3	52.6	45.8	44.9	43.8
Progression Factor		1.00	1.00	1.00		0.91	0.81	1.26	1.00	1.01	1.03	1.00
Incremental Delay, d2		2.2	3.9	0.7		1.0	2.1	40.5	2.9	2.1	2.0	17.9
Delay (s)		56.3	43.6	34.6		44.4	29.6	71.0	55.7	48.5	48.3	61.7
Level of Service		E	D	C		D	C	E	E	D	D	E
Approach Delay (s)			43.7				51.7			49.9		
Approach LOS			D				D			D		

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	335	167
Future Volume (vph)	335	167
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.3	5.3
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1583
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	353	176
RTOR Reduction (vph)	0	100
Lane Group Flow (vph)	353	76
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	41.2	41.2
Effective Green, g (s)	41.2	41.2
Actuated g/C Ratio	0.34	0.34
Clearance Time (s)	5.3	5.3
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1215	543
v/s Ratio Prot	0.10	
v/s Ratio Perm		0.05
v/c Ratio	0.29	0.14
Uniform Delay, d1	28.7	27.2
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.1
Delay (s)	28.9	27.3
Level of Service	C	C
Approach Delay (s)	48.7	
Approach LOS	D	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	1451	292	72	1606	5	375	12	113	4	9	56
Future Volume (vph)	35	1451	292	72	1606	5	375	12	113	4	9	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3450		1770	3538		3433	1611		1770	1621	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3450		1770	3538		3433	1611		1770	1621	
Peak-hour factor, PHF	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)	36	1511	304	75	1673	5	391	12	118	4	9	58
RTOR Reduction (vph)	0	12	0	0	0	0	0	95	0	0	53	0
Lane Group Flow (vph)	36	1803	0	75	1678	0	391	36	0	4	14	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.1	68.8		7.6	73.7		13.8	23.2		1.0	10.4	
Effective Green, g (s)	3.1	68.8		7.6	73.7		13.8	23.2		1.0	10.4	
Actuated g/C Ratio	0.03	0.57		0.06	0.61		0.12	0.19		0.01	0.09	
Clearance Time (s)	4.2	5.7		4.2	5.3		4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	45	1978		112	2172		394	311		14	140	
v/s Ratio Prot	0.02	c0.52		c0.04	0.47		c0.11	c0.02		0.00	0.01	
v/s Ratio Perm												
v/c Ratio	0.80	0.91		0.67	0.77		0.99	0.12		0.29	0.10	
Uniform Delay, d1	58.1	22.9		55.0	17.0		53.0	39.9		59.1	50.5	
Progression Factor	0.92	0.49		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	46.8	5.4		14.2	2.7		43.1	0.2		10.9	0.3	
Delay (s)	100.1	16.5		69.1	19.7		96.2	40.1		70.1	50.8	
Level of Service	F	B		E	B		F	D		E	D	
Approach Delay (s)		18.1			21.9			82.1			51.9	
Approach LOS		B			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	0	53	890	88	42	71	796
Future Vol, veh/h	0	53	890	88	42	71	796
Conflicting Peds, #/hr	0	0	0	4	0	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	-	-	-	250	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	55	918	91	43	73	821

Major/Minor	Minor1		Major1		Major2		
Conflicting Flow All	-	509	0	0	1008	1013	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	6.44	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.52	2.22	-
Pot Cap-1 Maneuver	0	509	-	-	328	680	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %			-	-			-
Mov Cap-1 Maneuver	-	507	-	-	456	456	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	507	456	-
HCM Lane V/C Ratio	-	-	0.108	0.255	-
HCM Control Delay (s)	-	-	13	15.6	-
HCM Lane LOS	-	-	B	C	-
HCM 95th %tile Q(veh)	-	-	0.4	1	-

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B2	NB
Directions Served	UL	L	T	T	R	UL	L	T	T	R	T	L
Maximum Queue (ft)	27	48	349	388	100	272	300	714	785	500	271	133
Average Queue (ft)	10	12	216	213	71	152	134	219	370	359	29	42
95th Queue (ft)	28	36	312	311	127	232	220	524	838	588	142	88
Link Distance (ft)			2552	2552				715	715		1783	
Upstream Blk Time (%)								0	10			
Queuing Penalty (veh)								0	97			
Storage Bay Dist (ft)	250	250			50	250	250			350		250
Storage Blk Time (%)			4	53	3	2	0	1	1	27		
Queuing Penalty (veh)			1	83	9	6	0	2	6	100		

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (ft)	134	150	261	120	325	400	2573	2536	120
Average Queue (ft)	62	99	114	96	306	372	1497	1308	50
95th Queue (ft)	109	145	227	134	385	489	2861	2756	100
Link Distance (ft)		1221	1221				2521	2521	
Upstream Blk Time (%)							13	3	
Queuing Penalty (veh)							0	0	
Storage Bay Dist (ft)	250			60	250	250			250
Storage Blk Time (%)			12	26	56	66			
Queuing Penalty (veh)			26	33	73	85			

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	L	TR	TR
Maximum Queue (ft)	368	373	382	73	473	433	163	227	132	94
Average Queue (ft)	56	147	199	34	224	255	104	143	28	32
95th Queue (ft)	158	273	325	67	376	417	169	197	74	70
Link Distance (ft)		1783	1783		764	764			2595	2607
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	250			250			250	250		
Storage Blk Time (%)		1			6					
Queuing Penalty (veh)		1			3					

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	SB
Directions Served	R	UL
Maximum Queue (ft)	74	52
Average Queue (ft)	39	13
95th Queue (ft)	60	38
Link Distance (ft)	1367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 525

Intersection: 1: Clovis Avenue & Shepherd Avenue

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B2	B2
Directions Served	UL	L	T	T	R	UL	L	T	T	R	T	T
Maximum Queue (ft)	91	108	367	346	100	296	296	661	781	500	1854	1873
Average Queue (ft)	37	56	185	194	65	189	181	234	692	468	1099	1211
95th Queue (ft)	74	91	270	268	128	315	304	446	938	648	2326	2328
Link Distance (ft)			2552	2552				662	662		1816	1816
Upstream Blk Time (%)								0	68		0	1
Queuing Penalty (veh)								1	695		5	14
Storage Bay Dist (ft)	250	250			50	250	250			350		
Storage Blk Time (%)			1	51	3	7	5	3		61		
Queuing Penalty (veh)			1	74	8	26	20	8		238		

Intersection: 1: Clovis Avenue & Shepherd Avenue

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)	135	157	252	290	120	325	400	2347	2355	99		
Average Queue (ft)	54	79	134	158	103	300	361	1120	956	35		
95th Queue (ft)	111	132	202	253	144	386	476	2515	2392	76		
Link Distance (ft)			1221	1221				2521	2521			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			60	250	250			250		
Storage Blk Time (%)			0	31	20	41	53					
Queuing Penalty (veh)			0	90	37	68	89					

Intersection: 3: Sunnyside Avenue & Shepherd Avenue

Movement	EB	EB	EB	WB	WB	WB	B11	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	L	TR	L	TR
Maximum Queue (ft)	73	430	466	369	821	834	71	238	247	242	27	116
Average Queue (ft)	33	208	228	99	383	411	4	158	178	66	1	59
95th Queue (ft)	68	354	386	280	782	799	31	227	248	153	10	101
Link Distance (ft)		1816	1816		764	764	487			2595		2607
Upstream Blk Time (%)					2	3						
Queuing Penalty (veh)					0	0						
Storage Bay Dist (ft)	250			250				250	250		250	
Storage Blk Time (%)		6			22			0	1	0		
Queuing Penalty (veh)		2			16			0	1	0		

Intersection: 4: Clovis Avenue & Riordan Avenue

Movement	WB	NB	SB	SB
Directions Served	R	TR	UL	T
Maximum Queue (ft)	74	26	170	197
Average Queue (ft)	32	1	45	7
95th Queue (ft)	58	9	101	65
Link Distance (ft)	1367	1266		1221
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			250	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 1393

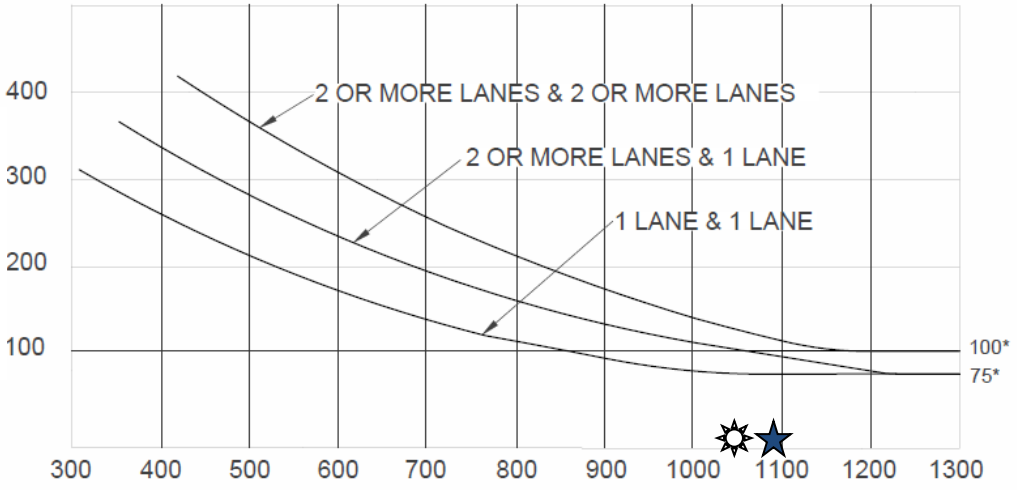
Appendix J: Signal Warrants

Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
2. Preuss Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Preuss Avenue Highest Approach Volume = 4 (4) VPH



Shepherd Avenue Total of Both Approaches =

1053 (1089) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

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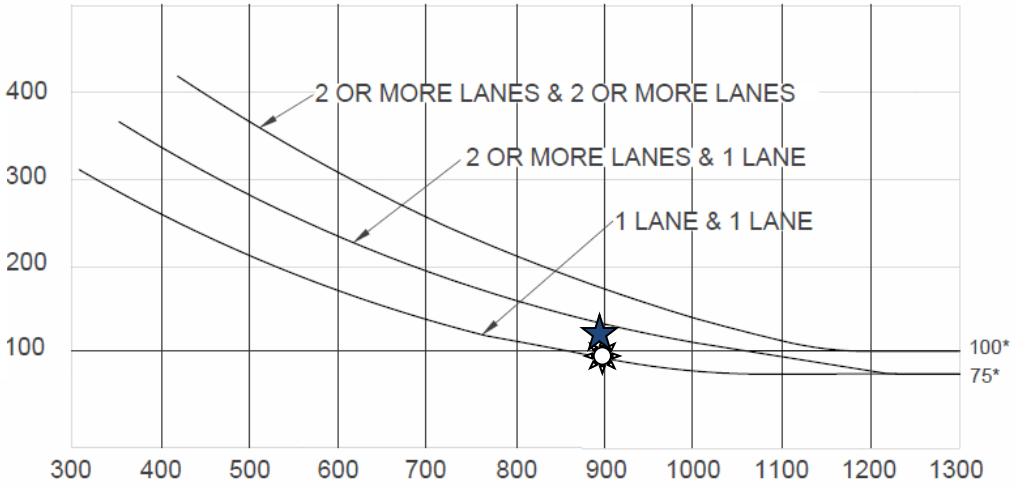
Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
3. Sunnyside Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Sunnyside Avenue Highest Approach Volume = 91 (110) VPH



Shepherd Avenue Total of Both Approaches = 895 (894) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

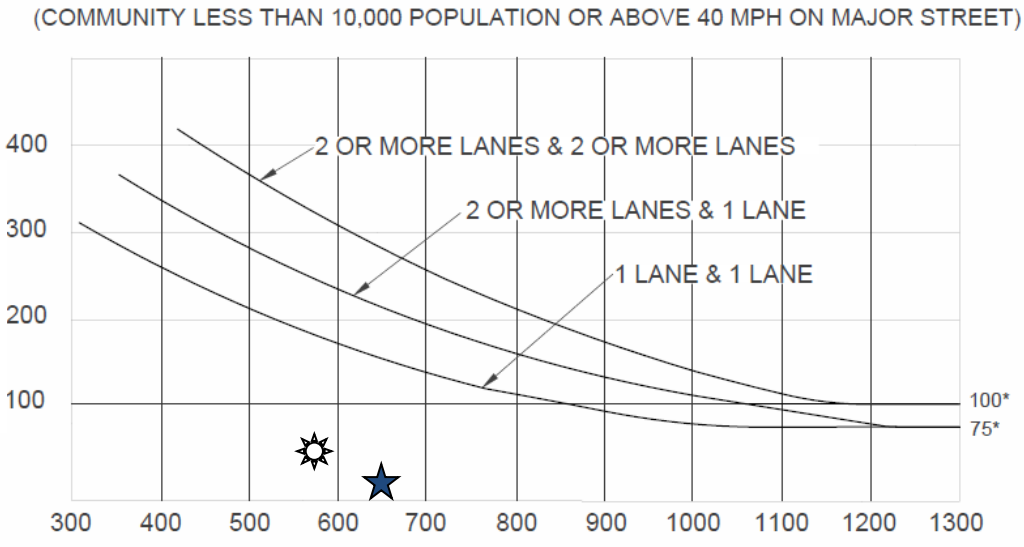
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
4. Clovis Avenue / Riordan Avenue
AM (PM) Peak Hour

Riordan Avenue Highest Approach Volume = 55 (24) VPH



Clovis Avenue Total of Both Approaches =

573 (648) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

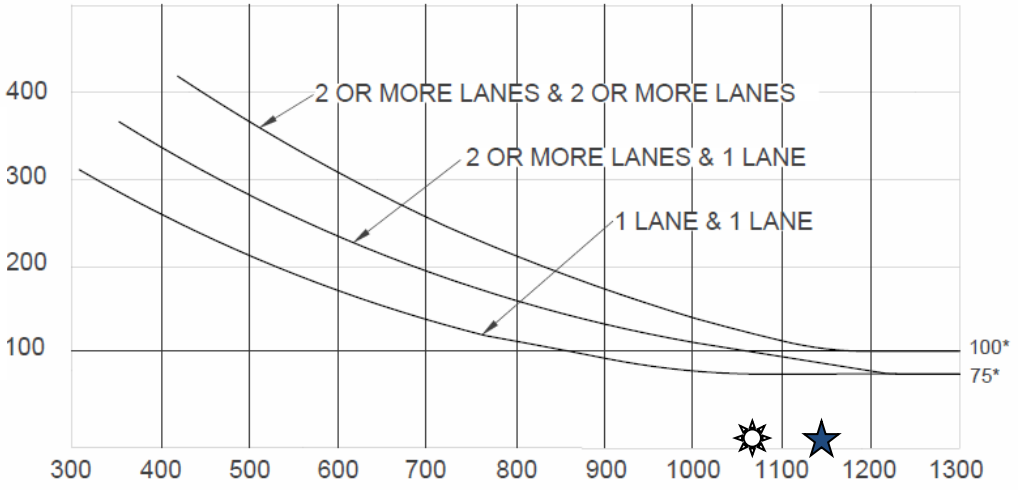
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
2. Preuss Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Preuss Avenue Highest Approach Volume = 12 (10) VPH



