Rezone 2023-004
Conditional Use Permits 2023-004, 2023-005

Initial Study and Mitigated Negative Declaration

April 2025

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CITY of CLOVIS

PLANNING & DEVELOPMENT

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INITIAL STUDY

This Initial Study was prepared pursuant to the California Environmental Quality Act (CEQA) Public Resources Code Sections 21000 *et seq*., CEQA Guidelines Title 14, Section 15000 et seq. of the California Code of Regulations.

PROJECT TITLE:	R2023-004, CUP2023-004, CUP2023-005
LEAD AGENCY NAME AND ADDRESS:	City of Clovis Planning & Development Services 1033 Fifth Street Clovis, CA 93612
CONTACT PERSON AND PHONE NUMBER:	Liz Salazar, Associate Planer (559) 324-2305 lizs@clovisca.gov
PROJECT LOCATION:	Southwest corner of West Herndon and North Peach Avenues, Clovis, CA
PROJECT SPONSOR'S NAME AND ADDRESS:	Jon Frame, Project Applicant RL Davidson, Inc. 425 Spruce Avenue Clovis, CA 93711
LAND USE DESIGNATION:	See page 6 of this Initial Study
ZONING DESIGNATION:	See page 6 of this Initial Study
SURROUNDING CONDITIONS AND LAND USES:	See page 6 of this Initial Study
PROJECT DESCRIPTION:	See page 7 of this Initial Study
REQUIRED APPROVALS:	See page 8 of this Initial Study
HAVE CALIFORNIA NATIVE AMERICAN TRIBES REQUESTED CONSULTATION? IF SO, HAS CONSULTATION BEGUN?	No

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A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and corresponding discussion in this Initial Study.

☐ Aesthetics	☐ Agriculture & Forestry Resources	☐ Air Quality
☐ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology & Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology & Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities & Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.

☒ I find that, although the proposed Project could have a significant effect on the environment, three will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponents. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environmental, and an ENVIRONMENTAL IMPACT REPORT (EIR) will be prepared.

☐ I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environmental, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Prepared By:

Liz Salazar, Associate Planner
City of Clovis Planning & Development Services

4/9/2025
Date

B. PROJECT OVERVIEW

RL Davidson, Inc. (Applicant) proposes to rezone the subject property from the R-1-AH (Single-Family Residential Very Low Density) Zone District to the C-P (Administrative and Professional Office) Zone District for the development of two hotel buildings. The Project consists of Rezone (R) 2023-004 to rezone ±7.45 acres and Conditional Use Permits (CUP) 2023-004 & CUP2023-005 for the operation of two hotel buildings, including a restaurant and bar with a total of 350 rooms and associated site improvements (i.e., landscaping, parking, sidewalks, and utilities infrastructure) herein referred to throughout the document as "proposed Project" and/or "Project". Should the rezone and conditional use permits be approved, a final development plan will be processed through the site plan review (SPR) process at the discretion of the Planning and Development Services Director.

C. PROJECT LOCATION

As shown in Figure 1 below, the Project is located on the southwest corner of West Herndon and North Peach Avenues totaling ±7.45 acres within Accessor's Parcel Number (APN) 410-031-16.

D. EXISTING SETTING

This section describes the existing conditions, surrounding conditions, as well as the 2014 General Plan land use and zoning designations.

1. EXISTING CONDITIONS

As shown in Figure 2 below, the existing site is currently vacant and undeveloped. The site previously consisted of one rural residential home with accessory structures that were removed in 2008. The site is generally flat and does not include any pedestrian or other vehicle circulation infrastructure.

2. SURROUNDING CONDITIONS

As referenced in Table 1 below, the Project site is partially surrounded by existing development; however, in general, the Project site is within an urbanized area of the City. The National Holistic Institute is directly to the west and further west is the Honda Automotive Center, to the north is a future medical office center, approximately 700 feet to the east is Lithia Nissan Automotive Center, and to the south are residential homes and a small park.

Table 1: Surrounding Land Uses of Project Site

	Land Use Designation	Existing Zoning*	Existing Land Use
North	General Commercial	C-2	Vacant
East	Office	R-1-AH	Single Family Residence
South	Low & Medium Density Residential and Park	R-1-AH & R-1	Vacant, Single-Family Residences and Park
West	Office	C-P	Educational

Notes:
*C-2 (Community Commercial), R-1-AH (Single-Family Residential Very Low Density), R-1 (Single-Family Residential), C-P (Administrative and Professional Office)

3. LAND USE DESIGNATION

As shown on Figure 3, the Project site has the General Plan Land use designation of Office. According to the 2014 Clovis General Plan, the Office designation is intended for professional offices, corporate headquarters, research and development, medical facilities, hotels, and limited related retail uses.

4. ZONING DESIGNATION

As shown on Figure 4, the Project site is currently zoned R-1-AH (Single-Family Residential Very Low Density). According to Section 9.10.010(B)(3) of the Clovis Municipal Code (CMC), the R-1-AH Zone District identifies

areas appropriate for large lot single-family uses consistent with the Very Low Density Residential land use designation of the General Plan. A rezone application has been filed to rezone the site to the C-P (Administrative and Professional Office) Zone District to bring the zoning into conformance with the existing General Plan land use designation. The proposed C-P Zone District is appropriate for integrated, professional office uses including administrative, corporate, financial, government, institutional, legal, and medical. Hotels are considered appropriate with an approved conditional use permit.

E. PROJECT DESCRIPTION

This section describes the components of the proposed Project in more detail, including site preparation, proposed structures, and on- and off-site improvements.

1. PROJECT CONSTRUCTION

The Project is anticipated to begin construction in fall 2025. This schedule is an estimation only and is contingent upon entitlements, and the market, among other factors.

2. SITE PREPARATION

Site preparation would include typical grading activities to ensure an adequately graded site for drainage purposes. Part of the preparation would include the removal of two large trees necessary to accommodate the Project. Other site preparation activities would include minor excavation for the installation of utility infrastructure, for coneyance of water, sewer, stormwater, and irrigation. There are no buildings proposed for demolition as part of this Project.

3. PROJECT COMPONENTS

This section describes the overall components of the Project, such as the proposed buildings, landscaping, vehicle and pedestrian circulation, and utilities.

DEMOLITION

As described in existing conditions the former residential structures have been removed; therefore, no demolition of structures is required.

CONCEPTUAL SITE LAYOUT AND ELEVATIONS

While this section discusses the general site layout and elevations, it is important to note that the actual site will be reviewed more fully during the City's SPR process. As shown in Figure 5, the Project proposes construction of two free-standing structures totaling ±214,500 square feet. The larger of the two buildings abuts West Herndon Avenue with a total area of ± 147,300 square feet consisting of 242 hotel rooms, this building will include a restaurant and lounge for hotel guests only. The second building will abut Magill Avenue with a total area of ±67,200 square feet consisting of 108 hotel rooms. Associated site improvements include driveways illustrating circulation, 350 parking spaces, and landscaping.

Conceptual elevations are shown in Figures 7. As shown, the first building is identified as "Aloft" and "Element" dual brand hotel and proposes a maximum height of ±59'-8" at its peak. The second building is identified as "Springhill Suites" and proposes a maximum height of ±57'-6" at its peak. Although conceptual at this time, the exterior has a modern look and feel with use of various stone details and stucco, incorporated with wood and glass.

SITE CIRCULATION AND PARKING

The Project would be accessed via two points of ingress/egress, both along Magill Avenue. The CMC requires 1.2 spaces for each guest room and the Project proposes one space per guest room which is less than the requirement; however, the CUP process allows the City to consider the compatibility of a proposed use and its impact on surrounding properties and developments. Parking standards can be customized based on the

specific features of a proposed project as approved by the Planning Commission. Although 350 vehicle spaces are proposed, the final parking calculation will be reviewed during the City's CUP process. Installation of sidewalks and other pedestrian paths of travel would be required as part of the Project along the Magill Avenue, West Herndon Avenue and North Peach Avenue frontages. Although the details have not yet been provided, these features would be per City of Clovis Development Code standards and/or in compliance with Americans with Disabilities Act (ADA) requirements

PROJECT DESIGN

Conceptual elevation designs of the homes are shown in Figure 7; however, it is important to note that at this stage of the process, these designs are conceptual only. The overall footprint, height limit, and placement of the structures, described above, would generally remain the same, however, the color palette and design details are subject to change throughout the SPR process, which typically occurs later on in the entitlement process.

LANDSCAPE

The Project would include landscape throughout the site. Landscaped areas would generally be located along the frontage of each structure where a variety of ornamental shrubs, plants, and trees would be planted, as well as landscape in areas throughout the parking lots, consistent with the CMC. Landscape plans are typically provided during the City's SPR process at which time the proposed landscape would be reviewed for compliance with the City's water efficient landscape regulations and guidelines.

UTILITIES

Utilities for the site would consist of water, sewer, electric, cable, gas, and stormwater infrastructure. Trenching and digging activities would be required for the installation of necessary pipelines typical of development projects. All utility plans would be required to be reviewed and approved by the appropriate agency, and/or department to ensure that installation occurs to pertinent codes and regulations. Other infrastructure would include new fire hydrants as required by the City of Clovis Fire Department.

Utilities are provided by and managed by a combination of agencies, including the Fresno Irrigation District (FID) which provides the City's water supply, Fresno Metropolitan Flood Control District (FMFCD) which has responsibility for storm water management, and the City's Public Utilities Department which provides for solid waste collection, and sewer collection services. Pacific Gas & Electric (PG&E) provides electricity and natural gas within the City of Clovis.

F. REQUIRED PROJECT APPROVALS

The City of Clovis requires the following review, permits, and/or approvals for the proposed Project; however, other approvals not listed below may be required as identified throughout the entitlement process:

- Rezone
- Condition use permit (s)
- Site plan review
- Sign permit (s)
- Grading permit(s)
- Building permit(s)
- San Joaquin Air Pollution Control District (SJVAPCD)
- FID
- FMFCD

G. TECHNICAL STUDIES

The analysis of the Project throughout this Initial Study relied in part on the technical studies listed below prepared for the Project, as well as other sources, including, but not limited to, the 2014 Clovis General Plan EIR, and departmental staff.

- **Appendix A:** Air Quality and Health Risk Impact Study dated November 21, 2024
- **Appendix B:** Environmental Noise Assessment dated June 22, 2023
- **Appendix C:** Traffic Impact Analysis dated April 22, 2024

Figure 1: Project Location

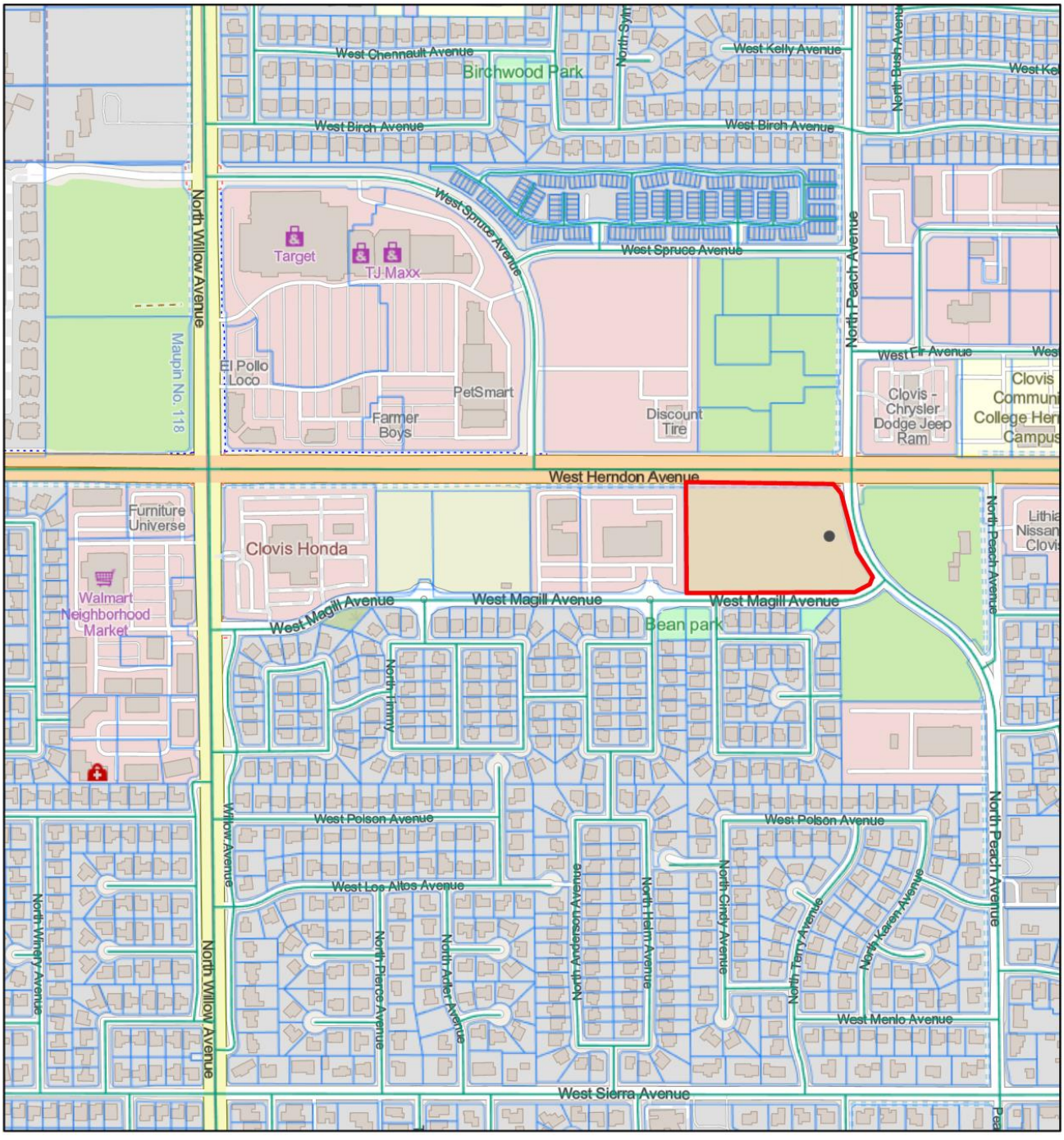


Figure 2: Aerial of Project Site

Figure 3: Land Use Designation

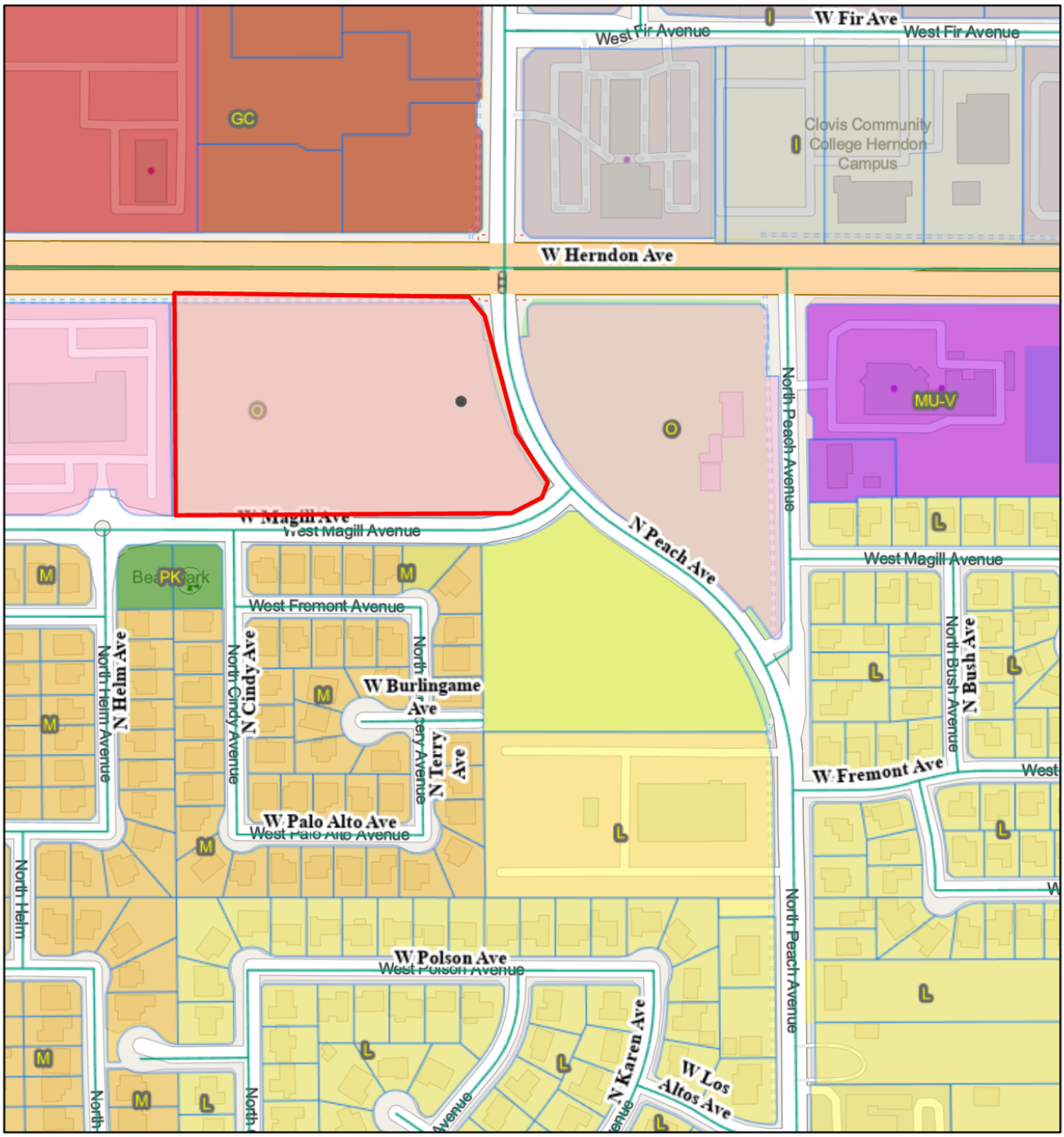


Figure 4: Zoning District

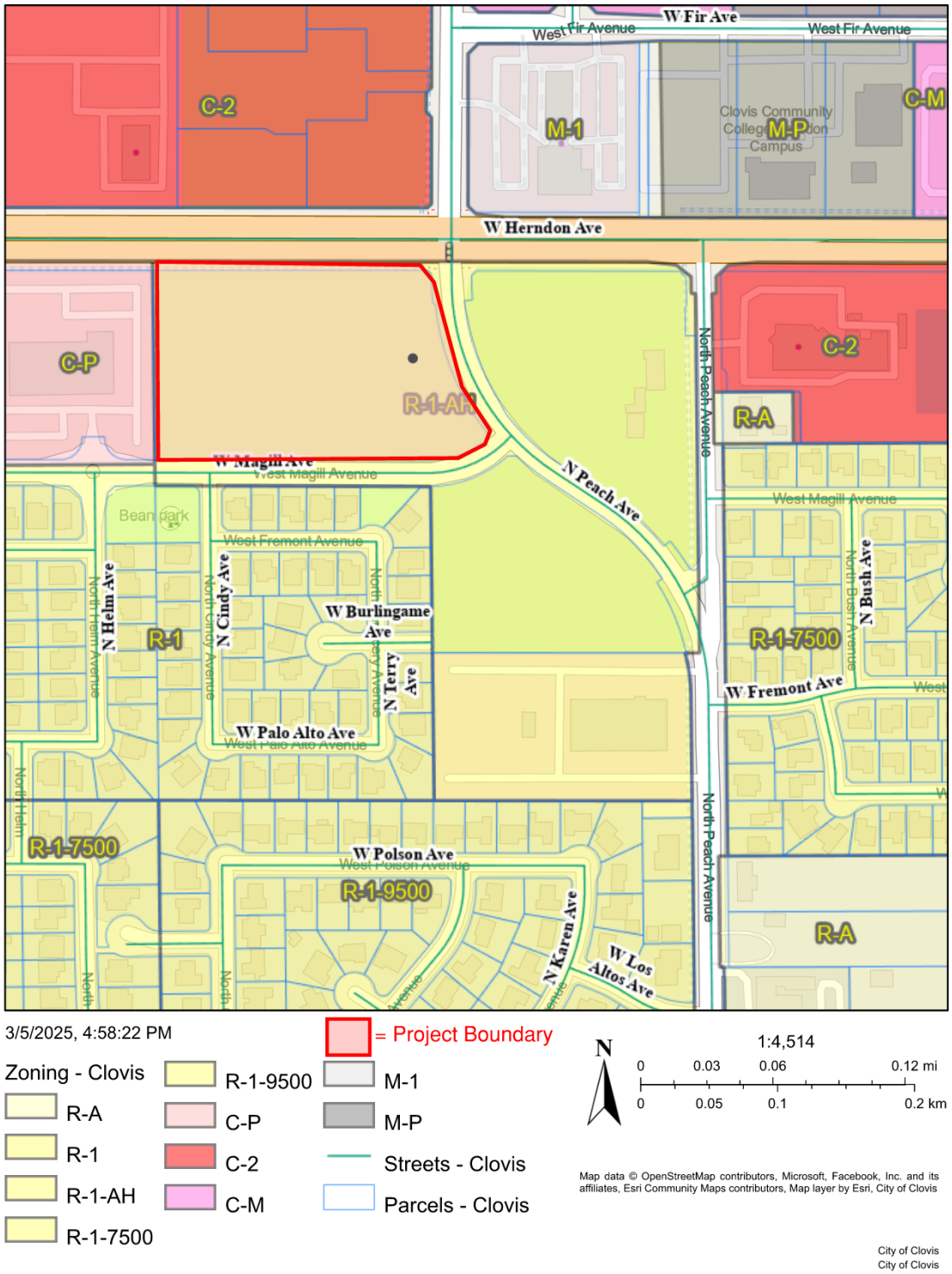
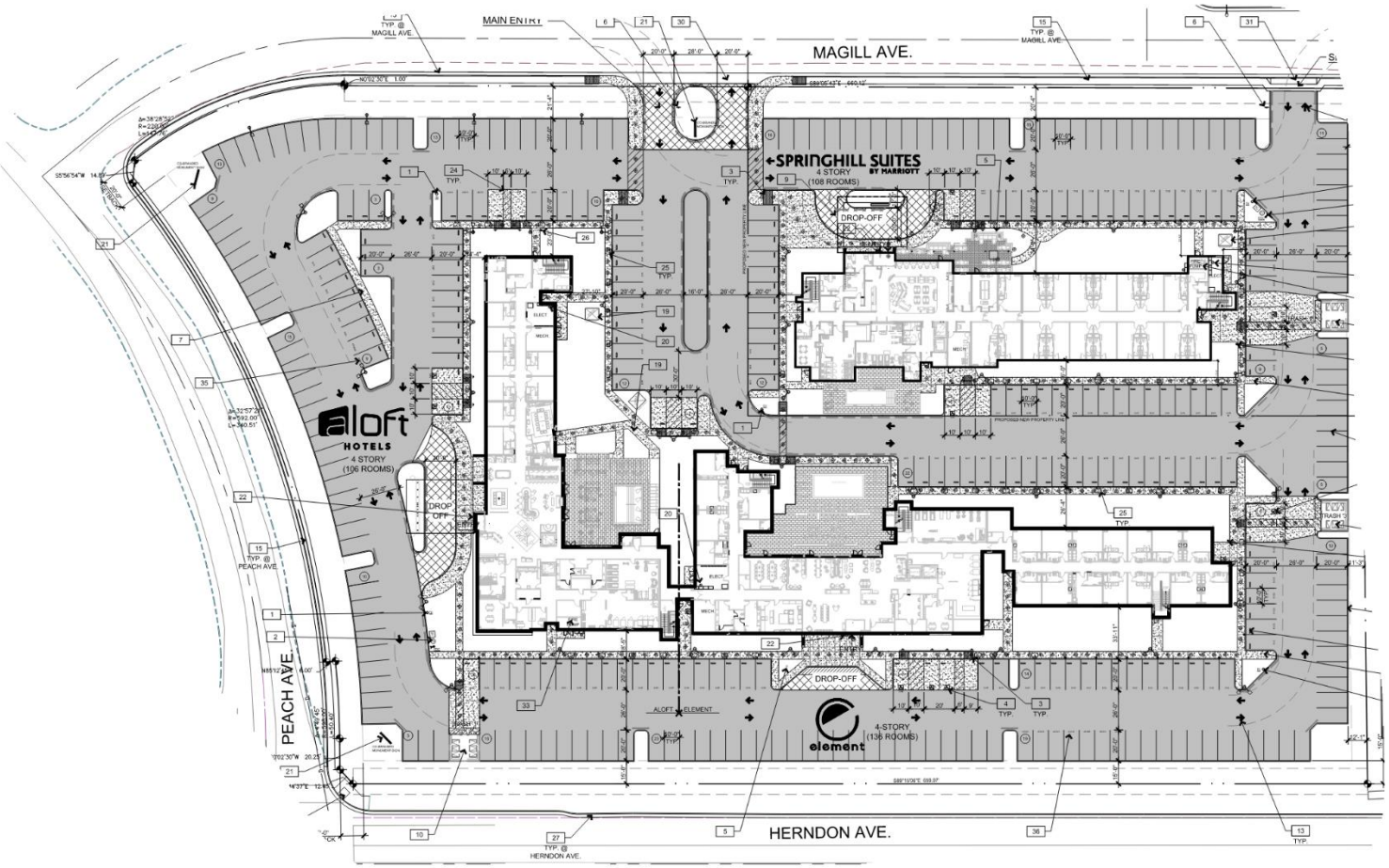


Figure 5: Proposed Site Plan



Approximate layout

Figure 7: Conceptual Elevations

Conceptual elevations only. Final product may change during the review process.