Shepherd Avenue Total of Both Approaches =

1070 (1135) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
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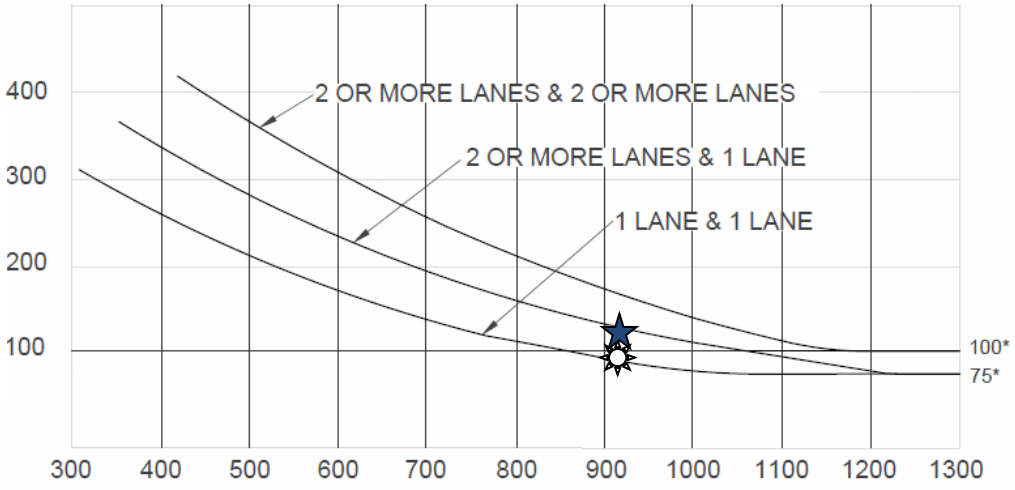
Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
3. Sunnyside Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Sunnyside Avenue Highest Approach Volume = 93 (116) VPH



Shepherd Avenue Total of Both Approaches = 917 (920) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

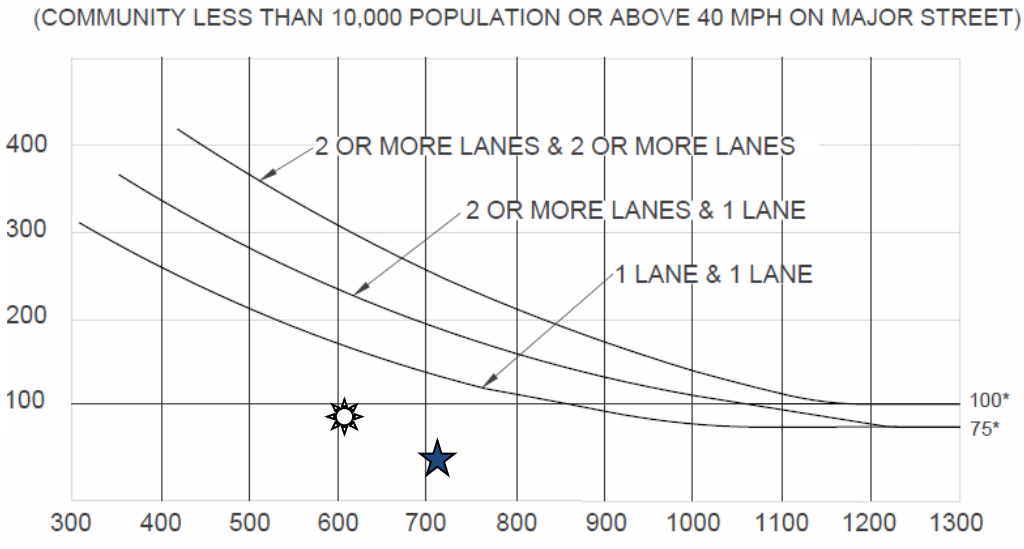
AM Peak Hour – Signal Warrant is Met
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
4. Clovis Avenue / Riordan Avenue
AM (PM) Peak Hour

Riordan Avenue Highest Approach Volume = 89 (42) VPH



Clovis Avenue Total of Both Approaches =

603 (717) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

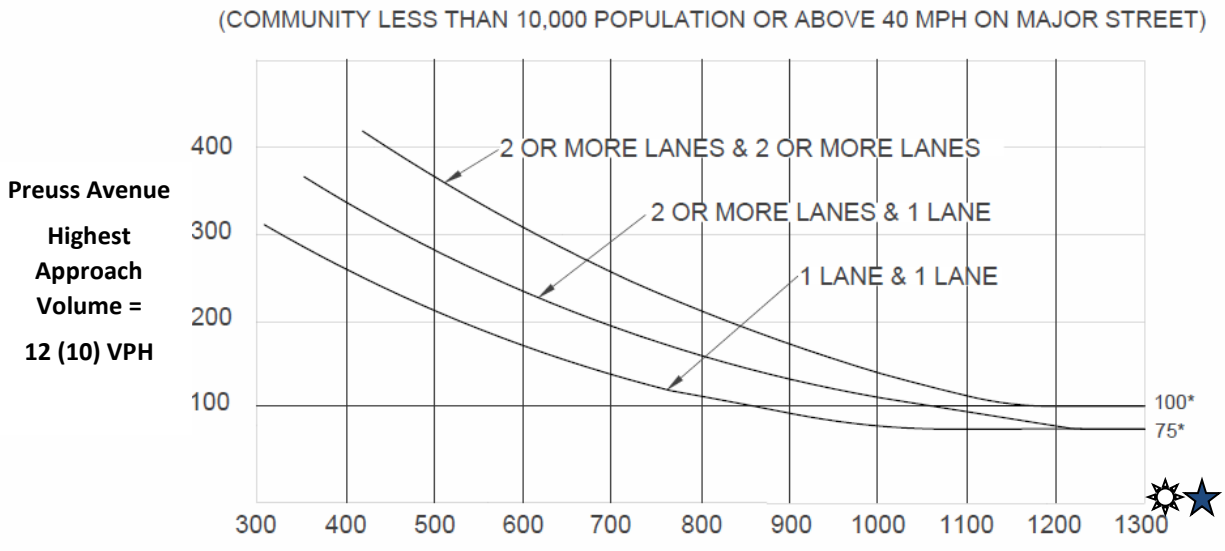
AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project Traffic Conditions
2. Preuss Avenue / Shepherd Avenue
AM (PM) Peak Hour



Shepherd Avenue Total of Both Approaches =

1723 (1930) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
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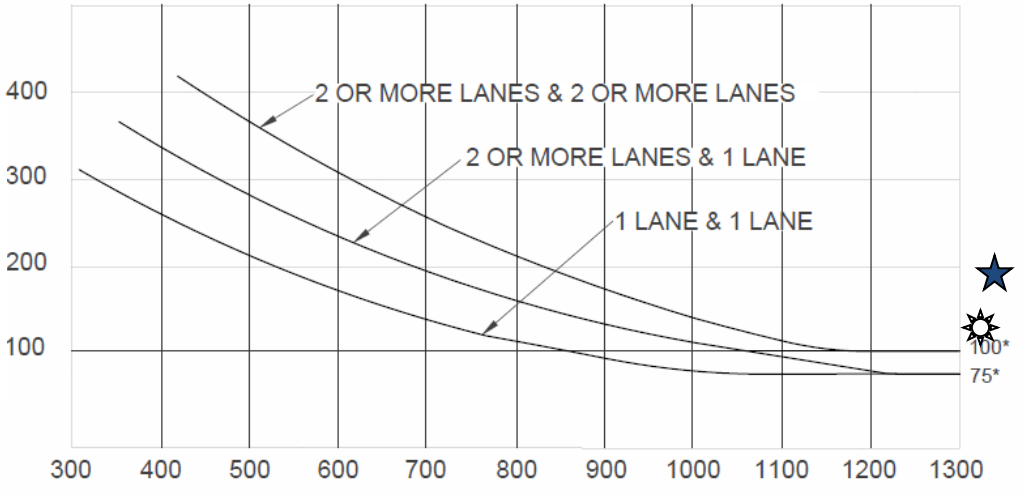
Warrant 3: Peak Hour (Rural)

Near Term plus Project Traffic Conditions
3. Sunnyside Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Sunnyside Avenue Highest Approach Volume = 117 (189) VPH



Shepherd Avenue Total of Both Approaches =

1532 (1596) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

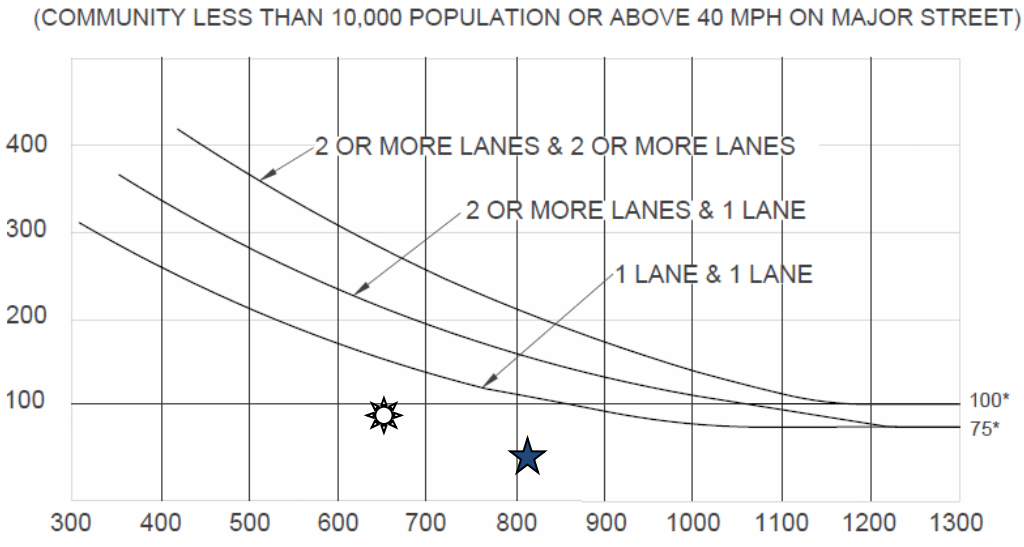
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Near Term plus Project Traffic Conditions
4. Clovis Avenue / Riordan Avenue
AM (PM) Peak Hour

Riordan Avenue Highest Approach Volume = 89 (42) VPH



Clovis Avenue Total of Both Approaches =

646 (812) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

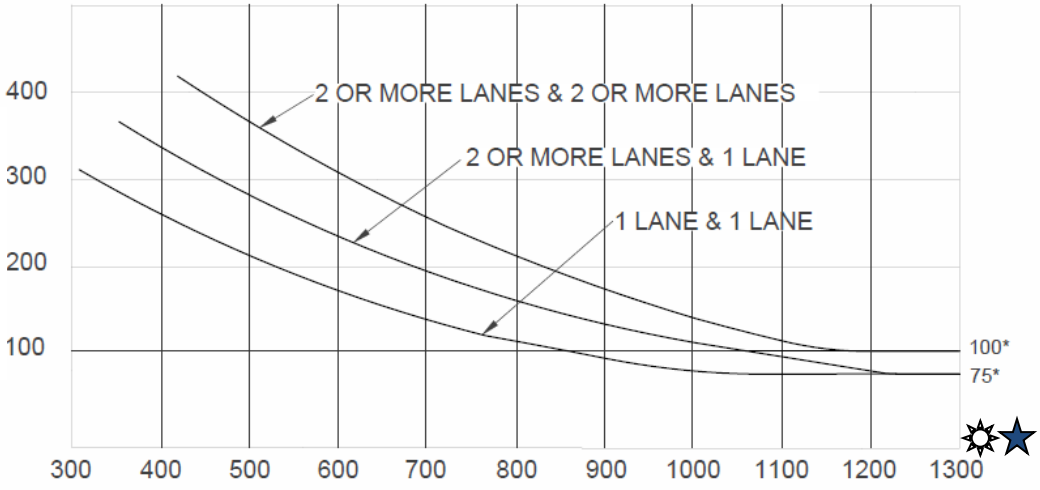
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Cumulative Year 2039 plus Project Traffic Conditions
2. Preuss Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Preuss Avenue Highest Approach Volume = 12 (10) VPH



Shepherd Avenue Total of Both Approaches =

3402 (3946) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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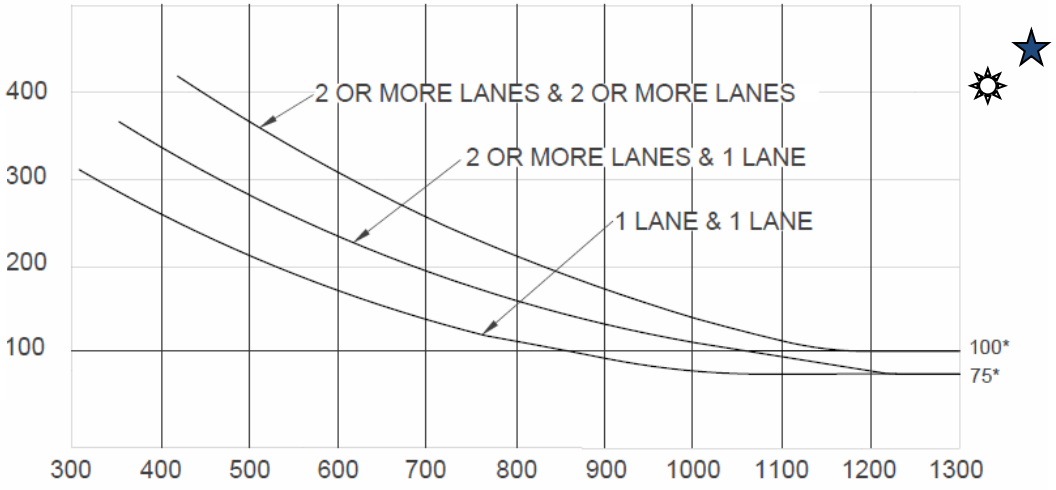
Warrant 3: Peak Hour (Rural)

Cumulative Year 2039 plus Project Traffic Conditions
3. Sunnyside Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Sunnyside Avenue Highest Approach Volume = 401 (443) VPH



Shepherd Avenue Total of Both Approaches =

3024 (3461) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

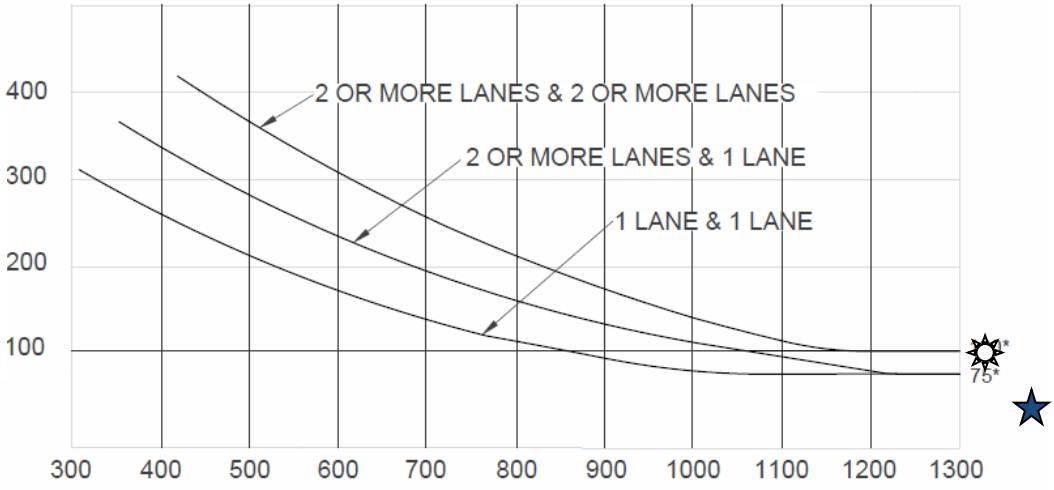
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Cumulative Year 2039 plus Project Traffic Conditions
4. Clovis Avenue / Riordan Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Riordan Avenue Highest Approach Volume = 97 (46) VPH