H. ENVIRONMENTAL CHECKLIST

This section provides an evaluation of the potential environmental impacts of the proposed project and are based on CEQA Guidelines Appendix G. For each issue area, one of four conclusions is made:

- **No Impact**: No project-related impact to the environment would occur with project development.
- **Less Than Significant Impact:** The proposed project would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.
- **Less Than Significant with Mitigation Incorporated**: The proposed project would result in an environmental impact or effect that is potentially significant, but the incorporation of mitigation measure(s) would reduce the project-related impact to a less than significant level.
- **Potentially Significant Impact**: The proposed project would result in an environmental impact or effect that is potentially significant, and no mitigation can be identified that would reduce the impact to a less than significant level**.**

1. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial effect on a scenic vista?			X	
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c. Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?			X	

ENVIRONMENTAL SETTING

The City of Clovis is located within the San Joaquin Valley. Thus, much of the City and its surrounding areas are predominantly flat. As a result, on clear days, the Sierra Nevada Mountains are visible to the east depending on your location. Aside from the Sierra Nevada Mountains, there are no officially designated focal points or viewsheds within the City. Policy 2.3, Visual Resources, of the Open Space and Conservation Element of the 2014 Clovis General Plan, requires maintaining public views of open spaces, parks, and natural features and to preserve Clovis' viewshed of the surrounding foothills.

As mentioned above in the Project Description, the site is located on the southwest corner of West Herndon and North Peach Avenues. In general, the Project site is within an urbanized area of the City, specifically along a distinctive highly commercial corridor (Herndon Avenue). The National Holistic Institute is directly to the west and further west is the Honda Automotive Center, to the north is a future medical center, approximately 700 feet to the east is Lithia Nissan Automotive Center, and to the south are residential homes.

DISCUSSION

a) *Would the project have a substantial effect on a scenic vista?*

Less-Than-Significant Impact. As mentioned above, there are no officially designated scenic vistas or focal points in the City of Clovis other than the Sierra Nevada Mountains which can be viewed on clear days. The Project proposes the highest peak at 59'-8". Although the maximum height limit is 55' for hotels in the C-P Zone District, additional height may be allowed with approval of a CUP. The Project site is located along West Herndon Avenue, which is a highly urbanized area. General Plan Policy 2.3 requires that public views of open spaces, parks, and natural features be maintained; although, a small portion of the Project site is adjacent to a pocket park, the closest structure to the park is setback ±160 feet; therefore, the park will not be impacted by the Project. There are no other natural features or vistas within immediate vicinity of the Project site; therefore, a **less-than-significant impact** would occur with regards to the Project having a substantial effect on a scenic vista. As a result, no mitigation measures are required.

b) *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

No Impact. As stated in the 2014 Clovis General Plan EIR, there are no Caltrans-designated scenic highways within the City of Clovis.[1] Further, there are no existing historical structures or rock outcroppings located on or within the immediate vicinity of the site; therefore, the Project would result in **no impact** with regards to substantially damaging scenic resources within a State scenic highway.

c) *Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Less-Than-Significant Impact. The Project is situated in an urbanized area featuring a mix of land uses, including commercial, residential, and a small park area. Consequently, the urban landscape comprises various structures with differing heights, designs, and characters. The Project proposes two buildings, associated landscaping, and utility and pedestrian infrastructure. Such uses would not substantially degrade from the existing visual character or quality of public views of the site and its surroundings. Further, as mentioned above, there are no officially designated scenic areas in the City, and none specifically at or surrounding the site itself.

Further, the Project would undergo the SPR process which would ensure that the overall design and character is consistent and/or complements the surrounding areas. Consequently, a **less-than-significant** impact would occur with regards to substantially degrading the existing visual character of the site and its surroundings, and no mitigation measures are required.

1 2014 Clovis General Plan EIR, June 2014, Page 5.1-1.

d) *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Less-Than-Significant Impact. The Project consists of hotel development and will introduce new sources of light and glare to the area, typical of commercial developments. These include parking lot security lights, exterior building lighting, vehicle lights, and interior building lights during nighttime hours. These light sources are not usually associated with significant environmental impacts. Additionally, the site is already surrounded by commercial developments, street lighting, and vehicle lights from street traffic. These sources of light and glare are not typically associated with causing significant effects on the environment, especially given that the surrounding area is developed already emits similar sources of light and glare and are part of the existing conditions present in the vicinity.

Although the Project would introduce new sources of light and glare, the SPR process would ensure that the design and placement of lighting is appropriate to minimize potential light and glare impacts to surrounding properties. Further, the Project would be required to comply with Section 9.22.050, Exterior Light and Glare, of the CMC, which requires light sources to be shielded, and that lighting does not spillover to adjacent properties.

Overall, through the City's design review process and compliance with Section 9.22.050 of the CMC, the Project would result in a **less-than-significant impact** with regard to lighting adversely affecting day or nighttime views in the area. No mitigation measures are required.

2. AGRICULTURE AND FORESTRY RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220 (g)) or timberland (as defined in Public Resources Code section 4526)?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-				X

agricultural use or conversion of forest land to non-forest use?				

ENVIRONMENTAL SETTING

The Project site is centrally located in urbanized Clovis, specifically at the southwest corner of West Herndon and North Peach Avenues. It is surrounded by a mix of existing developments and does not include any agricultural lands.

DISCUSSION

a) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. The project site is not Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). According to the California Important Farmland finder interactive map from the California Department of Conservation,[2] the Project site is considered Farmland of Local Importance (2022 data), which is defined by the Department of Conservation as farmable lands within Fresno County that do meet the definitions of Prime, Statewide, or Unique farmlands. Generally, Farmland of Local Importance is or has been used for irrigated pasture, dryland farming, livestock, dairy, and grazing land.

The Project site does not appear to have previously been cultivated, other than possible dry farming that appears to have ceased in 2008, nor is it zoned or designated for farming-related activities under the 2014 Clovis General Plan. Although the Project site is considered Farmland of Local Importance it is not considered Prime, Unique, or Farmland of Statewide Importance; therefore, **no impact** would occur.

b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act Contract?*

No Impact. As shown on Figure 5.2-2 of the Agricultural Resources Chapter of the 2014 Clovis General Plan EIR, the Project site is not under a Williamson Act Contract. Further, as mentioned above, the site is not currently zoned or designated for agricultural use. As a result, the Project would have **no impact** with regards to conflicting with zoning for agricultural use or a Williamson Act Contract. No mitigation measures are required.

c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220 (g)) or timberland (as defined in Public Resources Code section 4526)?*

No Impact. The Project site does not contain forest land and is not zoned for forestry or other forestry related uses. Further, the General Plan EIR states that there is no land within the existing SOI that is zoned as forest land or timberland. As a result, **no impact** would occur with regards to conflicts with zoning for, or cause rezoning of, forest land.

d) *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact. See discussion under Section 2c.

2 Farmland Mapping, California Department of Conservation, Interactive mapping tool, https://maps.conservation.ca.gov/DLRP/CIFF/ accessed March 6, 2025.

e) *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

No Impact. Although the Project site is considered Farmland of Local Importance according to the Department of Conservation, the site is not zoned for or designated for agricultural uses. Further, the existing site hasn't been used for agricultural-related uses in recent years. The 2014 Clovis General Plan designates the site for office uses. Additionally, see discussion under Section 2.C related to forest land. Overall, the project would have a **no impact** with regards to this topic.

3. AIR QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c. Expose sensitive receptors to substantial pollutant concentrations?			X	
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				X

ENVIRONMENTAL SETTING

An Air Quality and Health Risk Impact Study (AQ/HRI Report) was prepared by MD Acoustics, LLC on November 21, 2024 (see Appendix A). Information in this AQ/HRI Report is used for the analysis included in both the Air Quality and Greenhouse Gas Emissions section of this Initial Study.

San Joaquin Valley Air Basin

The City of Clovis (City) is in the central portion of the San Joaquin Valley Air Basin (SJVAB). SJVAB consists of eight counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 25,000 square miles and is the second largest air basin in California. It is bordered by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi mountains to the south. The SJVAB is open to the north extending to the Sacramento Valley Air Basin.

Topography

The topography of a region is important for air quality because mountains can block airflow that would help disperse pollutants and can channel air from upwind areas that transports pollutants to downwind areas. The SJVAPCD covers the entirety of the SJVAB. The SJVAB is generally shaped like a bowl. It is open in the north

and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface.

Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500–3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet.

Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS (ambient air quality standards) and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

These National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors,” those most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 4, Ambient Air Quality Standards for Criteria Pollutants, these pollutants are ozone (O3), nitrogen dioxide (NO2), carbon monoxide (CO), sulfur dioxide (SO2), coarse inhalable particulate matter (PM10), fine inhalable particulate matter (PM2.5), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

In addition to the criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Table 2: Ambient Air Quality Standards[3]

Pollutant	Averaging Time	State Standard	Federal Primary Standard
Ozone	1-Hour 8-Hour	0.09 ppm 0.07 ppm	-- 0.07 ppm
Carbon Monoxide	1-Hour 8-Hour	20 ppm 9 ppm	35 ppm 9 ppm
Nitrogen Dioxide	1-Hour Annual	0.18 ppm 0.03 ppm	100 ppb 0.053 ppm
Sulfur Dioxide	1-Hour 3-Hour 24-Hour Annual	0.25 ppm -- 0.04 ppm --	75 ppb -- 0.14 ppm 0.13 ppm
PM_{10}	24-Hour Annual	50 ug/m^3 20 ug/m^3	150 ug/m^3 --
$PM_{2.5}$	24-Hour Annual	-- 12 ug/m^3	35 ug/m^3 12 ug/m^3
Lead	30-Day Avg. Calendar Quarter 3-Month Avg.	1.5 ug/m^3 -- --	-- 1.5 ug/m^3 0.15 ug/m^3
Sulfates	24 Hour	25 ug/m^3	--
Hydrogen Sulfide	1 Hour	0.03 ppm	--
Vinyl Chloride	24 Hour	0.01 ppm	--

Notes: ppm = parts per million; ppb = parts per billion; ug/m3 = micrograms per cubic meter.
Source: Air Quality and Health Risk Impact Study, MD Acoustics, Inc, page 6, November 2024.