Clovis Avenue Total of Both Approaches =

1458 (1765) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

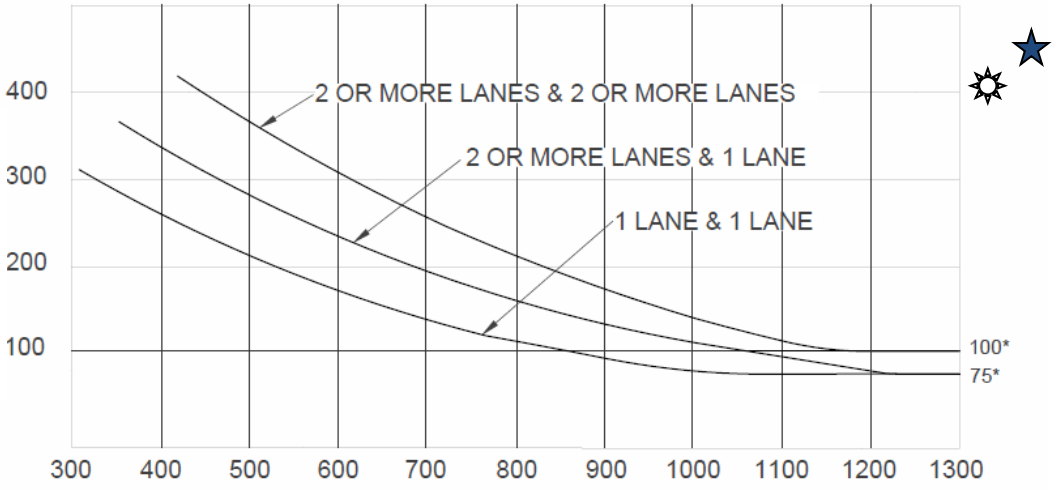
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Cumulative Year 2039 plus Project (No Access) Traffic Conditions
3. Sunnyside Avenue / Shepherd Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Sunnyside Avenue Highest Approach Volume = 401 (443) VPH



Shepherd Avenue Total of Both Approaches =

3024 (3461) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

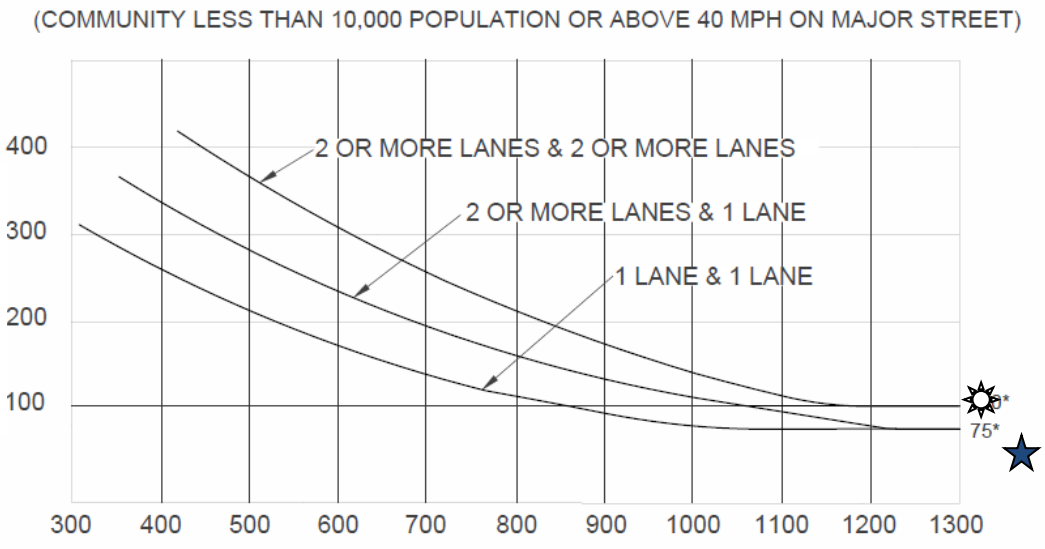
PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

Warrant 3: Peak Hour (Rural)

Cumulative Year 2039 plus Project (No Access) Traffic Conditions
4. Clovis Avenue / Riordan Avenue
AM (PM) Peak Hour

Riordan Avenue Highest Approach Volume = 101 (50) VPH



Clovis Avenue Total of Both Approaches =

1482 (1843) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

AGENDA ITEM NO.3

CITY of CLOVIS

REPORT TO THE PLANNING COMMISSION

TO: Clovis Planning Commission

FROM: Planning and Development Services

DATE: January 23, 2020

SUBJECT: Consider Approval, Res. 20-___, SPR2019-20, A request to approve a site plan review for a proposed Fresno County Regional Library Branch in the Clovis Landmark Square Development, located on the north side of Third Street at its intersection with Veterans Parkway (755 Third Street). City of Clovis, owner. County of Fresno, applicant.

Staff: Dave Merchen, City Planner
Recommendation: Approve

ATTACHMENTS:
1. Conditions of Approval
2. Draft Resolution
3. Site Plan
4. Floor Plan
5. Elevation Drawings
6. Correspondence (Agencies, Departments, and Public)

CONFLICT OF INTEREST
None.

RECOMMENDATION
Staff recommends that the Planning Commission approve Site Plan Review 2019-20, subject to the conditions of approval included in **Attachment 1**.

EXECUTIVE SUMMARY
The County of Fresno is requesting approval of a site plan review application for a new Regional Library located at 755 Third Street (**Figure 1**). The proposed site is part of a 5.7 property which will also house a new City of Clovis Senior Center and Transit Facility. The combined project area has recently been named Clovis Landmark Square by the City Council. The previously approved site plan for the Senior Center and Transit Facility (SPR 2018-02) anticipated the Library development, and the building layout currently under consideration is fully integrated with the previous approvals.

BACKGROUND

- General Plan Designation: Mixed Use
- Specific Plan Designation: Central Clovis Specific Plan (Mixed Use PA9)
- Existing Zoning: Mixed Use
- Lot Size: Approximately 5.7 acres
- Current Land Use: Vacant
- Adjacent Land Uses:
  - North: Construction Yard
  - South: Parking and Clovis Veterans Memorial District
  - East: Single and Multiple-Family Residential
  - West: Vacant Building, Undeveloped Property, Hotel
- Previous Entitlements: R2018-14 (Mixed Use), SPR 2018-02

FIGURE 1
Project Location

PROPOSAL AND ANALYSIS

Site Plan Review application SPR 2019-20 has been submitted to allow the development of a new Fresno County Regional Library. When completed, the proposed building will replace the existing Clovis Branch Library at 1155 Fifth Street. The City of Clovis currently owns the property. Upon approval of the site plan review, the City and County will finalize an agreement whereby the building pad for the Library is conveyed to the County.

History

In January of 2015, the City of Clovis purchased 5.7 acres of property located north of Third Street at its intersection with Veterans Parkway in Old Town Clovis. The site was purchased to allow for the development of what has now been officially named "Clovis Landmark Square." The project will house a new Senior Center, Transit Facility, and Fresno County Library. A focused environmental impact report (EIR) for the overall project was certified by the City Council in July of 2018.

Prior to the development of each building with Landmark Square, the site plan review process must be completed, including review by the Planning Commission and final approval by the City Council. The City initiated the site plan review process for the Transit Facility and Senior Center in late 2018. The Planning Commission conducted a public hearing and recommended approval of the project in January of 2019. After a long delay associated with evaluating the adjacent owner's request to incorporate an additional street connection at Second Street (see the discussion on Circulation and Access below), the City Council granted final approval of the site plan for the Transit Facility and Senior Center on December 16, 2019. That approval anticipated that the Library would be developed as the final phase of the overall project, and it memorialized the parking and circulation layout for the entire property.

Proposed Building and Site Configuration

The proposed Library building encompasses a total of approximately 22,670 square feet at the northwest corner of the Clovis Landmark Square property. The building will include the main library space, several defined study areas, a community room, staff area, and other related spaces. The parking area and circulation pattern for the Library are integrated with the overall development footprint for Clovis Landmark Square. The primary building entrance will be oriented to the south, facing the approved Senior Center and Transit Facility. The building layout and design will also embrace the adjacent Old Town Trail that runs along the west edge of the site by providing a large covered patio and seating area along the trail frontage. An eight foot tall masonry wall is proposed along the northern property line to separate the library use from the adjacent industrial storage yard.

Architectural Design

Clovis Landmark Square is located on the former site of Clovis Lumber adjacent to the historic railway. The building designs for this area are intended to emphasize the history of the site, incorporating themes related to the railroad, lumber, and agricultural warehousing industries, as well as contemporary architecture. The proposed design for the library is sympathetic to the site's history, and pays respect to the barn-like style of the former Clovis Lumber building. The structure is proposed with a metal roof common to the industries that historically located in this

area; a monitor-style roof feature, which provides a raised area along the ridge line with its own roof running parallel to the main roof, has been associated with traditional barn design for many years. Use of a stacked stone veneer as an exterior treatment incorporates contemporary architectural style, while retaining the rustic feel of the building. Specific design details, such as color and specific building materials, have not been identified. Staff recommends that the final selection of exterior materials and colors occur with the intent of providing complementary design features in relation to the Senior Center and Transit Facility, and that those selections be approved by the Director prior to construction.

Circulation and Access

An entrance on Third Street provides the predominant vehicle access for the overall Clovis Landmark Square project. The main drive enters the site at the Veterans Parkway alignment and divides the Senior Center to the west and Transit Facility to the east. The existing alley on the east side of the site will provide a second point of vehicle access with Osmun Avenue at the northeast corner of the site providing a third. The Library will not have frontage on any existing public street; patrons will access the building from the interior parking and circulation area.

During the initial planning process for the project, a street connection to Clovis Avenue at Second Street was evaluated. After a traffic study was completed, the City determined that access at Second Street was infeasible due to traffic backups on Clovis Avenue, trail conflicts, and building site limitations. In early 2019, the adjacent property owners to the north, the DeBenedetto family, asked the Council to reconsider the Second Street connection and, with the Council's endorsement, they completed a new traffic study to evaluate the proposal. This information was reviewed at the City Council in October of 2019, at which time the Council made a final decision that Second Street access would not be incorporated into the project.

Pedestrians have access around the site from Third Street, Osmun Avenue, the alleyway, and the Old Town Trail. Pedestrians will traverse through the site through a series of accessible paths around buildings and along parking areas, including a raised sidewalk that leads directly from the Senior Center to the Library. A reciprocal access and parking agreement will need to be in place prior to completion of the developments.

Parking

Parking for the Library will be integrated with required parking for the Senior Center and Transit Facility; parking will not be segregated by building use. All parking stalls are fully located within the interior of the Clovis Landmark Square property. Approximately 187 stalls are proposed, including 37 accessible stalls. The available on-site parking satisfies parking needs for the planned uses. A reciprocal access and parking agreement will need to be in place prior to completion of the developments. Additional capacity is available as on-street parking and in the public parking areas located throughout Old Town.

View Corridor

Clovis Landmark Square takes its design direction from a Master Development Plan approved by the City Council in February, 2019 for Planning Area #9 of the Central Clovis Specific Plan. The Master Development Plan places particular importance on maintaining view corridors from

the major streets around the periphery of the property into the site. Such corridors are important for the public in identifying uses within this otherwise "embedded" property.

The intersection of Third Street and Veterans Parkway will function as the primary point of access to Clovis Landmark Square and will be a visual anchor point for the proposed public facilities and future private development anticipated to the north. The view corridor from this intersection to the north is "picture-framed" between the Senior Center and Transit Facility, allowing visual access to both the Library and the private property beyond. Final designs for project landscaping, signage, and any other vertical site features will need to ensure that the view corridor created by the approved building configuration is not obstructed. For instance, a large monument sign is shown conceptually at the southeast corner of the Library pad. Depending on the height and orientation of that sign, the view corridor extending to the private property north of the Library could be obstructed.

Review and Comments from Agencies

The Project was distributed to all City Divisions as well as outside agencies, including Cal Trans, Clovis Unified School District, Fresno Irrigation District, Fresno Metropolitan Flood Control District, AT&T, PG&E, San Joaquin Valley Air Pollution Control District, State Department of Fish and Wildlife, and the County of Fresno.

Comments received are attached only if the agency has provided concerns, conditions, or mitigation measures. Routine responses and comment letters are placed in the administrative record and provided to the applicant for their records.

Public Comments

A public notice was sent to area residents within 600 feet of the property boundaries. Staff has not received comments or concerns from the public upon finalization of this report.

California Environmental Quality Act (CEQA)

This project was evaluated under a Focused Environmental Impact Report (EIR) certified by the City Council on July 9, 2018 (State Clearinghouse Certification No. 2017041010). No major revisions will be required with the adopted Focused EIR to accommodate the proposed project, therefore, subject to CEQA Sections 15162 and 15182, no further environmental review is required for this project. The Focused EIR can be viewed at the following link: https://cityofclovis.com/planning-and-development/planning/ceqa/.

The City published notice of this public hearing in The Business Journal on Wednesday, January 8, 2020.

REASON FOR RECOMMENDATION

Site Plan Review 2019-20 is consistent with the goals of the General Plan Land Use Diagram, the Central Clovis Specific Plan, Clovis Municipal Code, and the MU (Mixed Use) Zone District. Therefore, staff recommends that the Planning Commission approve SPR 2019-20, subject to the conditions of approval attached as **Attachment 1**.

ACTIONS FOLLOWING APPROVAL

This site plan review will be forwarded to City Council for consideration.

FISCAL IMPACT
None.

NOTICE OF HEARING
Property owners within 600 feet notified: 82
Interested individuals notified: 10

Prepared by:
Reviewed by: 

Dave Merchen
City Planner

SPR2019-20 – CONDITIONS OF APPROVAL

PLANNING DIVISION CONDITIONS
(Dave Merchen, Division Representative - 324-2346)

Items required prior to issuance of building permits shall be delivered to the appropriate department at least two weeks prior to the anticipated date the permit is needed. This will allow staff sufficient time to review and approve the materials.

1. These conditions and enclosed “Acceptance of Site Plan” shall be included in the stamped permits sets.

2. An authorized Project representative shall sign and return the "Acceptance of Site Plan” within thirty (30) days of the date of approval of site plan review. **THE PROJECT OR ANY OTHER AGGRIEVED PERSON MAY FILE AN APPEAL OF THE SITE PLAN WITHIN FIFTEEN (15) DAYS OF THE APPROVAL DATE.** Unless a written appeal is requested, or the Planning Director grants an extension in writing of the time to sign the Acceptance of Site Plan, failure to comply with this condition will result in immediate termination of this Site Plan Review at the end of the 30-day period. (Clovis Municipal Code (CMC) § 9.82.040).

3. This site plan review is granted as per the conditions of Attachment 1. Site layout, exterior elevation plan, design and finish materials, shall be those stamped as "approved" and available for review in the Planning Division. Any corrections indicated in red shall indicate approved changes under this application. (per CMC §9.56.050).

4. All plans submitted for building permits shall be consistent with this Site Plan Review. (per CMC §9.56.010).

5. The development of the Library as depicted in the drawings described in Condition #2 shall occur concurrent with, or after, the City’s installation of circulation, parking, utility, and frontage improvements to the Clovis Landmark Square property in conjunction with SPR 2018-02. An amendment to SPR 2019-20 shall be required in the event the Library is proposed to be developed prior to the installation of these facilities.

Signage

6. All proposed construction announcement sign uses to conform to the Municipal Sign Ordinance.

7. All exterior signs and/or signs on the inside of the building which are intended to be viewed from the outside shall require separate sign permits prior to installation.

8. Temporary signs shall be limited to building mounted banners and posters not to exceed in size the total allowable permanent sign area for the lease space. Such signs may be used in conjunction with an event or sale, and may be displayed for a maximum of fourteen days, and shall be limited to one such display three separate times a year. A minimum of five days shall separate temporary display periods. Temporary displays shall not list individual products and/or prices and will require written notification to the Planning Department prior to display.

9. A new business may display "Grand Opening" signs per the Clovis Zone Ordinance, one time for a maximum period of thirty days. Grand opening displays require written notification to the Planning Department prior to display.

VIEW CORRIDOR

10. The view corridor extending north from the intersection of Third Street and Veterans Parkway, as identified in the Master Development Plan for Clovis Specific Plan Planning Area #9, shall not be obstructed through the placement of vertical design features such as signage or landscaping. Prior to placement of any project feature on the Library pad which extends more than six feet above finished grade into the view corridor, a view shed analysis shall be completed to the satisfaction of the Director ensuring that the horizontal and vertical view corridor is maintained to the property to the north.

HVAC and PG&E Utility Placement Considerations/Screening Requirements

11. All electrical and HVAC equipment shall be screened to the specifications of the Planning Department. If ground-mounted, applicant shall show methods proposed to architecturally integrate equipment locations, or show methods proposed to screen equipment using landscaping. Any roof-mounted equipment placements shall be completely screened from view (with exception from State Route 168) and architecturally integrated into the roof using roof wells or continuous building perimeter fascia screening. Any wall-mounted equipment shall be painted to match the exterior wall.

12. Roof access ladders shall be located within the interior of the buildings per Planning Division Standards.

13. Fire sprinkler risers shall be located within the interior of the building or located out of public view per Planning Division Standards.

Building Colors, Materials Considerations

14. Building Elevations are approved as schematic elevations per Attachment 5, stamped as approved and available for review in the Planning Division. Final design details, including building materials and colors, shall be selected by the applicant with intent of providing complementary design features in relation to the Senior Center and Transit Facility. Final colors and materials shall be approved by the Director prior to construction. Substantial modifications to the elevations, as determined by the Director, shall require an amendment to the site plan review.

Lighting Considerations

15. All exterior lighting shall be directed away from residential properties and not interfere with the driving safety of vehicular traffic.

16. A representative of the Project shall contact the Planning Department when all site lighting is operational. At this time, additional light screening may be required.

Parking

17. The Project shall complete parking improvements consistent with the parking and circulation layout approved for Clovis Landmark Square through SPR 2018-02. The Project's responsibility will be to construct the final phase of parking, generally located east of the Library building.

18. The applicant shall work with staff on developing a comprehensive parking calculation and memorialize reciprocal parking agreements with the all properties within Landmark Square.

19. All parking and loading areas shall be marked and striped to City standards.

20. Parking spaces shall be marked and striped per City standards.

21. Parking spaces for the disabled shall be provided in compliance with the Clovis adopted standards and State and Federal law

22. Trees, shrubs, light poles, fire hydrants and similar objects placed in the two-foot bumper overhang area shall be placed as not to cause interference with the vehicles per Planning Division Standards.

23. The Project shall provide an accessible pedestrian path from the parking lot to the front door of the building per adopted Accessible Path Requirements.

24. Provide bicycle parking/storage facilities in compliance with the California Green Code and Clovis Active Transportation Plan.

    Acceptable bicycle parking shall be convenient from the street and shall meet one of the following:

    - Covered, lockable enclosures with permanently anchored racks for bicycles; or
    - Lockable bicycle rooms with permanently anchored racks; or
    - Lockable, permanently anchored bicycle lockers

Landscape/Non-Landscape Lot Coverage and Treatments

25. Landscaping shall comply with CMC section 6.5.501 et seq., Water Efficient Landscape Requirements.

Fences and Walls

26. The masonry wall located at the north property line shall be decorative block or comparable material and shall require review and approval from the City Planner.

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT CONDITIONS
(Michael Maxwell, FMFCD Representative - 456-3292)

27. The Project shall refer to the attached FMFCD requirements. If the list is not attached, please contact the District for the list of requirements.

FRESNO COUNTY HEALTH CONDITIONS
(Kevin Tsuda, County Representative –600-3271)

28. The Project shall refer to the attached Fresno County Health requirements. If the list is not attached, please contact the District for the list of requirements.

FRESNO COUNTY PUBLIC WORKS AND PLANNING CONDITIONS
(Chrissy Monfette, County Representative – 600-4245

29. The Project shall refer to the attached Fresno County Department of Public Works and Planning requirements. If the list is not attached, please contact the County for the list of requirements.

ENGINEERING / UTILITIES / SOLID WASTE DIVISION CONDITIONS
(Sean Smith, Engineering Division Representative – 324-2363)
(Paul Armendariz, Public Utilities Representative – 324-2394)
(see attached estimated fees)

30. The conditions of this entitlement are written under the assumption that all dedications and improvements have been completed by SPR 2018-002, and that these dedications and improvements have been accepted by the City. Additional conditions shall be required at the discretion of the City Engineer, if the improvements and dedications by SPR 2018-002 have not been accepted by the City.

31. The applicant shall submit separately to the City of Clovis Engineering Division, a set of construction plans on 24" x 36" sheets with City standard title block for all required improvements and a current preliminary title report. These plans shall be prepared by a registered civil engineer, and shall include a grading plan, landscape plan, a site plan showing trash enclosure locations and an overall site utility plan showing locations and sizes of sewer, water, storm drain, and irrigation mains, laterals, manholes, meters, valves, hydrants, fire sprinkler services, other facilities, etc. Plan check and inspection fees per City of Clovis Resolution No. 18-61 shall be paid with the first submittal of said plans. All plans shall be submitted at or before the time the building plans are submitted to the Building Division and shall be approved by the City and all other involved agencies prior to the release of any development permits.

32. Prior to the initial submittal of the improvement plans, the applicant shall contact Sean Smith at (559) 324-2363 to setup a coordination meeting (Pre-submittal Meeting).

33. Upon approval of improvement plans, the applicant shall provide the City with the appropriate number of copies. After all improvements have been constructed and accepted by the City, the applicant shall submit to the City of Clovis Engineering Division (1) digital copy to the City in PDF format of the approved set of construction plans revised to accurately reflect all field conditions and revisions and marked "AS-BUILT" for review and approval. Upon approval of the AS-BUILTs by the City, and prior to granting of final occupancy or final acceptance, the applicant shall provide (1) digital copy to the City in PDF format.

General Provisions

34. The Project shall be responsible for the payment of all applicable development fees prior to the issuance of a building permit. A preliminary estimate of fees is $6,294.57. A breakdown of this estimate is attached to these conditions for your information. Additional fees may be assessed and must be paid prior to

issuance of subsequent development permits. NOTE: The fees given at this time are an estimate calculated using rates currently in effect. These rates are subject to change without notice and the actual amount due shall be calculated using fee rates in effect at the time of payment. Additional fees payable to the City or other agencies (FMFCD) may become due as supplemental information regarding the project is received by the City.

35. The applicant is advised that, pursuant to California Government Code, Section 66020, any party may protest the imposition of fees, dedications, reservations, or other exactions imposed on a development project by a local agency. Protests must be filed in accordance with the provisions of the California Government Code and must be filed within 90 days after conditional approval of this application is granted. The 90 day protest period for this project shall begin on the "date of approval" as indicated on the "Acknowledgment of Acceptance of Conditions" form.

36. The applicant shall install all improvements within public right-of-way and easements in accordance with the City of Clovis standards, specifications, master plans, and record drawings in effect at the time of improvement plan approval.

37. The applicant shall address all conditions, and be responsible for obtaining encroachment permits from the City of Clovis for all work performed within the City's right-of-way and easements.

38. The applicant shall comply with the requirements of the local utility, telephone, and cable companies. It shall be the responsibility of the applicant to notify the local utility, telephone, and cable companies for the removal or relocation of utility poles where necessary. The City shall not accept first submittals without proof that the applicant has provided the improvement plans and documents showing all proposed work to the utility, telephone, and cable companies. All utility vaults in which lids cannot be sloped to match proposed finished grading, local utilities have 5% max slope, shall be located in sidewalk areas with pedestrian lids so the lid slope matches sidewalk cross slope.

39. All new utility facilities located on-site, within alleys, or within the street right-of-way along the streets adjacent to this development shall be undergrounded unless otherwise approved by the City Engineer.

40. The applicant shall contact and address all requirements of the United States Postal Service Clovis Office for the location and type of mailboxes to be installed. The location of the facilities shall be approved by the City Engineer prior to approval of improvement plans or any construction.

Dedications and Street Improvements

41. The applicant shall provide preliminary title report for the subject property.

42. The applicant shall provide to the City for recording a reciprocal access agreement to maintain and provide vehicular, pedestrian and public access, prior to obtaining building permits.

Sewer

43. The Project shall identify and abandon all septic systems to City standards.

44. The Project shall install sewer lateral or laterals for the development site and connect to City mains.

Water

45. The applicant shall identify and abandon all water wells to City standards.

46. The applicant shall provide dedication of 15-foot wide utility easements for all on-site water mains, hydrants, blow-offs, and water meters not located in otherwise dedicated rights-of-way.

47. The applicant shall install a City standard water service of the necessary size for the development site and connect to City mains. Water services shall be grouped at property lines to accommodate automatic meter reading system, including installation of connecting conduit. The water meter shall be placed in the sidewalk and not in planters or driveways.

48. The applicant shall install an approved backflow prevention assembly adjacent to the water meter and shall be tested by an approved AWWA certified tester within 5 days of installation with the results sent to the City Utilities Division.

Grading and Drainage

49. The Project shall contact the Fresno Metropolitan Flood Control District (FMFCD) and address all requirements, pay all applicable fees required, obtain any required NPDES permit, and implement Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to reduce or eliminate storm water pollution. Plans for these requirements shall be included in the previously required set of construction plans, and shall be submitted to and approved by the FMFCD prior to the release of any development permits.

50. Grade differentials between lots and adjacent properties shall be adequately shown on the grading plan and shall be treated in a manner in conformance

with City of Clovis Standard Drawing No. M-4 as modified by the City Council. Any retaining walls required on-site or in public right of way shall be masonry construction. All retaining walls shall be designed by a registered Civil Engineer.

Irrigation and Landscaping Facilities

51. All existing agricultural irrigation systems either on-site or in public right of way, whether FID or privately owned, shall be identified prior to any construction activity on the site. Service to all downstream users of irrigation water shall be maintained at all times through preservation of existing facilities or, if the existing facilities are required to be relocated, the relocation and replacement of the existing facilities. It is the intent that downstream users not bear any burden as a result of development of the site. Therefore, the applicant shall pay all costs related to modification, relocation, or repair of any existing irrigation facilities resulting from or necessitated by the development of the site. The applicant shall identify on site plans and construction plans, all existing irrigation systems and their disposition (abandonment, repair, relocation, and/or piping). The applicant shall consult with the Fresno Irrigation District for any additional requirements for lines to be abandoned, relocated, or piped. The applicant shall provide waivers from all users **in order to abandon or modify any irrigation pipelines or for any service interruptions resulting from development activities.**

52. The applicant shall comply with the City of Clovis Water Efficient Landscape Requirements Ordinance.

Miscellaneous

53. All trash enclosures used by this entitlement shall be used only for trash and recycling bins. The applicant is prohibited from storing other items in the enclosure and storing trash or recycling bins outside the enclosure.

54. The applicant shall provide to the City for recording an appurtenant agreement for reciprocal access, maintenance, and use of the joint trash enclosure. The recordable covenant must be submitted to, reviewed and approved by the City Engineer prior to approval of the improvement plans or the release of any development permits.

55. The applicant shall provide location and dimension of above ground utility boxes and risers with the location approved by the City.

56. The applicant shall require the surveyor/civil engineer for the development to notify, in writing, the City Engineer of any existing section corner, property corner or reference monuments damaged by the construction of improvements performed as part of the development. The applicant shall have all such monuments reset. A licensed land surveyor or civil engineer licensed to perform

land surveying shall certify the placement of all required monumentation prior to Certificate of Occupancy. Brass caps required for replacement of existing monuments shall be provided by the contractor/applicant and approved by City prior to installation. Within five days after the replacement of all monuments has been completed, the engineer or surveyor shall give written notice to the City Engineer certifying that the monuments have been set and that he has filed with the County Recorder all appropriate records of survey or corner records. Upon payment to the engineer or surveyor for setting the final monuments, the applicant shall present to the City Engineer evidence of the payment and receipt thereof by the engineer or surveyor.

57. A deferment, modification, or waiver of any engineering conditions will require the express written approval of the City Engineer.

58. All conditions of approval shall be fully complied with prior to issuance of a Certificate of Occupancy final acceptance.

DRAFT
RESOLUTION 20-____

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF CLOVIS APPROVING A SITE PLAN REVIEW FOR A FRESNO COUNTY LIBRARY LOCATED NORTH OF THIRD STREET AT ITS INTERSECTION WITH VETERAN'S PARKWAY AND CONFIRMING ENVIRONMENTAL FINDINGS

WHEREAS, County of Fresno, 2220 Tulare Street, Fresno, CA 93721, has applied for a Site Plan Review SPR2019-20; and

WHEREAS, this is a request to approve a site plan review for a new County Regional Library, for property on the north side of Third Street at Veteran's Parkway in the City of Clovis, County of Fresno; and

WHEREAS, a public notice was mailed to area property owners within 600 feet of said property boundaries ten days prior to said hearing; and

WHEREAS, a duly noticed hearing was held on January 23, 2020; and

WHEREAS, the Commission, has reviewed and considered the staff report and all written materials submitted in connection with the request including the conditions attached as Attachment 1 to this resolution and incorporated herein by this reference, and hearing and considering the testimony presented during the public hearing; and:

1. The proposed use is allowed within the subject zoning district;

2. The proposed use in compliance with all of the applicable provisions of this Development Code that are necessary to carry out the purpose and requirements of the subject zoning district, including prescribed development standards and applicable design standards, policies and guidelines established by resolution of the Council;

3. The proposed use in compliance with all other applicable provisions of the Clovis Municipal Code;

4. The proposed use consistent with the General Plan and any applicable specific plan;

5. The proposed project was evaluated under a Focused Environmental Impact Report adopted and certified by the City Council on July 9, 2018, (State Clearinghouse Certification No. 2017041010). No major revisions will be required with the adopted Environmental Impact Report to accommodate the proposed project, therefore, subject to CEQA Sections 15162 and 15182 no further environmental review is required for this project.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Clovis Planning Commission does approve SPR2018-02, subject to the attached conditions labeled Attachment 1.