Attainment Status

The SJVAPCD is the responsible agency for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Fresno County and throughout the SJVAB. The SJVAPCD prepares plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by FCAA and CCAA. The SJVAPCD adopted the San Joaquin Valley Air Quality Attainment Plan (AQAP), in response to the requirements of the State CCAA.

The SJVAPCD and the California Air Resources Board (CARB) maintain numerous air quality monitoring sites throughout each County to measure ozone, PM2.5, and PM10. The SJVAB is nonattainment for ozone (1 hour and 8 hour) and PM. The EPA uses standard classifications to reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. At the federal level, the SJVAPCD is designated as extreme nonattainment for the 8-hour ozone standard, attainment for PM_{10} and CO, and nonattainment for $PM_{2.5}$. At the state level, the SJVAB is designated nonattainment for the 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards. The SJVAB has not attained the federal 1-hour ozone, although this standard was revoked in 2005.

3 Air Quality and Health Risk Impact Study, MD Acoustics, Inc, page 6, November 2024.

DISCUSSION

a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

Less-Than-Significant Impact. Although the CEQA Guidelines indicate that a significant impact would occur if the Project were to conflict with or obstruct implementation of the applicable air quality plan, the SJVAPCDs 2015 Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) does not provide specific guidance on analyzing conformity with the plan. Thus, for purposes of analyzing this potential impact, the AQ/HRI Report considered impacts based on: (1) Conflict with or obstruct implementation of the applicable air quality plan; (2) Result in a cumulatively considerable net increase if any criteria pollutant for which the project region nonattainment under an applicable federal or state ambient air quality standard: (3) Expose sensitive receptors to substantial pollutant concentrations; and (4) Result in other emissions such as those lead to odors adversely affecting a substantial number of people.

In general, regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Thus, individual projects are generally not large enough to contribute measurably to an existing violation or air quality standards alone.

Therefore, in order to analyze this threshold, and because of the region's existing nonattainment status for several pollutants, the Project would be considered to cause significant impacts if it were to generate emissions that would exceed the SJVAPCD's significance thresholds. The District's annual emission significance thresholds are as follows:

- 100 tons per year CO
- 10 tons per year NO_x
- 10 tons per year VOC
- 27 tons per year So_x
- 15 tons per year PM_{10}
- 15 tons per year $PM_{2.5}$

Based on the AQ/HRI Report, the Project would not exceed these thresholds from construction and operation of the Project (as Shown in Table 4). Further, any impacts related to the construction activities of the Project, such as dust control, would be regulated through the SJVAPCD, which requires measures such as frequent watering of the site during construction.

Table 4: CO, NO_x, VOC, PM_{10}, $PM_{2.5}$ Thresholds, Maximum, Emissions

Emission Source (Tons Per Year)	**CO**	**NO_x**	**VOC**	**PM_{10}**	**$PM_{2.5}$**
Highest Construction Emissions in 2025 & 2026 (Unmitigated)	2.32	1.74	0.74	0.32	0.17
Operational Emissions at Buildout	10.71	1.78	2.70	1.90	0.52
Total Emissions	**13.03**	**3.52**	**3.44**	**2.22**	**0.69**
Significance Threshold	100	10	10	15	15
Exceed threshold – significant impact?	No	No	No	No	No

Notes:
VOC = volatile organic compounds
NO_x = nitrogen oxides
PM_{10} and $PM_{2.5}$ = particulate matter

The primary way of determining consistency with the air quality plan's assumptions is determining consistency with the General Plan to ensure that the Project's land use is consistent with the growth assumption used in the air quality plan. The Project is consistent with the currently adopted 2014 Clovis General Plan; therefore, is

consistent with the growth assumptions under the applicable air quality plan and per the AQ/HRI Report, the Project will not conflict with or obstruct implementation of any air quality plans.

Lastly, the Project would be subject to compliance with District Rule 9510 which is intended to reduce a project's impact through project design elements or payment of off-site fees. The Project applicant would be required to submit to the SJVAPCD an Air Impact Assessment (AIA). Further, the Project would be required to submit a Dust Control Plan (DCP) to the SJVAPCD for review and approval. Consequently, a **less-than-significant** impact would occur and no mitigation measures are required.

b) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Less-Than-Significant Impact. The Fresno County area is nonattainment for Federal and State air quality standards for ozone and PM2.5 and nonattainment for State standards for PM10. The SJVAPCD has prepared the 2016 and 2013 Ozone Plans, 2007 PM10 Maintenance Plan, and 2012 PM2.5 Plan to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone and PM. The Project is consistent with the 2014 Clovis General Plan; therefore, the growth forecast associated with the Project was evaluated with the adopted General Plan EIR. Air pollution is largely a cumulative impact of both past and future development. Future attainment of State and Federal ambient air quality standards relies on implementation of SJVAPCDs attainment plans. Results of the analysis based on the AQ/HRI Report show that emissions generated from construction and operation of the Project will be **less-than-significant**; therefore, no mitigation measures are required.

c) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Less-Than-Significant Impact. Sensitive receptors are generally considered to include children, the elderly, and persons with pre-existing respiratory and cardiovascular illness. The SJVAPCD considers a sensitive receptor a location that houses or attracts children, the elderly, or people with illnesses. Examples of these receptors are hospitals, residences, schools and school facilities, and convalescent facilities. The nearest sensitive receptors to the Project site would be the existing residences adjacent to the site to the south. Based the AQ/HRI Report, the primary TAC of concern from the Project would be diesel particulate matter (DPM) from vehicles onsite; however, in accordance with the SJVAPCD health risk assessment methodology, a screening health risk assessment was done for DPM emissions using a conservative estimate of one tenth of the total DPM to be generated by the Project per CalEEMod estimates, the results shown that the Project would pose an intermediate risk[4]. An intermediate risk as defined by SJVAPCD means the Project is required to provide an update of DPM summary on a quadrennial basis and does not require further analysis at this time; thereover, resulting in a **less-than-significant** impact would occur and no mitigation measures are needed.

d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

No Impact. Generally, sources considered to emit odors are associated with wastewater treatment facilities, sanitary landfills, petroleum refineries, chemical manufacturing, and other industrial/manufacturing related uses. The Project is a hotel use, thus, the odors associated with such use would be similar to that of the existing surrounding commercial area and is unlikely to produce odors that would be considered to adversely affect a substantial number of people. Overall, because the Project is a hotel use the types of odors that could result from the Project would not be considered an objectionable odor source. Thus, a **no impact** would occur.

4 Air Quality and Health Risk Impact Study, MD Acoustics, Inc, page 27-28, November 2024.

4. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

ENVIRONMENTAL SETTING

The Project site is vacant and undeveloped with disked grasses and two existing trees. With the preparation of the City of Clovis 2014 General Plan, no threatened or endangered species were identified in the Project area. The site is adjacent to existing commercial and residential development and is located within an urbanized area, resulting in a highly disturbed habitat. There is no record of special-status species in this Project area. Development of the Project is consistent with the urbanization of the Clovis area, as evaluated in the General Plan and its EIR; therefore, impacts in this category are not anticipated to exceed the impacts addressed in those documents.

DISCUSSION

a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

No Impact. As described in the environmental setting the Project site is located in an urban infill location surrounded by existing commercial and residential uses. Per the 2014 General Plan EIR Figure 5.4-2, the Project site does not include any special status species observations; therefore, the Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Thus, **no impact** would occur.

b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?*

No Impact. The Project site is undeveloped and has no major vegetation with only two existing trees on the site. According to the California Governor's Office of Land Use and Climate Innovation free tool called Site Check, the Project site is does not contain special habitats for terrestrial wildlife as identified in the California State Wildlife Action Plan (SWAP); therefore, the Project will not affect habitat modifications to any sensitive or special species. Therefore, **no impact** would occur.

c) *Would the project have a substantial adverse effect on state or federally protected wetlands as (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. The Project site does not contain any wetlands features; therefore, **no impact** would occur.

d) *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

No Impact. Wildlife corridors are typically considered to be valleys, ridgelines, and rivers and creeks supporting riparian vegetation that animals regularly travel or follow. The Project site does not contain any wildlife corridors thus, **no impact** would occur.

e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

No Impact. The Project site does not indicate the presence of any sensitive habitat or wildlife features that would be impacted. While two trees will be removed from the Project site, the CMC includes tree protection standards for tree removal. Thus, **no impact** would occur.

f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. The Project site is not located within an adopted or approved Habitat Conservation Plan or other conservation plan; thus, **no impact** would occur.

5. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				X
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c. Disturb any human remains, including those interred outside of formal cemeteries?		X		

ENVIRONMENTAL SETTING

The Project proposes to construct two hotel buildings on a ±7.45 acre site. The Project site is vacant and undeveloped with regularly disked fields, with one previously occupied residential home and accessory structure from which the structures were removed. The site is surrounded by existing commercial and residential development.