* * * * * *

The foregoing resolution was adopted by the Clovis Planning Commission at its regular meeting on January 23, 2020, upon a motion by Commissioner _____, seconded by Commissioner _____, and passed by the following vote, to wit:

AYES:
NOES:
ABSENT:
ABSTAIN:

PLANNING COMMISSION RESOLUTION NO. 20-____

ATTACHMENT 2

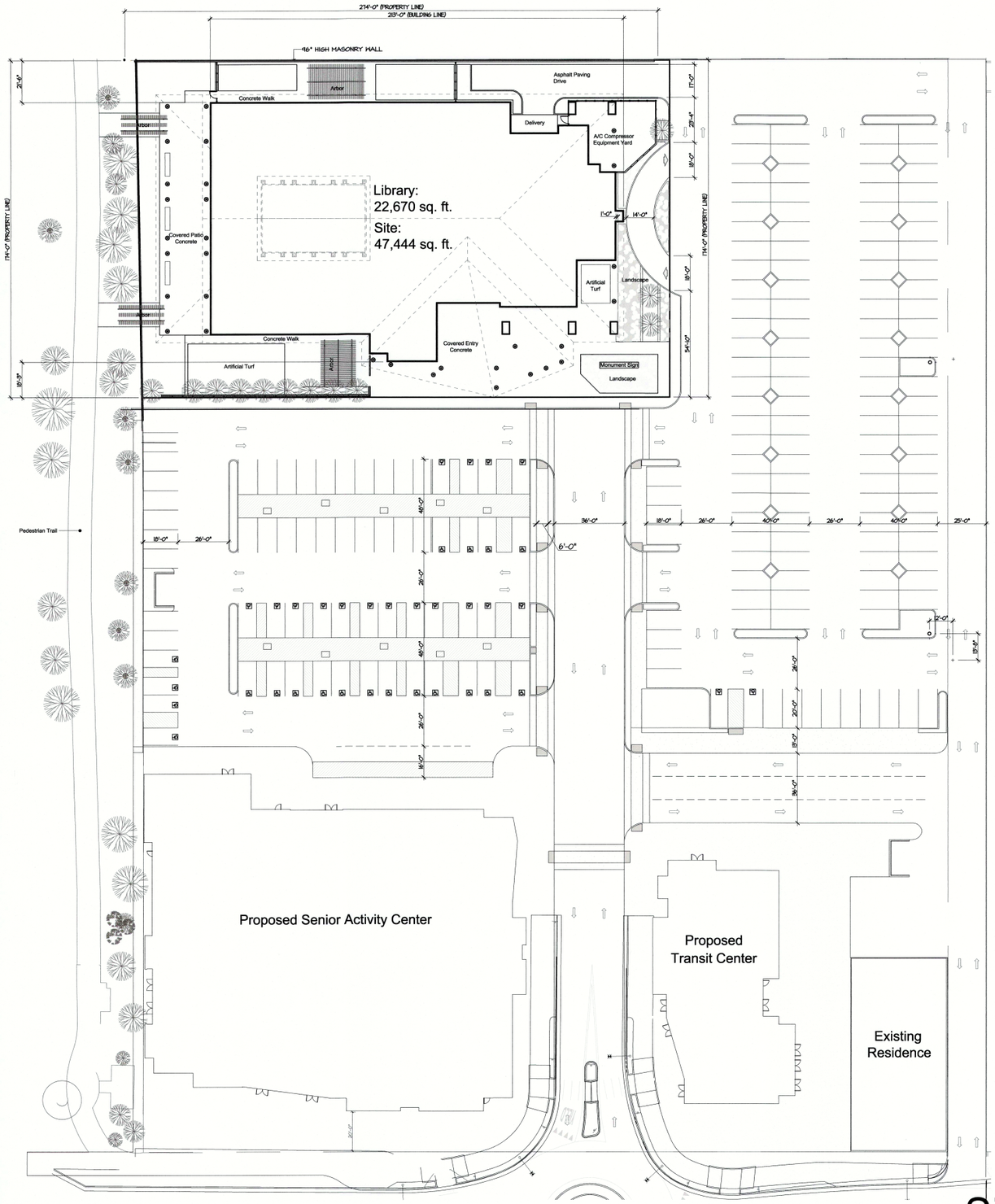
DATED: January 23, 2020

_____
Amy Hatcher, Chair

ATTEST: _____
Dwight Kroll, AICP, Secretary

Sheet Ind

G-1.0 Site Plan
A-1.0 Floor Plan
A-2.0 Elevations
L-1.0 Preliminary Landscape Plan



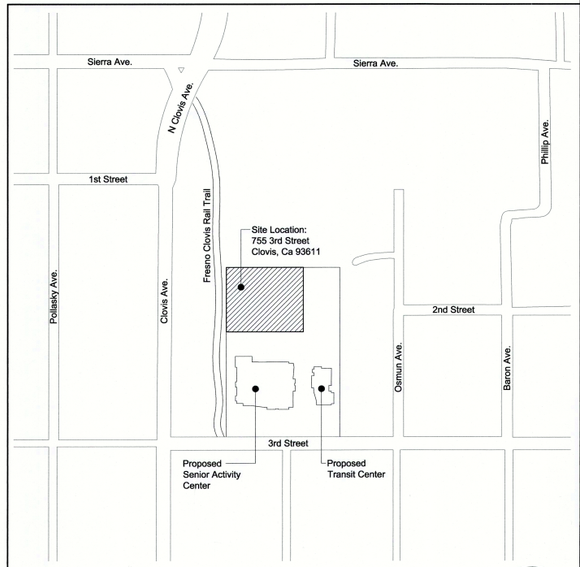
Note:
Site Design outside Library Property lines are by Others

ATTACHMENT 3

Site Plan

Drawing Scale: 1" = 30'-0"

North



Vicinity Map

No Scale

North

ARCHITECT:
Noel Roger Davidson, A.I.A., Architect
California Licensed Architect No. C-27818
Ren. 10-31-21
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Eighth Floor
Fresno, California 93721
Office: (559) 600-4477
E-mail: ndavidson@fresnocountyca.gov

Project:

Fresno County: Clovis Regional Library
Landmark Commons, Clovis ,California
APN: 492-131-11
Issue Date: 11/20/2019
Project No. T80298
File Path: G:\Capital\Projects\Building Numbers\Library Clovis new regional\Capital Projects Drawings

Sheet Content:

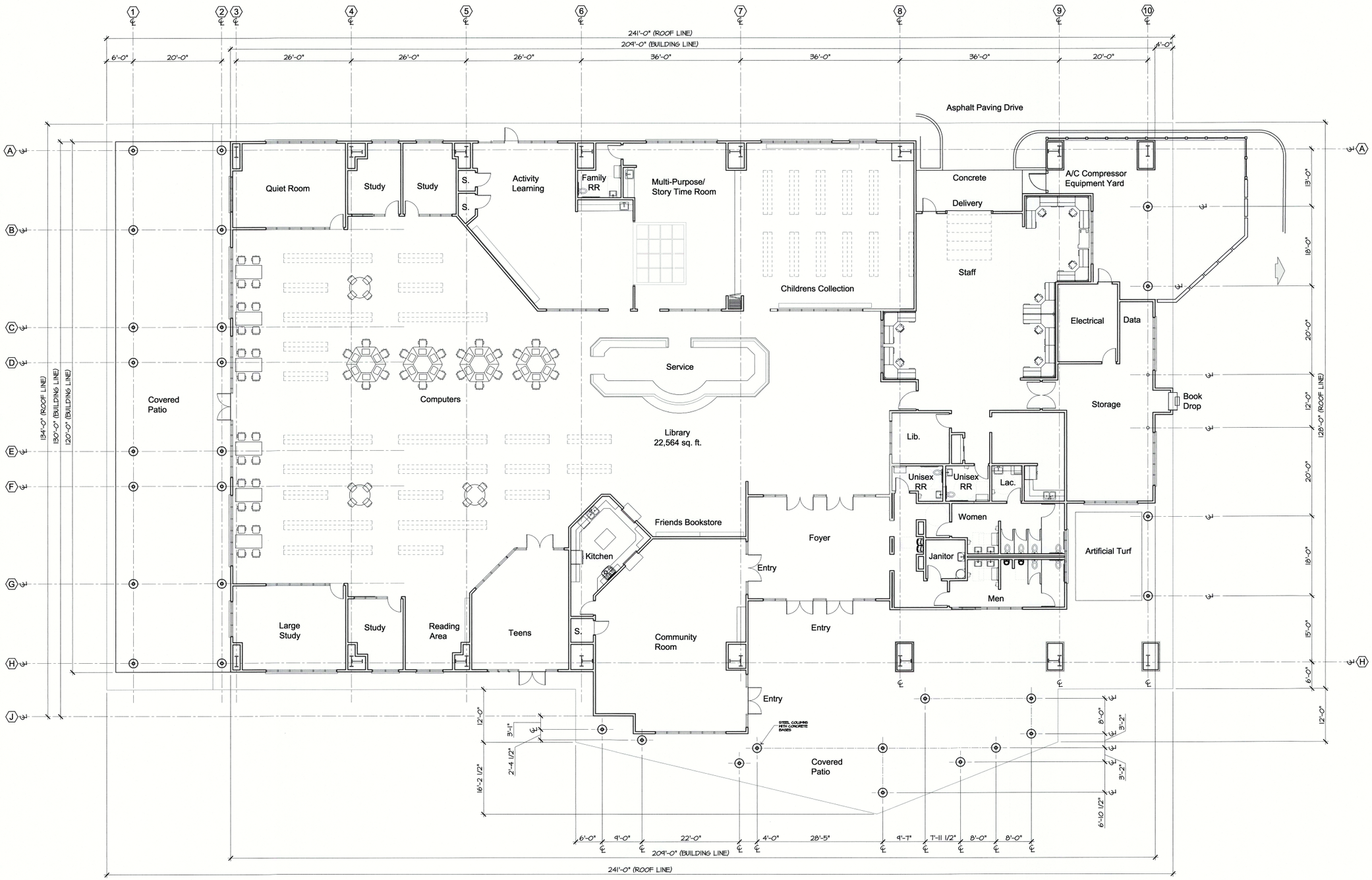
Site Plan

Fresno County Department of Public Works and Planning
Capital Projects
2220 Tulare Street, 8th Floor
Fresno, California 93721

Sheet No.

G-1.0

ATTACHMENT 3



ATTACHMENT 4

ATTACHMENT 4

Floor Plan

Drawing Scale: 3/32" = 1'-0"

North

ARCHITECT:
Noel Roger Davidson, A.I.A., Architect
California Licensed Architect No. C-27818
Ren. 10-31-21
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Eighth Floor
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File Path: G:\Capital\Projects\Building Numbers\Library Clovis new regional\Capital Projects Drawings

Sheet Content:

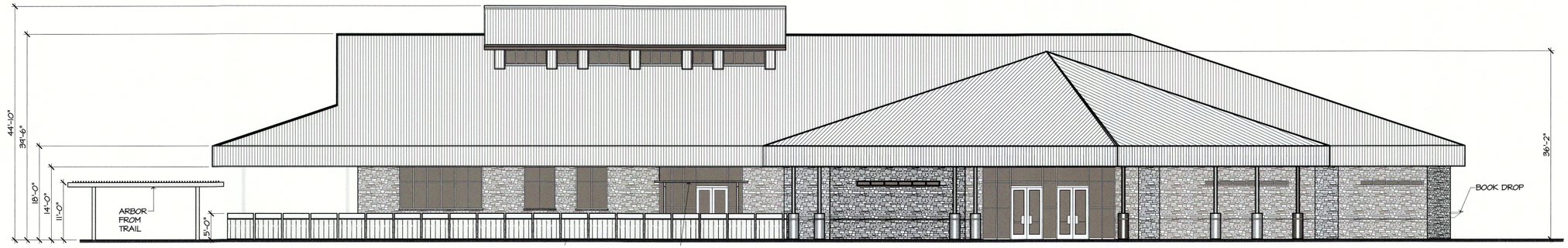
Floor Plan

Fresno County Department of Public Works and Planning
Capital Projects
2220 Tulare Street, 8th Floor
Fresno, California 93721

Sheet No.

A-1.0

AGENDA ITEM NO.3

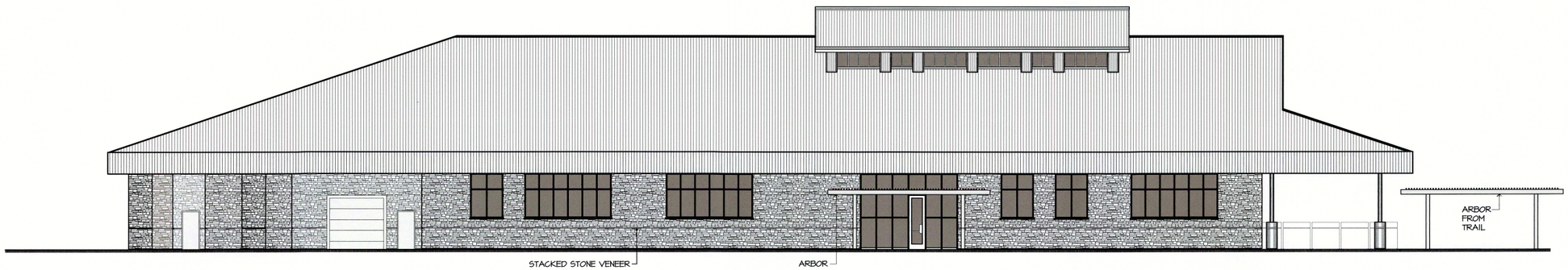


South Elevation

Drawing Scale: 3/32" = 1'-0"

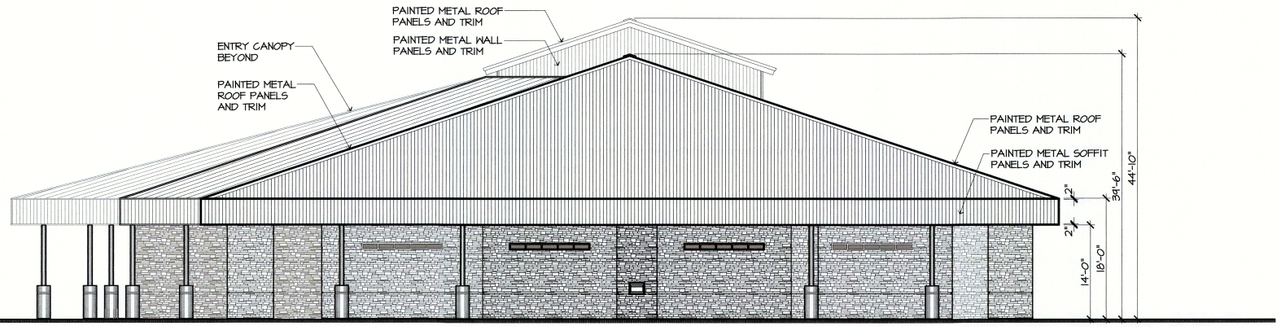
West Elevation

Drawing Scale: 3/32" = 1'-0"



North Elevation

Drawing Scale: 3/32" = 1'-0"



East Elevation

Drawing Scale: 3/32" = 1'-0"

ATTACHMENT 5

ARCHITECT:
Noel Roger Davidson, A.I.A., Architect
California Licensed Architect No. C-27818
Ren. 10-31-21
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Eighth Floor
Fresno, California 93721
Office: (559) 600-4477
E-mail: ndavidson@fresnocountyca.gov

Project:

Fresno County: Clovis Regional Library
Landmark Commons, Clovis ,California
APN: 492-131-11
Issue Date: 11/20/2019
Project No. T80298
File Path: G:\Capital\Projects\Building Numbers\Library Clovis new regional\Capital Projects Drawings

Sheet Content:

Exterior Elevations

Fresno County Department of Public Works and Planning
Capital Projects
2220 Tulare Street, 8th Floor
Fresno, California 93721

Sheet No.