City staff conducted Native American Consultation in compliance with Assembly Bill 52 (AB52). In compliance with AB52, invitations for consultation were mailed on March 5, 2025, which affords Native tribes thirty (30) days to respond and to request consultation. During this timeframe, no requests for consultations were received.

DISCUSSION

a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

No Impact. As mentioned, the Project site is vacant; however, previously partially developed with one residential home and accessory structures. The 2014 General Plan EIR identified 25 prehistoric sites, four historic sites, and one combined prehistoric/historic resource site that could be disturbed by development (General Plan EIR Figure 5.5-1). Based on the General Plan EIR identified historic resources, there are no known historic resources present within the Project site and there is a very low potential for subsurface cultural resources to be found. Further, compliance with Policy 2.9 of the Open Space and Conservation Element, which calls for the preservation of historical sites and buildings of state or national significance, would ensure that if there were historical resources present, they would be protected. Therefore, **no impact** would occur with regard to the Project causing a substantial adverse change in the significance of a historical resource.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Less-Than-Significant Impact With Mitigation. The site is currently vacant and was previously partially developed with one residential home and accessory structures. The potential remains that archeological resources could be inadvertently or accidentally uncovered during ground-disturbing activities such as trenching, digging, and the installation of utilities and other infrastructure.

Because there is the slight possibility for the accidental or inadvertent uncovering of archaeological resources during construction, Mitigation Measure CULT-1 would serve to reduce those potential impacts by requiring the stopping of any work until any found artifacts can be properly removed and inventoried by a qualified archaeologist. Therefore, the Project would result in a **less-than-significant impact with mitigation**.

> Mitigation Measure CULT-1: If archaeological or tribal resources or materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants.
>
> If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation.
>
> If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Lead Agency, and the project proponent shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Lead Agency as verification that the provisions for managing unanticipated discoveries have been met.

c) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Less-Than-Significant Impact With Mitigation. As mentioned, the site is currently vacant and was previously partially developed with one residential home and accessory structures. Discussion in section 5a concluded no cultural resource sites were identified in the Project site. Nevertheless, the potential remains that human remains could be inadvertently or accidentally uncovered during ground-disturbing activities such as trenching, digging, and the installation of utilities and other infrastructure.

Because there is the slight possibility for the accidental or inadvertent uncovering of human remains during construction, Mitigation Measure CULT-2 would serve to reduce those potential impacts by requiring the stopping of any work until any found human remains can be properly removed by the County coroner and/or tribes. Therefore, the Project would result in a **less-than-significant impact with mitigation**.

> Mitigation Measure CULT-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code and Project shall follow the procedures and protocols set for un CEQA Guidelines Section 15064.4(e)(1). If human remains are identified to be those of Native American, California Health and Safety Code 7050.5 requires the County coroner notify the California Native American Heritage Commission within 24 hours of discovery. All reports, correspondence, and determinations regarding the discovery of human remains on the Project site shall be submitted to the Lead Agency.

6. ENERGY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

ENVIRONMENTAL SETTING

The existing Project site is currently vacant with previously occupied residential structures which have been removed. The Project is considered an infill site surrounded by existing urban uses, including residential, educational, and commercial developments.

DISCUSSION

a) *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Less-Than-Significant Impact. The Project proposes the construction of two hotel buildings on ±7.45 acres, along with associated landscaping, hardscape, and infrastructure (i.e., drive aisles, utilities, etc.). Construction of such structures would require site preparation, grading, paving, architectural coating, and trenching. Construction would consist of typical activities for construction projects and therefore would not require use of new resources. While such activities would consume petroleum-based fuels, such consumption would be temporary and conclude upon completion of construction. The proposed Project in operation would be served by PG&E and would not require extensions of energy infrastructure or new energy supplies. As previously mentioned, the Project is located on an infill site surrounded by existing urban uses. Sources of operational energy consumption would include natural gas and/or electricity for space and water heating and transportation fuels (i.e., gasoline and diesel) for vehicle trips. Further, the hotel use would be subject to compliance with the latest energy efficiency standards in effect at the time of development and operation. This would include compliance with Title 24 Green Building Standards for energy efficiency, as well as be required to comply with the latest water efficient landscape policy regulations. Further, the Project would be required to comply with Clovis General Plan Policy 3.4, and 3.7 of the Open Space and Conservation Element, which call for the use of water conserving and drought tolerant landscape, as well as energy efficient buildings. Conformance to these standards would be reviewed during the City's SPR process and during review of building plans.

Consequently, compliance with these measures would ensure that the Project does not result in a significant impact due to the unnecessary consumption of energy and **less-than-significant** impact would occur.

b) *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Less-Than-Significant Impact. See discussion under Section 6a above.

7. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b. Result in substantial soil erosion or the loss of topsoil?			X	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				X
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of wastewater?				X
f. Directly or indirectly destroy a unique paleontological resource or unique geologic feature?		X		

ENVIRONMENTAL SETTING

The 2014 Clovis General Plan EIR identified no geologic hazards or unstable soil conditions known to exist on the Project site.

DISCUSSION

a) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?; ii) Strong seismic ground shaking?; iii) Seismic-related ground failure, including liquefaction?; iv) Landslides?*

No Impact. Pursuant to the California Department of Conservation, the California Earthquake Hazards Zone Application mapping tool identifies the Project site as not within an Earthquake Fault Zone.[5] Additionally, adherence to the most current California Building Codes would ensure that the structures are constructed safely and in compliance with the appropriate Building Codes. With regards to liquefaction, the 2014 Clovis General Plan EIR states that the soil types in the area are not considered conducive to liquefaction due to their high clay content or from being too coarse.[6] Further, the site is generally flat and therefore landslides would not occur at the Project site. Overall, due to the Project site not being located within an earthquake fault zone, adherence to the most recent California Building Codes, and the flat topography, **no impact** would occur with regards to potential impacts from seismic activity.

b) *Would the project result in substantial soil erosion or the loss of topsoil?*

Less-Than-Significant Impact. Although the site is relatively flat, grading activities would be required to ensure a flat and graded surface prior to construction, which may result in the soil erosion and loss of topsoil. Such impacts would be addressed by applicable regulations set forth by the Regional Water Quality Control Board including preparation of a Stormwater Pollution Prevention Plan (SWPPP) by a certified qualified SWPPP developer per the general construction permit requirements of the National Pollutant Discharge Elimination System. The SWPPP incorporates Best Management Practices for erosion and sediment controls and soil stabilization. Further, as part of the Project, grading plans are required to be submitted and approved by the City Engineering Division to ensure appropriate grading of the site. Thus, this review and approval process would ensure that a **less-than-significant** impact occur, and no mitigation measures are required.

c) *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

No Impact. See discussion under Section 7a.

d) *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating direct or indirect substantial risks to life or property?*

No Impact. According to the 2014 Clovis General Plan EIR, expansive soils are mostly present in areas along the northern edge of the non- SOI and the easternmost part of the Clovis non-SOI plan area.[7] Because the Project site is within the City's SOI; therefore, not within the vicinity of those areas, there would be no potential for creating direct or indirect substantial risks to life or property with regards to expansive soils. As a result, **no impact** would occur.

5 California Department of Conservation, the California Earthquake Hazards Zone Application mapping tool, https://maps.conservation.ca.gov/cgs/EQZApp/app/ Accessed March 14, 2025.

6 2014 Clovis General Plan EIR, Chapter 5: Geology and Soils, page 5.6-3.

7 2014 Clovis General Plan EIR, Chapter 5: Geology and Soils, page 5.6-4.

e) *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of wastewater?*

No Impact. The Project does not propose the use of septic tanks; therefore, **no impact** would occur.

f) *Would the project directly or indirectly destroy a unique paleontological resource or unique geologic feature?*

Less-Than-Significant Impact With Mitigation. The Project site is currently vacant with previously occupied residential structures which have been removed. There are no known cultural resources including potential historical resources identified in the Project site. Nevertheless, the possibility remains that the inadvertent or accidental discovery could occur during ground disturbing construction activities. However, Mitigation Measure GEO-1, below, would serve to protect the accidental discovery of paleontological resources. As such, a **less-than-significant with mitigation** impact would occur.

Mitigation Measure GEO-1: If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist and/or paleontologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants.

If the qualified professional determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation.

If a potentially-eligible resource is encountered, then the qualified professional archaeologist and/or paleontologist, the Lead Agency, and the project proponent shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Lead Agency as verification that the provisions for managing unanticipated discoveries have been met.

8. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			X	

ENVIRONMENTAL SETTING

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG's has been implicated as a driving force for global climate change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the earth's climate caused by natural fluctuations and anthropogenic activities which alter the composition of the global atmosphere.

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during construction and operational phases. The principal GHGs are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. While the presence of the primary GHGs in the atmosphere are naturally occurring, carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) are largely emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Carbon dioxide is the "reference gas" for climate change, meaning that emissions of GHGs are typically reported in "carbon dioxide-equivalent" measures. Emissions of carbon dioxide are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs, with much greater heat-absorption potential than carbon dioxide, include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes.

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming, although there is uncertainty concerning the magnitude and rate of the warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of GHG would be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32), which requires the CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

In December 2009, the SJVAPCD adopted guidance for addressing GHG impacts in its *Guidance for Valley Land Use Agencies in Addressing GHG Impacts for New Projects Under* CEQA. The guidance relies on performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review process.

Projects can reduce their GHG emission impacts to a less than significant level by implementing BPS. Projects can also demonstrate compliance with the requirements of AB 32 by demonstrating that their emissions achieve a 29% reduction below "business as usual" (BAU) levels. BAU is a projected GHG emissions inventory assuming no change in existing business practices and without considering implementation of any GHG emission reduction measures.

Significance Criteria

The SJVAPCDs *Guidance for Valley Land Use Agencies in Addressing GHG Impacts for New Projects Under CEQA* provides initial screening criteria for climate change analyses, as well as draft guidance for the determination of significance.

The effects of project-specific GHG emissions are cumulative, and therefore climate change impacts are addressed as a cumulative, rather than a direct, impact. The guidance for determining significance of impacts has been developed from the requirements of AB 32. The guideline addresses the potential cumulative impacts that a project's GHG emissions could have on climate change. Since climate change is a global phenomenon, no direct impact would be identified for an individual land development project. The following criteria are used to evaluate whether a project would result in a significant impact for climate change impacts:

- Does the project comply with an adopted statewide, regional, or local plan for reduction or mitigation of GHG emissions? If no, then
- Does the project achieve 29% GHG reductions by using approved Best Performance Standards? If no, then
- Does the project achieve AB 32 targeted 29% GHG emission reductions compared with BAU?

Projects that meet one of these guidelines would have less than significant impact on the global climate.

Because neither the City of Clovis or the SJVAPCD have developed or adopted numerical GHG significance threshold, the proposed Project was analyzed for consistency with statewide climate goals.

DISCUSSION

a) *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less-Than-Significant Impact. The Project would include the construction and operation of two hotel buildings and associated infrastructure (i.e., sewer and water infrastructure, roadways, sidewalks, etc.). As such, GHG emissions would be produced through the construction and operational phases of the Project. The SJVAPCD includes regulations to reduce GHG emissions such as standards for medium and heavy-duty engines and vehicles (i.e. tractors and construction equipment) that would apply to buildout of the Project. Further, compliance with Title 24 energy efficient building codes would apply, which also help to reduce GHG emissions during operation of the Project, by requiring minimum standards for insulation, energy efficiency, and window glazing, etc., which serve to maximize efficiency of new construction. Further, the Project would comply with the latest water efficient landscape standards which help to reduce energy usage. Overall, the Project with implementation of required energy efficient standards, would ensure that a **less-than-significant** impact would occur, and no mitigation measures are required.

b) *Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?*

Less-Than-Significant Impact. As required by California law General Plans contain land use elements that detail types and quantities of land uses needed for future growth assumptions. Therefore, determination of consistency with a county/city's General Plan can be used to confirm that the Project's land use is consistent with the growth assumption used in the air quality plan. The Project is consistent with the currently adopted 2014 Clovis General Plan; therefore, is consistent with the growth assumptions under the applicable air quality plan; therefore, the Project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG. As indicated in the discussion above under Section 8a, the Project would be required to comply with the latest energy efficient standards, and water conservation. Consequently, the AQ/HRI Report found this potential impact to be **less than significant,** and no mitigation measures are required.

9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

ENVIRONMENTAL SETTING

For purposes of this chapter, the term “hazardous materials” refers to both hazardous substances and hazardous wastes. A “hazardous material” is defined in the Code of Federal Regulations (CFR) as “substance or material that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce” (49 CFR 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

"Hazardous material" means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. "Hazardous wastes" are defined in California Health and Safety Code Section 25141(b) as wastes that: …because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

The nearest school to the Project site is Charlie Keyan Armenian Community School approximately half a mile southeast of the site at its closest point.

DISCUSSION

a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less-Than-Significant Impact. The Project consists of the construction of two hotel buildings under the existing Office land use designation which is consistent with the proposed Project. The type of hazardous materials that would be associated with the Project are those typical of commercial uses, such as the use of cleaners, landscape maintenance products, soaps, and potential pesticides (for pest control). It is not expected that the Project would routinely transport, use, or dispose of hazardous materials other than those typical of those associated with commercial uses. However, if transported, handled, and disposes of in accordance with regulations, these materials are not generally considered of the type or quantity that would pose a significant hazard to the public when used as directed. During construction, typical equipment and materials would be used that are associated with commercial construction; however, any chemicals or materials would be handled, stored, disposed of, and/or transported according to applicable laws. Consequently, because the Project is not of the type of use that would routinely transport, use, or dispose of hazardous materials a **less-than-significant** impact would occur, and no mitigation measures are required.

b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less-Than-Significant Impact. See discussion above under Section 9a.

c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact. As mentioned above, the Project site is located approximately half a mile from the nearest school and there are not currently any proposed schools within the Project area. Further, the Project is not of the type of use typically associated with emitting hazardous emissions or handling the type or quantity of hazardous materials such that it would pose a risk or threat to the school, or surrounding area. Therefore, **no impact** would occur.

d) *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. According the California Department of Toxic Substance Control EnviroStor Database, the Project site is not located on or within the immediate vicinity of a hazardous materials site.[8] Therefore, **no impact** would occur.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact. The Project is not within an airport land use plan nor is the site within two miles of a public airport. Therefore, **no impact** would occur.

f) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less-Than-Significant Impact. The Project is located at a site that is surrounded by existing development; thus, the road network is already in place from previous development. Although the Project could result in temporary traffic detouring or closures during buildout, these delays would be temporary and would be coordinated with the City Planning and Development Services and other departments to ensure safe access to and from the area is maintained. Further, the site itself would reviewed by City departments to ensure adequate site access and circulation is provided in the event of an emergency. Overall, a **less-than-significant** impact would occur.

g) *Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Less-Than-Significant Impact. The Project site it is not located in an area typically associated with wildfires. Although urban fires could occur, the Project would be constructed to the latest fire code standards, which would include fire sprinklers, as well as the installation of several fire hydrants throughout the site as required by the Clovis Fire Department. Further, other life safety features would be required such as smoke detectors, which would be reviewed and checked by the Fire Department to ensure proper operation prior to occupancy. Ultimately, a **less-than-significant** impact would occur with no mitigation measures.

10. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the			X	

8 California Department of Toxic Substance Control, EnviroStor Database, https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=Clovis, accessed on March 14, 2025

project may impede sustainable groundwater management of the basin?				
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?			X	
i) Result in substantial erosion or siltation on- or off-site?			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?			X	
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
iv) Impede or redirect flood flows?			X	
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

ENVIRONMENTAL SETTING

The City is within the drainages of three streams: Dry Creek, Dog Creek, and Redbank Slough. On the north, Dry Creek discharges into the Herndon Canal in the City of Fresno west of Clovis. South of Dry Creek, Dog Creek is a tributary of Redbank Slough, which discharges into Mill Ditch south of Clovis (USGS 2012). A network of storm drains in the City and the Plan Area discharges into 31 retention basins, most of which provide drainage for a one- to two-square-mile area. Most of the Plan Area east and northeast of the City is not in drainage areas served by retention basins. Those areas drain to streams that discharge into reservoirs, including Big Dry Creek Reservoir in the north-central part of the Plan Area and Redbank Creek Dam and Reservoir in the southeast part of the Plan Area. Fancher Creek Dam and Reservoir are near the east Plan Area boundary.

The Project is located within the FMFCD boundary, and subject to its standards and regulations. Detention and retention basins in the FMFCD's flood control system are sized to accommodate stormwater from each basin's drainage area in buildout condition. The current capacity standard for FMFCD basins is to contain runoff from six inches of rainfall during a ten-day period and to infiltrate about 75 to 80 percent of annual rainfall into the groundwater basin (Rourke 2014). Basins are highly effective at reducing average concentrations of a broad range of contaminants, including several polyaromatic hydrocarbons, total suspended solids, and most metals (FMFCD 2013). Pollutants are removed by filtration through soil, and thus don't reach the groundwater aquifer (FMFCD 2014). Basins are built to design criteria exceeding statewide Standard Urban Stormwater Mitigation Plan (SUSMP) standards (FMFCD 2013). The urban flood control system provides treatment for all types of development—not just the specific categories of development defined in a SUSMP—thus providing greater water quality protection for surface water and groundwater than does a SUSMP.

In addition to their flood control and water quality functions, many FMFCD basins are used for groundwater recharge with imported surface water during the dry season through contracts with the FID and the cities of Fresno and Clovis; such recharge totaled 48,139 acre feet of water in 2020.

The pipeline collection system in the urban flood control system is designed to convey the peak flow rate from a two-year storm.

Most drainage areas in the urban flood control system do not discharge to other water bodies, and drain mostly through infiltration into groundwater. When necessary, FMFCD can move water from a basin in one such drainage area to a second such basin by pumping water into a street and letting water flow in curb and gutter to a storm drain inlet in an adjoining drainage area (Rourke 2014). Two FMFCD drainage areas discharge directly to the San Joaquin River, and three to an irrigation canal, without storage in a basin. Six drainage areas containing basins discharge to the San Joaquin River, and another 39 basins discharge to canals (FMFCD 2013).