A-2.0

County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

December 9, 2019

David Merchen, City Planner
Planning and Development Services Department
1033 Fifth Street
Clovis, CA 93612

SUBJECT: New Clovis Regional Library (SPR 2019-020) County of Fresno Comments

Dear Mr. Merchen:

The County of Fresno appreciates the opportunity to review and comment on the subject project. Fresno County requests that the following additional item be addressed in the Environmental Impact Report or Initial Study:

Transportation:

> The County requests a copy of any Traffic Impact Study prepared for this application. Furthermore, because this is a County Project, we request that the City make every effort possible to ensure the uses related to Landmark Commons have adequate parking and access/circulation per City Standards.

In addition, a copy of the comments provided by the County's Environmental Health Department, which were provided separately to the City, are enclosed with this letter.

If you have any questions, you may e-mail me at cmonfette@fresnocountyca.gov or contact me at (559) 600-4245.

Sincerely,

Chrissy Monfette, Planner
Development Services and Capital Projects Division

CMM:
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cc. Steven E. White, Director
John Thompson, Assistant Director
Bernard Jimenez, Assistant Director
William M. Kettler, Development Services and Capital Projects Division
Chris Motta, Development Services and Capital Projects Division

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT
NOTICE OF REQUIREMENTS

AGENDA ITEM NO.3

PUBLIC AGENCY

DAVID MERCHEN
DEPARTMENT OF PLANNING AND
DEVELOPMENT SERVICES
CITY OF CLOVIS
1033 FIFTH STREET
CLOVIS, CA 93612

DEVELOPER

FRESNO COUNTY CAPITAL PROJECTS
2220 TULARE ST., 8TH FLOOR
FRESNO, CA 93721

PROJECT NO: **2019-020**
ADDRESS: **755 THIRD ST.**
APN: **492-131-13ST, 492-131-11ST**

SENT: 12/23/19

Drainage Area(s)	Preliminary Fee(s)	Development Review Service Charge(s)	Fee(s)	
4D	$7,781.00	NOR Review	$50.00	To be paid prior to release of District comments to Public Agency and Developer.
6D	$1,715.00	Grading Plan Review	$0.00	Amount to be submitted with first grading plan submittal.

Total Drainage Fee: $9,496.00 **Total Service Charge: $50.00**

The proposed development will generate storm runoff which produces potentially significant environmental impacts and which must be properly discharged and mitigated pursuant to the California Environmental Quality Act and the National Environmental Policy Act. The District in cooperation with the City and County has developed and adopted the Storm Drainage and Flood Control Master Plan. Compliance with and implementation of this Master Plan by this development project will satisfy the drainage related CEQA/NEPA impact of the project mitigation requirements.

Pursuant to the District's Development Review Fee Policy, the subject project shall pay review fees for issuance of this Notice of Requirements (NOR) and any plan submittals requiring the District's reviews. The NOR fee shall be paid to the District by Developer before the Notice of Requirement will be submitted to the City. The Grading Plan fee shall be paid upon first submittal. The Storm Drain Plan fee shall be paid prior to return/pick up of first submittal.

The proposed development shall pay drainage fees pursuant to the Drainage Fee Ordinance prior to issuance of a building permit at the rates in effect at the time of such issuance. The fee indicated above is valid through 2/29/20 based on the site plan submitted to the District on 11/25/19 Contact FMFCD for a revised fee in cases where changes are made in the proposed site plan which materially alter the proposed impervious area.

Considerations which may affect the fee obligation(s) or the timing or form of fee payment:

a.) Fees related to undeveloped or phased portions of the project may be deferrable.

b.) Fees may be calculated based on the actual percentage of runoff if different than that typical for the zone district under which the development is being undertaken and if permanent provisions are made to assure that the site remains in that configuration.

c.) Master Plan storm drainage facilities may be constructed, or required to be constructed in lieu of paying fees.

d.) The actual cost incurred in constructing Master Plan drainage system facilities is credited against the drainage fee obligation.

e.) When the actual costs incurred in constructing Master Plan facilities exceeds the drainage fee obligation, reimbursement will be made for the excess costs from future fees collected by the District from other development.

f.) Any request for a drainage fee refund requires the entitlement cancellation and a written request addressed to the General Manager of the District within 60 days from payment of the fee. A non refundable $300 Administration fee or 5% of the refund whichever is less will be retained without fee credit.

CL SPR No. 2019-020

5469 E. OLIVE - FRESNO, CA 93727 - (559) 456-3292 - FAX (559) 456-3194

Approval of this development shall be conditioned upon compliance with these District Requirements.

1. ___ **a.** Drainage from the site shall

   _X_ **b.** Grading and drainage patterns shall be as identified on Exhibit No. 1

   ___ **c.** The grading and drainage patterns shown on the site plan conform to the adopted Storm Drainage and Flood Control Master Plan.

2. The proposed development shall construct and/or dedicate Storm Drainage and Flood Control Master Plan facilities located within the development or necessitated by any off-site improvements required by the approving agency:

   ___ Developer shall construct facilities as shown on Exhibit No. 1 as

   _X_ None required.

3. The following final improvement plans and information shall be submitted to the District for review prior to final development approval:

   _X_ Grading Plan

   ___ Street Plan

   ___ Storm Drain Plan

   ___ Water & Sewer Plan

   ___ Final Map

   ___ Drainage Report (to be submitted with tentative map)

   ___ Other

   ___ None Required

4. Availability of drainage facilities:

   _X_ **a.** Permanent drainage service is available provided the developer can verify to the satisfaction of the City that runoff can be safely conveyed to the Master Plan inlet(s).

   ___ **b.** The construction of facilities required by Paragraph No. 2 hereof will provide permanent drainage service.

   ___ **c.** Permanent drainage service will not be available. The District recommends temporary facilities until permanent service is available.

   ___ **d.** See Exhibit No. 2.

5. The proposed development:

   ___ Appears to be located within a 100 year flood prone area as designated on the latest Flood Insurance Rate Maps available to the District, necessitating appropriate floodplain management action. (See attached Floodplain Policy.)

   _X_ Does not appear to be located within a flood prone area.

6. ___ The subject site contains a portion of a canal or pipeline that is used to manage recharge, storm water, and/or flood flows. The existing capacity must be preserved as part of site development. Additionally, site development may not interfere with the ability to operate and maintain the canal or pipeline.

CL SPR No. 2019-020

5469 E. OLIVE - FRESNO, CA 93727 - (559) 456-3292 - FAX (559) 456-3194

7. The Federal Clean Water Act and the State General Permits for Storm Water Discharges Associated with Construction and Industrial Activities (State General Permits) require developers of construction projects disturbing one or more acres, and discharges associated with industrial activity not otherwise exempt from National Pollutant Discharge Elimination System (NPDES) permitting, to implement controls to reduce pollutants, prohibit the discharge of waters other than storm water to the municipal storm drain system, and meet water quality standards. These requirements apply both to pollutants generated during construction, and to those which may be generated by operations at the development after construction.

   a. State General Permit for Storm Water Discharges Associated with Construction Activities, effective July 1, 2010, as amended. A State General Construction Permit is required for all clearing, grading, and disturbances to the ground that result in soil disturbance of at least one acre (or less than one acre) if part of a larger common plan of development or sale). Permittees are required to: submit a Notice of Intent and Permit Registration Documents to be covered and must pay a permit fee to the State Water Resources Control Board (State Board), develop and implement a storm water pollution prevention plan, eliminate non-storm water discharges, conduct routine site inspections, train employees in permit compliance, and complete an annual certification of compliance.

   b. State General Permit for Storm Water Discharges Associated with Industrial Activities, April, 2014 (available at the District Office). A State General Industrial Permit is required for specific types of industries described in the NPDES regulations or by Standard Industrial Classification (SIC) code. The following categories of industries are generally required to secure an industrial permit: manufacturing; trucking; recycling; and waste and hazardous waste management. Specific exemptions exist for manufacturing activities which occur entirely indoors. Permittees are required to: submit a Notice of Intent to be covered and must pay a permit fee to the State Water Resources Control Board, develop and implement a storm water pollution prevention plan, eliminate non-storm water discharges, conduct routine site inspections, train employees in permit compliance, sample storm water runoff and test it for pollutant indicators, and annually submit a report to the State Board.

   c. The proposed development is encouraged to select and implement storm water quality controls recommended in the Fresno-Clovis Storm Water Quality Management Construction and Post-Construction Guidelines (available at the District Office) to meet the requirements of the State General Permits, eliminate the potential for non-storm water to enter the municipal storm drain system, and where possible minimize contact with materials which may contaminate storm water runoff.

8. A requirement of the District may be appealed by filing a written notice of appeal with the Secretary of the District within ten days of the date of this Notice of Requirements.

9. The District reserves the right to modify, reduce or add to these requirements, or revise fees, as necessary to accommodate changes made in the proposed development by the developer or requirements made by other agencies.

10. X See Exhibit No. 2 for additional comments, recommendations and requirements.

Debbie Campbell
Design Engineer

Michael Maxwell
Project Engineer

CL SPR No. 2019-020

5469 E. OLIVE - FRESNO, CA 93727 - (559) 456-3292 - FAX (559) 456-3194

NOTE: THIS MAP IS SCHEMATIC. DISTANCE FACILITIES BOUNDARIES ARE APPROXIMATE.

AGENDA ITEM NO.3

LEGEND

- Limits Of Project
- Existing Master Plan Facilities
- Inlet Boundary
- Drainage Area Boundary
- Direction Of Drainage

1 " = 200 '

CL SPR 2019-020

DRAINAGE AREAS "4D" & "6D"

EXHIBIT NO. 1

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

Prepared by: danielg
Date: 12/20/2019
Path: K:\Autocad\DWGS\0EXHIBIT\CLSPR\2019-020.mxd

OTHER REQUIREMENTS
EXHIBIT NO. 2

Clovis SPR 2019-020 is located in two drainage areas, Drainage Area "4D" and Drainage Area "6D", as shown on Exhibit No. 1. Per the Master Plan, 1.0 acres shall drain to Third Street (Drainage Area "4D") and 0.18 acres shall split direction of runoff and drain to Osmun Circle and the Clovis Old Town Trail (Drainage Area "6D").

Drainage covenants shall be put in place to allow surface runoff to reach existing Master Plan facilities in Third Street.

In an effort to improve storm runoff quality, outdoor storage areas shall be constructed and maintained such that material that may generate contaminants will be prevented from contact with rainfall and runoff and thereby prevent the conveyance of contaminants in runoff into the storm drain system.

The District encourages, but does not require that roof drains from non-residential development be constructed such that they are directed onto and through a landscaped grassy swale area to filter out pollutants from roof runoff.

Development No. Clovis SPR 2019-020

City of Clovis

Department of Planning and Development Services

CITY HALL - 1033 Fifth Street - Clovis, CA 93612

AGENDA ITEM NO.3

Distribution Date: **11/25/2019**

PLANNING APPLICATION REQUEST FOR COMMENTS

Project Manager - David Merchen, City Planner

PLEASE ROUTE TO:

(In House)		(Out-of-House)	
[x]	Planning Division	[x]	Fresno Irrigation District
[x]	Building Division	[x]	Fresno Metropolitan Flood Control Dist.
[x]	Engineering Division	[x]	Pacific Gas & Electric
[x]	Utilities Division	[x]	AT&T
[x]	Solid Waste Division	[x]	Clovis Unified School District
[x]	Fire Department	[x]	Cal Trans
[x]	Police Department	[x]	SJV Unified Air Pollution Control Dist.
[x]	City Landscape Committee	[x]	State of California Department of Fish and Game
[x]	Legal Description Review	[ ]	LAFCO (when annexation is involved)
[ ]	Other (Specify)	[x]	County of Fresno Development
[ ]		[x]	Fresno County Environmental Health

Item(s): **SPR2019-020** Location: **755 Third Street**

APN: **492-131-11, 492-131-13ST** Zoning: **M-U** General Plan: **Mixed Use Village**

Name of Applicant: **Fresno County Capital Projects** Phone/Email: (559)600-4234/ bjimenez@fresnocountyca.gov

Applicant Address: **2220 Tulare Street, 8th Floor** City: **Fresno** State: **CA** Zip: **93721**

Previously Reviewed Under DRC: _____ Or Other Entitlement: _____

Project Description: **SPR2019-020: A site plan review for Fresno County's new Clovis Regional Library Branch in the Landmark Commons Development at 755 Third Street.**

This item is tentatively scheduled for a public hearing to be considered by the **City Council.**
The attached information is circulated for your comments. Please attach your comments and recommendations in condition form and return to the project manager by **12/9/2019**

Please check one below:

[ ] No Comments [X] Comments Attached [ ] Comments e-mailed or saved on: _____

RECOMMENDED CONDITIONS: Please draft conditions in final form that are acceptable to your department. They must be legible. Please phrase positively and clearly:

GOOD EXAMPLE: "1. Prior to occupancy, the developer shall install all landscaping as per the approved plans."

POOR EXAMPLE: "1. Install landscaping."

REVIEWED BY (please sign): Michael Maxwell Eng Tech 559 456-3292

PLEASE RETURN TO:

David Merchen, City Planner
Planning and Development Services Dept.
1033 Fifth St., Clovis, CA 93612
Phone: 324-2346 Fax: 324-2844

County of Fresno
DEPARTMENT OF PUBLIC HEALTH

November 26, 2019

LU0020382
2604

David Merchen, City Planner
City of Clovis
Planning and Development Services Department
1033 Fifth Street
Clovis, CA 93612

Dear Mr. Merchen:

PROJECT NUMBER: **SPR2019-020**

SPR2019-020, A site plan review for Fresno County's new Clovis Regional Library Branch in the Landmark Commons Development at 755 Third Street.

APN: 492-131-11, 13ST **ZONING: M-U** **ADDRESS: 755 Third Street**

Recommended Conditions of Approval:

- If the applicant proposes to use and/or store hazardous materials and/or hazardous wastes, they shall meet the requirements set forth in the California Health and Safety Code (HSC), Division 20, Chapter 6.95, and the California Code of Regulations (CCR), Title 22, Division 4.5. Any business that handles a hazardous material or hazardous waste may be required to submit a Hazardous Materials Business Plan pursuant to the California Health and Safety Code (HSC), Division 20, Chapter 6.95, Section 25507 (http://cers.calepa.ca.gov/). Contact the Fresno County Hazmat Compliance Program at (559) 600-3271 for more information.

- The proposed construction project has the potential to expose nearby residents to elevated noise levels. Consideration should be given to your City's municipal code.

- As a measure to protect ground water, all water wells and/or septic systems that exist or have been abandoned within the project area should be properly destroyed by an appropriately licensed contractor.

- Should any underground storage tank(s) be found during the project, the applicant shall apply for and secure an Underground Storage Tank Removal Permit from the Fresno County Department of Public Health, Environmental Health Division. Contact the Fresno County Hazmat Compliance Program at (559) 600-3271 for more information.

AGENDA ITEM NO.3

REVIEWED BY:

Kevin Tsuda, R.E.H.S.
Environmental Health Specialist II (559) 600-33271

KT

cc: Steven Rhodes- Environmental Health Division (CT. 57.01)
Fresno County Capital Projects- Applicant (bjimenez@fresnocountyca.gov)

AGENDA ITEM NO.4

CITY of CLOVIS

REPORT TO THE PLANNING COMMISSION

TO: Clovis Planning Commission

FROM: Planning and Development Services

DATE: January 23, 2020

SUBJECT: Consider Approval, Res. 20-___, AUP2019-023, A request for the approval of an administrative use permit to allow for a detached accessory structure to be greater than 12 ft. in overall height within the rear yard setback for the property located at 2742 Everglade Avenue. Jessica Huber, owner/applicant.

Staff: Ryder Dilley, Planning Intern
Recommendation: Approve

ATTACHMENTS:
1. Conditions of Approval
2. Draft Resolution
3. Site Plan
4. Elevations and Floor Plan
5. Public Hearing Minutes
6. Opposition Letter
7. Aerial

CONFLICT OF INTEREST

None.

RECOMMENDATION

Staff recommends that the Planning Commission approve Administrative Use Permit AUP2019-023, subject to the conditions of approval listed in **Attachment 1**.

EXECUTIVE SUMMARY

The applicant is requesting approval to allow for a detached accessory structure to be greater than 12 feet in overall height within the 20-foot rear yard setback of property located at 2742 Everglade Avenue.

Typically, detached accessory structures within the rear yard setback that exceed 12 feet in height are approved at a staff level public hearing. Due to concerns expressed from an adjacent property owner, however, staff is seeking Commission consideration on this item.

Staff continues to recommend approval of Administrative Use Permit AUP2019-023 as proposed and subject to the conditions of approval listed in **Attachment 1**.

BACKGROUND

- General Plan Designation: Low Density Residential
- Specific Plan Designation: Herndon Shepherd Specific Plan
- Existing Zoning: Single Family Residential (R-1-9500)
- Lot Size: 0.29 acres
- Current Land Use: Single Family Residential (R-1-9500)
- Adjacent Land Uses:
    - North: Single Family Residential (R-1-9500)
    - South: Single Family Residential (R-1-9500)
    - East: Single Family Residential (R-1-9500)
    - West: Single Family Residential (R-1-9500)
- Previous Entitlements: TM5122 (Tract Map)
  RSPR2004-04 (Lot Coverage)

PROPOSAL AND ANALYSIS

Administrative Use Permit Request

The administrative use permit (AUP) process provides a mechanism for uses typically not permitted by right in a zone district due to the potential for an increase of intensity, height or nature of the use. The noticing portion of the AUP process allows the public to review and comment on the project prior to and at a formal staff-level public hearing. Subsequent to the hearing, the request allows the Director to approve the project if it is not detrimental to the neighborhood or inconsistent with the City's goals and policies for development. Typically, over-height structures, such as the one being proposed, are approved at the staff level.

The applicant is proposing a detached accessory structure that is greater than 12 ft. in overall height within the required 20-foot rear yard setback of the subject property. As seen in **Attachment 4**, the structure is intended to be used as a pool house and will match the existing façade and roof pitch of the primary residence. The applicant intends to use the space as a detached addition ancillary to the pool currently located in the rear of the property. As proposed, the structure will not be an additional dwelling unit.

Detached accessory structures exceeding 12-feet in height are permitted by right when built within the buildable area of a single family residential zone district when in conformance with all residential development standards. Detached accessory structures require a rear yard encroachment permit when encroaching into the rear setback area. Additionally, when encroaching into the rear setback area, structures are limited to an overall height of 12 ft. unless:

- The accessory building, either attached to or detached from the main building, is less than six feet (6') from such main building, such accessory building shall be deemed a main building for the purposes of applying the property development standards. The required setbacks and maximum height of the main structure shall apply to an accessory structure located less than six feet (6') from such main building.

- The accessory structure is deemed to be an accessory dwelling unit that meets standards explicitly stated by California Assembly Bill No. 881 for accessory dwelling units and City of Clovis Ordinance 19-21:
    - Not more than 800 square feet of total floor area;
    - Not more than 16 feet in height;
    - Has at least a four-foot side and rear yard setback;
    - Is constructed in compliance with all Fire and Building Code requirements and standards of the Development Code.
- The accessory structure may be granted additional height subject to the approval of an administrative use permit, not to exceed the height limit of the applicable zoning district.

Public Hearing – 12/23/2019

Planning staff held a staff-level public hearing for the project within the Planning and Development Services building on December 23, 2019, to facilitate review of the project and allow neighbors opportunity to voice potential support and/or concerns. Prior to the hearing, staff issued a public notice to area residents within 300 feet of the property boundaries. Staff received two inquiries prior to the meeting about the nature of the proposed structure and received no comments or concerns.

The hearing was attended by members of Planning staff, the applicant, the applicant's contractor, and an adjacent neighbor. Staff and the applicant briefly discussed the project before opening the discussion to interested parties.

As listed in **Attachment 5**, the neighboring property owner to the rear (Mr. Mayer) addressed concerns and voiced total disapproval of the proposed structure and any future structures in the rear yard. The applicant, after hearing the property owner's concern, was willing to make concessions. Mr. Mayer stated that additional neighbors had voiced disapproval for the project as well, but staff has yet to receive any additional correspondence from other neighbors.

Following the hearing, staff received a formal opposition letter from Mr. Mayer as listed in **Attachment 6**. In light of the formal opposition, the Planning and Development Services Director determined that the proposed administrative use permit should be forwarded to the Planning Commission for consideration.

Staff Analysis of Appeal

Mr. Mayer's opposition focused on intrusion into his privacy and the incompatibility of two-story buildings within the otherwise single-story neighborhood. Staff reviewed the proposal and determined that the proposed structure is a single-story building with a plate height of 10 feet and ridge height of 15 feet 8 inches. The unit does not have a second story or a window overlooking the neighboring property. Though a rear-facing window is proposed, the window is at or below the fence height. Due to the applicant's intent to make the accessory structure architecturally compatible with the primary residence, the pitch of the proposed roof has been designed to reflect the pitch of the existing house. For this reason alone, the structure exceeds 12 feet in height and triggers the need for this administrative use permit. Because the proposal

does not generate unique impacts and the specific concerns cited in the neighbor's opposition letter are not applicable, Staff has not identified a basis to deny the administrative use permit.

Review and Comments from Agencies

The Project was distributed to all City Divisions as well as outside agencies, including Cal Trans, Clovis Unified School District, Fresno Irrigation District, Fresno Metropolitan Flood Control District, AT&T, PG&E, San Joaquin Valley Air Pollution Control District, State Department of Fish and Wildlife, and the County of Fresno.

Comments received are attached only if the agency has provided concerns, conditions, or mitigation measures. Routine responses and comment letters are placed in the administrative record and provided to the applicant for their records.

Public Comments

A public notice was sent to area residents within 300 feet of the property boundaries. Staff has not received comments or concerns from the public upon finalization of this report.

California Environmental Quality Act

The City has determined that this Project is exempt from CEQA pursuant to Public Resources Code Section 15301 (Class 1 – Existing Facilities) which provides that existing facilities consisting of the operation, repair, maintenance, permitting, leasing, licensing, or minor alternation involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination are categorically exempt from further analysis under CEQA.

A Notice of Exemption has been completed during the preliminary review and is kept for public review with the project file during the processing of the project application. Staff will file the notice with the County Clerk if the project is approved.

The City published notice of this public hearing in The Business Journal on Monday, January 13, 2020.

Findings for Approval of the Project

The following are the findings the Commission must make to approve the AUP, along with an analysis of those findings based upon the record.

1. *The proposed use is conditionally allowed within, and would not impair the integrity and character of, the subject zoning district and is in compliance with all of the applicable provisions of this Development Code;*

The proposed detached structure is a permitted accessory use within R-1-9500 (Single Family Residential) Zone Districts. There is adequate space on the property for the proposal without conflict of existing structures on the property, or other development standards.

2. *The proposed use is consistent with the General Plan and any applicable specific plan;*

The proposed use is consistent with the general plan and land use goals and policies which, together with the Development Code/Zoning, provide for detached accessory structures that

exceed the allowed overall height within the rear yard setback of the R-1-9500 (Single Family Residential) Zone District subject to an Administrative Use Permit.

3. *The design, location, size, and operating characteristics of the proposed use are compatible with the existing and future land uses and would not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to other allowed uses operating nearby or adverse to the public interest, health, safety, convenience, or welfare of the City;*

The design and placement of the proposed structure will not adversely impact the use of the property, other structures located on the property, or the surrounding area. The structure, as proposed, will match the existing primary residence on the subject parcel. The intended use of the structure will be a pool house and used for additional storage and will not be deemed an additional dwelling unit. The applicant intends to maintain the existing landscaping that will provide a buffer between adjacent properties.

4. *The subject parcel is physically suitable in size and shape for the type and density/intensity of use being proposed;*

The project is proposed on an existing residential parcel and is consistent with the intent of the Development Code and in compliance with the general standards for detached accessory structures.

5. *There are adequate provisions for public access, water, sanitation, and public utilities and services to ensure that the proposed use would not be detrimental to public health and safety;*

The proposed structure is not an additional unit and there is an existing primary residence on the lot. Subject to the approval of the administrative use permit, the applicant will be submitting a building permit and plans for review to ensure there is adequate compliance with health and safety regulations.

6. *The proposed project has been reviewed in compliance with the provisions of the California Environmental Quality Act (CEQA) and there would be no potential significant negative effects upon environmental quality and natural resources that would not be properly mitigated and monitored, unless findings are made in compliance with CEQA. (§ 2, Ord. 14-13, eff. October 8, 2014);*

The proposed project has been reviewed in compliance with the provisions of the California Environmental Quality Act (CEQA), and there would be no potential significant negative effects upon environmental quality and natural resources that would not be properly mitigated and monitored.

REASON FOR RECOMMENDATION

Administrative Use Permit AUP2019-023 is consistent with the goals of the General Plan Land Use Diagram, the Herndon-Shepherd Specific Plan, Clovis Municipal Code, and the R-1-9500 (Single Family Residential) Zone District. Therefore, staff recommends that the Planning Commission approve AUP2019-023, subject to the conditions of approval attached as **Attachment 1**.

ACTIONS FOLLOWING APPROVAL

None.

FISCAL IMPACT

None.

NOTICE OF HEARING

Property owners within 300 feet notified: 37
Interested individuals notified: 10

Prepared by: Ryder Dilley, Planning Intern

Reviewed by: _____
Dave Merchen
City Planner

CONDITIONS OF APPROVAL

ATTACHMENT 1

AUP2019-023, ATTACHMENT "1"
Conditions of Approval

PLANNING DIVISION CONDITIONS
(Ryder Dilley, Planning Intern – (559) 324-2338)

1. This Administrative Use Permit allows for an accessory structure within the rear yard not to exceed 15 ft. 8 in. (fifteen feet and eight inches) in height for the property located at 2742 Everglade Avenue per the attached Exhibit "B".

2. Any expansion or deviation of the approved use shall require an additional Administrative Use Permit.

3. Architecture shall match, and/or incorporate matching features of the primary residence.

4. The proposed structure shall be painted to match the primary residence.

5. Uses within the structure shall not generate noise above that permitted in single-family developments and is subject to the Noise Standards of the City of Clovis Development Code.

6. Vehicular access to the structure shall not involve use of the City curbing.

7. The property owner shall utilize the existing drive approach for vehicular access into the rear yard.

8. The applicant shall submit for Building Permits and associated documents prior to construction.

DRAFT RESOLUTION

ATTACHMENT 2

DRAFT
RESOLUTION 20-__

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF CLOVIS APPROVING AN ADMINISTRATIVE USE PERMIT TO ALLOW FOR A DETACHED ACCESSORY STRUCTURE TO BE GREATER THAN 12 FT. IN OVERALL HEIGHT WITHIN THE REAR YARD SETBACK FOR THE PROPERTY LOCATED AT 2742 EVERGLADE AVENUE AND FINDING THE PROJECT IS EXEMPT FROM CEQA PURSUANT TO A CLASS 1 CATEGORICAL EXEMPTION

WHEREAS, Jessica Huber, 2742 Everglade Avenue, Clovis, CA 93619, has applied for an Administrative Use Permit AUP2019-023; and

WHEREAS, this is a request to approve an Administrative Use Permit to allow for a detached accessory structure to be greater than 12 ft. in overall height within the rear yard setback for the property located at 2742 Everglade Avenue, City of Clovis, County of Fresno; and

WHEREAS, a public notice was sent out to property owners within 300 feet of said property boundaries ten days prior to said hearing; and

WHEREAS, a duly noticed hearing was held on January 23, 2020; and

WHEREAS, the Commission, has reviewed and considered the staff report and all written materials submitted in connection with the request including the conditions attached as Attachment “1” to this resolution and incorporated herein by this reference, and hearing and considering the testimony presented during the public hearing; and:

1. The proposed use is conditionally allowed within, and would not impair the integrity and character of, the subject zoning district and is in compliance with all of the applicable provisions of this Development Code.

2. The proposed use is consistent with the General Plan and any applicable specific plan.

3. The design, location, size, and operating characteristics of the proposed use are compatible with the existing and future land uses and would not create significant noise, traffic, or other conditions or situations that may be objectionable or detrimental to other allowed uses operating nearby or adverse to the public interest, health, safety, convenience, or welfare of the City.

4. The subject parcel is physically suitable in size and shape for the type and density/intensity of use being proposed.

5. There are adequate provisions for public access, water, sanitation, and public utilities and services to ensure that the proposed use would not be detrimental to public health and safety.

6. The proposed project has been reviewed in compliance with the provisions of the California Environmental Quality Act (CEQA) and there would be no potential significant negative effects upon environmental quality and natural resources that would not be properly mitigated and monitored, unless findings are made in compliance with CEQA. (§ 2, Ord. 14-13, eff. October 8, 2014)

7. The Planning Commission does find the project exempt from CEQA pursuant to Public Resources Code Section 15031 (Class 1 – Existing Facilities).

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Clovis Planning Commission does approve AUP2019-023, subject to the attached conditions labeled Attachment "1".

* * * * * *

The foregoing resolution was adopted by the Clovis Planning Commission at its regular meeting on January 23, 2020, upon a motion by Commissioner _____, seconded by Commissioner _____, and passed by the following vote, to wit:

AYES:
NOES:
ABSENT:
ABSTAIN:

PLANNING COMMISSION RESOLUTION NO. 20-__
DATED: January 23, 2020

_____
Amy Hatcher, Chair

ATTEST: _____
Dwight Kroll, AICP, Secretary

SITE PLAN

ATTACHMENT 3

HUBER RESIDENCE - NEW POOL HOUSE

2742 EVERGLADE AVE. CLOVIS CA 93619

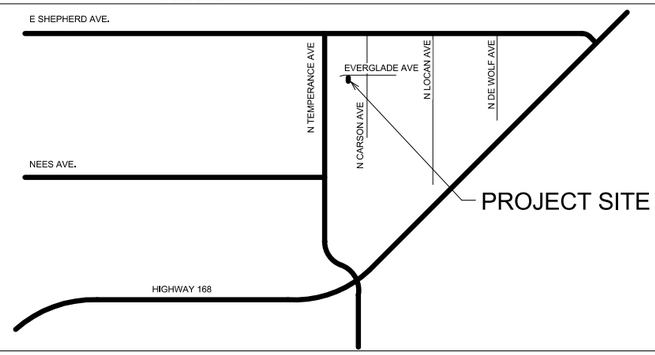
PROJECT DESCRIPTION

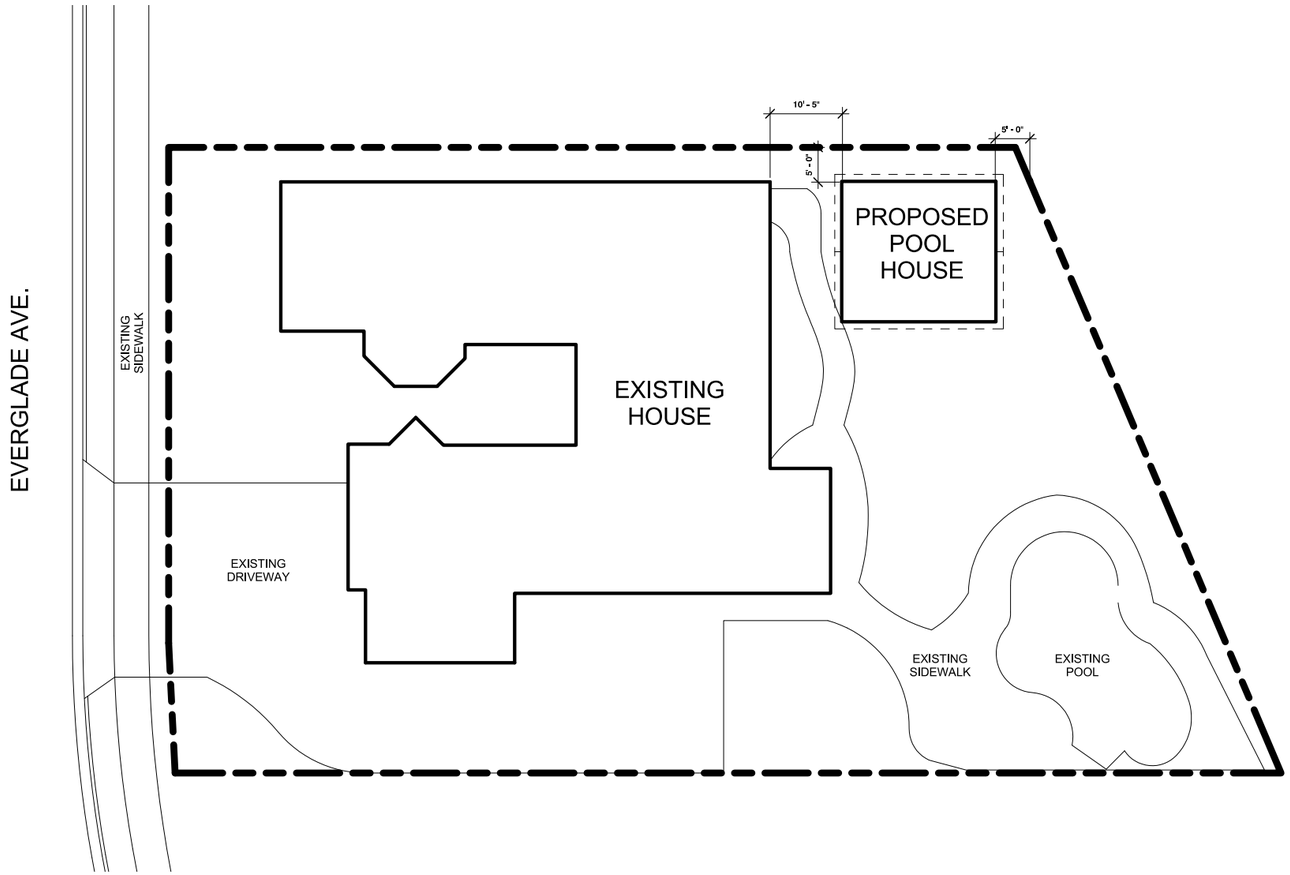
CONSTRUCTION OF NEW POOL HOUSE

PROJECT DATA

CONSTRUCTION TYPE:	V - B
BUILDING AREA:	450 SF
OCCUPANCY GROUP:	R-3

VICINITY MAP





1 SITE PLAN
1" = 10'-0"

Key Plan

HUBER RESIDENCE - POOL HOUSE

19005

SITE PLAN

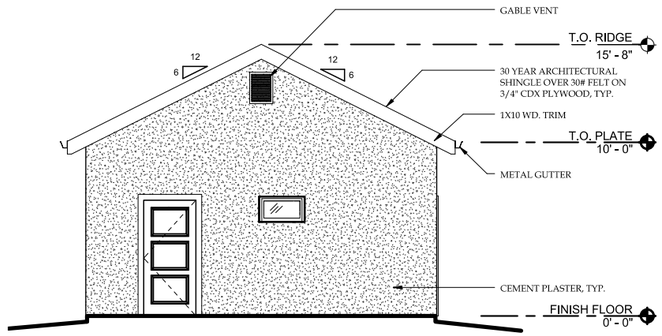
A01

301

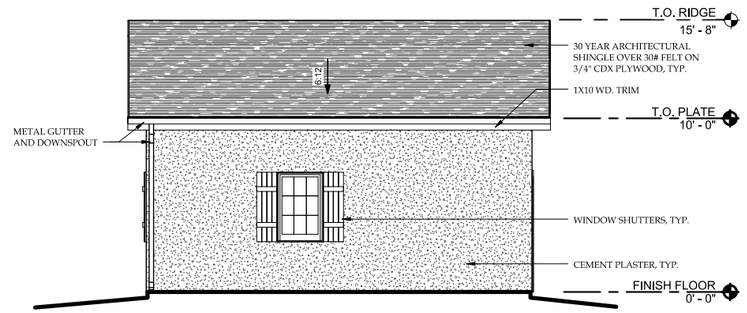
Please Recycle

ELEVATIONS AND FLOOR PLAN

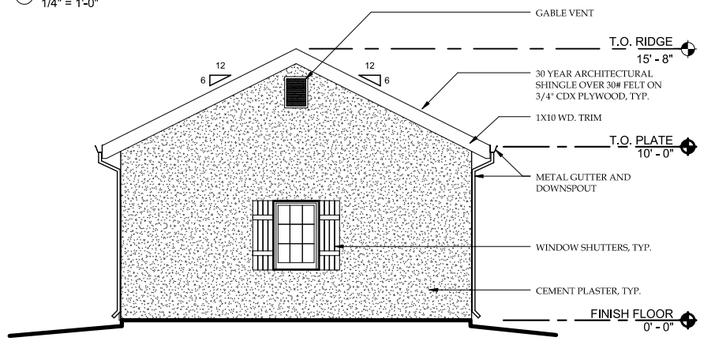
ATTACHMENT 4



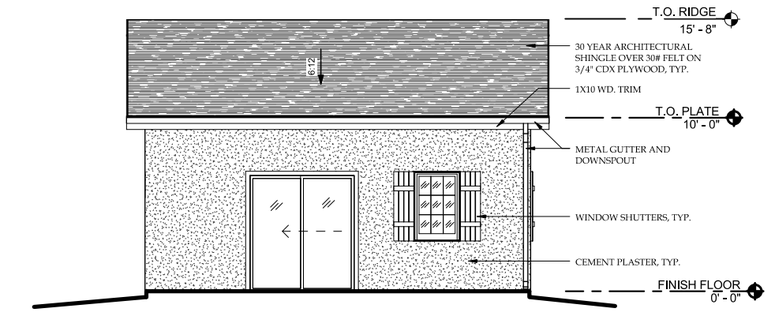
4 NORTH ELEVATION
1/4" = 1'-0"



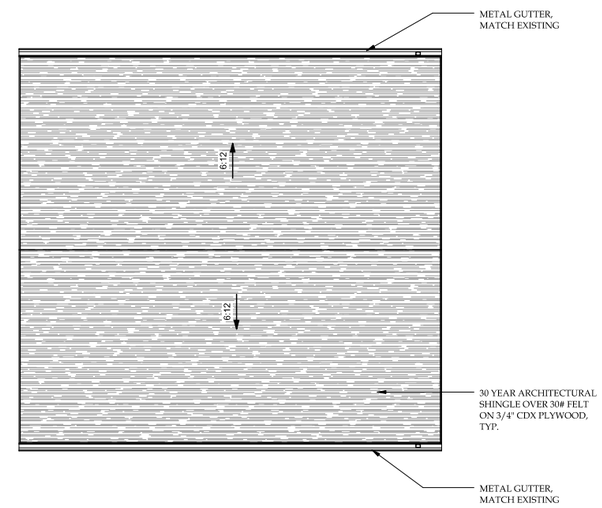
5 EAST ELEVATION
1/4" = 1'-0"



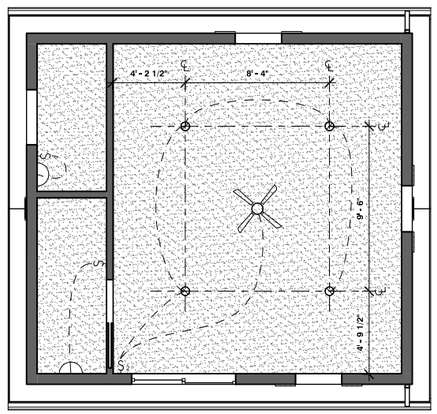
6 SOUTH ELEVATION
1/4" = 1'-0"



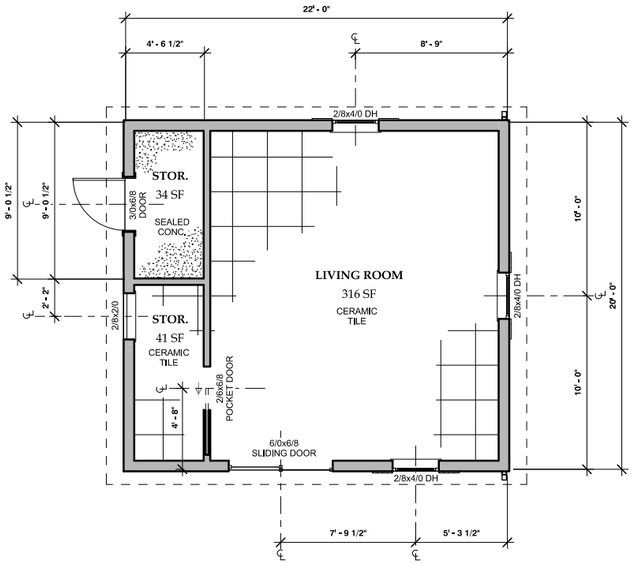
7 WEST ELEVATION
1/4" = 1'-0"



3 Pool House Roof Plan
1/4" = 1'-0"



2 Pool House Ceiling Plan
1/4" = 1'-0"



303 Pool House Floor Plan
1/4" = 1'-0"

Key Plan

HUBER
RESIDENCE -
POOL HOUSE

19005

FLOOR PLAN,
CEILING PLAN,
ROOF PLAN AND
EXTERIOR
ELEVATIONS

A2.1

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PUBLIC HEARING MINUTES

ATTACHMENT 5

AUP2019-023 Public Hearing Notes - 2742 Everglade Avenue (over-height structure)

- Staff explained the Administrative Use Permit process to the applicant, Jessica Huber, and briefly discussed the project with her.

- Staff discussed the process after the hearing with Mrs. Huber.

- Neighbor, Gene Mayer from 2765 Prescott, expressed major concern with and disapproval of the proposed structure.

    - Staff discussed specific characteristics of the structure being proposed and how it was not living space.

    - Mr. Mayer voiced complete objection to the height and use relevant to his property. He also mentioned that adjacent neighbors had voiced disapproval.

    - Staff mentioned to Mr. Mayer that evidence of the adjacent neighbors' disapproval would be needed.

    - Staff discussed the development standards, specifically addressing the height and the use, and the applicant's ability to build a taller structure per the zoning district (35 ft.).

- Mrs. Huber voiced the ability to make concessions to provide Gene Mayer with greater privacy.

    - Gene Mayer voiced that he didn't want to compromise and that he didn't care for what the structure was or looked like, but mentioned he was just against the height.

    - Mr. Mayer mentioned to staff how the grading level of his property was significantly lower than the applicant's property, meaning the building will be taller from his property. He referenced 4'. (Engineering grade differential calculated to be roughly 2'-2")

- Mr. Mayer multiple times voiced disapproval of what an adjacent neighbor had done with their property.

    - Staff informed Mr. Mayer multiple times that property owners do not need to seek approval from the City to place plants or perform minor landscaping, explain that item was not up for discussion.

- Staff and the applicant explained how the existing landscaping and trees can provide a buffer between the proposed structure and Mr. Mayer's property. (Via phone call, the applicant mentioned Mr. Mayer once had large trees he removed fairly recently-within the last few years that could have provided a significant buffer.)

- Mr. Mayer stated that approval of the administrative use permit will lead him to sue the applicant and the City.

- As the meeting progressed, no new concerns were addressed, only the same concerns and unyielding statements from Mr. Mayer.

- At that point in time, the required hearing time had passed, so staff concluded the meeting.

OPPOSITION LETTER

ATTACHMENT 6

City of Clovis

1033 Fifth Street

Clovis, Ca. 93612

Re: Request for AUP2019-023

2741 Everglade, Clovis

Dear Ryder Dilley and ~~Lia~~ Lily Cha;

I attended the meeting for the above referenced property on December 23, 2019. The owners of the above property are wanting to build a structure greater than 12 feet.

The neighbors and I are strongly opposed to this because not only does it intrude on our privacy, but we do not understand why something this high in necessary in a area of single story homes.

Should you grant this permit to build a structure higher than 12 feet other homeowners would want to do the same.

Most of the homeowners bought here because there are "no" two story homes.

If the City allows this structure to be built. I will seek Legal counsel on how to stop it.

Sincerely,

Gene Mayer

cc: Sammy Elmi - Attorney

McCllelan & Corren

Gene Mayer
2765 Prescott Ave.
Clovis CA 93619
559-299-7802

AERIAL

ATTACHMENT 7


2742
2762
2782
722
Clovis
2795
2765
2735
Applicant's Property
Neighbor's Property