A proposed development that would construct more impervious area on its project site than the affected detention/retention basin is sized to accommodate is required to infiltrate some stormwater onsite, such as through an onsite detention basin or drainage swales (Rourke 2014).

The Big Dry Creek Reservoir has a total storage capacity of about 30 thousand acre-feet (taf) and controls up to 230-year flood flows. Fancher Creek Dam and Reservoir hold up to 9.7 taf and controls up to 200-year flood flows. Redbank Creek Dam and Reservoir hold up to 1 taf and controls up to 200-year flood flows.

Groundwater

Clovis is underlain by the Kings Groundwater Basin that spans 1,530 square miles of central Fresno County and small areas of northern Kings and Tulare counties. Figure 5.9-4, Kings Groundwater Basin, shows that the basin is bounded on the north by the San Joaquin River, on the west by the Delta-Mendota and Westside Subbasins, the south by the Kings River South Fork and the Empire West Side Irrigation District, and on the east by the Sierra Nevada foothills. Depth to groundwater in 2016 ranged from 196.5 feet at the northwest City boundary to 69.5 feet at the southeast City boundary (Clovis 2016), 25 feet at the southeast SOI boundary, and about 20 feet at the eastern Plan Area boundary (FID 2013). The Kings Subbasin has been identified as critically overdrafted (Provost & Pritchard 2011).

In the Plan Area, groundwater levels are monitored by the City of Clovis and FID. The overall area has not experienced land subsidence due to groundwater pumping since the early 1900s (FID 2006). Subsidence occurs when underground water or natural resources (e.g., oil) are pumped to the extent that the ground elevation lowers. No significant land subsidence is known to have occurred in the last 50 years as a result of

land development, water resources development, groundwater pumping, or oil drilling (FID 2006). The City has identified a localized area of subsidence of 0.6 feet in the vicinity of Minnewawa and Herndon Avenues within the last 14 years (Clovis 2016). Regional ground subsidence in the Plan Area was mapped as less than one foot by the US Geological Survey in 1999 (Galloway and Riley 1999). Groundwater levels in the San Joaquin Valley are forecast to hit an all-time low in 2014 (UCCHM 2014).

New development in accordance with the 2014 Clovis General Plan would increase the amount of impervious surface in the Plan Area, potentially affecting the amount of surface water that filters into the groundwater supply. Groundwater levels are monitored in the Plan Area by the FID and the City of Clovis. As described in the 2015 City of Clovis Urban Water Management Plan (UWMP), groundwater recharge occurs both naturally and artificially throughout the City. The Kings Groundwater Basin area is recharged through a joint effort between the Cities of Clovis and Fresno and the FID (CDWR 2006). Approximately 8,400 acre-feet per year (afy) of water are intentionally recharged into the Kings Groundwater Basin by the City of Clovis, and approximately 7,700 afy of water naturally flow into groundwater in the City's boundaries (Clovis 2011).

The FMFCD urban stormwater drainage system would provide groundwater infiltration for runoff from developed land uses in detention basins in the drainage system service area.

Projects pursuant to the 2014 Clovis General Plan and developed outside of the FMFCD urban stormwater drainage system would be required to meet the requirements of NPDES regulations, including the implementation of BMPs to improve water retention and vegetation on project sites.

DISCUSSION

a) *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

Less-Than-Significant Impact. The Project is located on a site that was previously anticipated for urban development including hotels. As with any development, existing policies and standards are required to be complied with, which are assessed during review of the entitlements. As such, the Engineering Division, as well as outside agencies such as the FMFCD review all plans to ensure that none of the water quality standards are violated and that waste discharge requirements are adhered to during construction and operation of the Project. Consequently, this process of Project review and approval would ensure that a **less-than-significant** impact occur with no mitigation measures.

b) *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less-Than-Significant Impact. The Project would not deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level due to the Project. The 2014 Clovis General Plan EIR identified a net decrease in ground water aquifer throughout the region, however, because the City's domestic water system is primarily served through surface water via existing water entitlements, the loss of aquifer is less than significant. The City has developed a surface water treatment plant (opened in June 2004) that reduces the need for pumped groundwater, and has also expanded the municipal groundwater recharge facility. The Projects impacts to groundwater are **less than significant** with no mitigation measures.

c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner*

which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?

Less-Than-Significant Impact. The Project site is considered an infill site that is generally flat and surrounded by existing urban uses. There are no streams or rivers on the site that would be altered as a result of the Project. The site is mostly pervious since it is currently undeveloped, and as a result, the Project would increase the amount of impervious surfaces by installing paving for parking lots, roadways and sidewalks. However, the drainage pattern would be constructed per existing policies and regulations through review of the plans by the City Engineering Division and the FMFCD to ensure the site is properly and adequately drained such that the stormdrain system is maintained and so that no flooding occurs. Consequently, this review and approval by City engineers and FMFCD would mean that the Project result in a **less-than-significant** impact with no mitigation measures.

d) *Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

Less-Than-Significant Impact. Due to the Central Valley's location away from the ocean, an impact from a tsunami is unlikely. The Project site is designated as a Federal Emergency Management Agency (FEMA) Flood Zone "X"[9] which is considered by FEMA as a non-special flood hazard area and that the risk of a flood is low-risk. A Flood Zone X has a 0.2 percent-annual-chance of flood. The CMC Section 8.12, Floodplain Management lists standards and requirements for new construction within special flood zones; therefore, the Project would implement flood hazard management as required by the CMC. As a result of adhering to required flood hazard management, the Project would not risk the release of pollutants due to inundation and consequently, the Project would result in a **less-than-significant** impact would occur with no mitigation measures.

e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Less-Than-Significant Impact. The City of Clovis is within the North Kings County Groundwater Sustainability Agency (GSA). Pursuant to the Sustainable Groundwater Management Act of 2014 (SGMA), certain regions in California are required to develop and implement a groundwater management plan that sustainably manages groundwater resources. The proposed Project would comply with the 2020 City of Clovis UWMP which promotes programs and policies to manage water supplies. Nevertheless, the Project would derive its water from surface water sources and does not propose or include plans for groundwater use. With regards to water quality control, the Project would be required to adhere to appropriate storm drain conveyance and the protection of water resources which would include the installation of backflow preventers. Consequently, the Project would result in a **less-than-significant** impact with no mitigation measures.

11. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an existing community?			X	
b. Cause a significant environmental impact due to a conflict with any land			X	

9 FEMA Flood Map Service Center: Search By Address, https://msc.fema.gov/portal/search?AddressQuery=clovis, accessed on March 14, 2015

use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				

ENVIRONMENTAL SETTING

The Project site is considered an in-fill site in that the surrounding areas are urbanized.

DISCUSSION

a) *Would the project physically divide an existing community?*

Less-Than-Significant Impact. Although the Project site is currently undeveloped, the site is surrounded by single-family residential to the south, commercial to the west, and planned commercial/office uses to the north and east. Typically, physically dividing existing communities is associated with the construction of a new road intersecting an established area or introducing uses that are not necessarily in line with the existing uses and planned land uses of the area. However, the Project site has been previously designated in the 2014 Clovis General Plan for commercial uses such as professional offices, corporate headquarters, research and development, medical facilities, hotels, and limited related retail uses.

Consequently, because the proposed Project is the type of use previously planned for this site and the general areas, it would not physically divide an existing community. Rather, it seeks to complement and enhance the connectivity of the area with installation of a new public sidewalks, and internal walkways that would improve circulation throughout this area. Therefore, a **less-than-significant** impact would occur and no mitigation measures are required.

b) *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

Less-Than-Significant Impact. The proposed uses consistent with the Office land use designation of the General Plan. Although the Project proposes to amend the zoning from R-1-AH Zone District it to the C-P Zone District, the requested rezoning will bring the Project site into conformance with the existing Office land use as designated for the site by the General Plan. Further, through the entitlement process, the Project is reviewed for compliance with applicable regulations, including those intended for avoiding or mitigating an environmental effect. For example, the Project would be required to comply applicable lighting, landscape, and noise standards, which are regulated through the CMC to ensure minimal impacts to the environment as well as with neighboring properties. As a result of the Project in complying with the land use and zoning designation upon approval, as well as the review process ensuring General Plan and other applicable policies are adhered to, the Project would result in a **less-than-significant** impact with regards to conflicting with a land use plan.

12. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

ENVIRONMENTAL SETTING

The City of Clovis 2014 General Plan EIR defines minerals as any naturally occurring chemical elements or compounds formed from inorganic processes and organic substances.[10] The 2014 Clovis General Plan EIR indicates that there are no active mines or inactive mines within the Plan Area of the City of Clovis.

DISCUSSION

a) *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No Impact. As stated above, the City of Clovis does not have any active mines or inactive mines. Further, the Project site is not designated, or otherwise mapped for mineral resource extraction, or for having mineral resources of value to the region present on or below the surface of the site. Therefore, **no impact** would occur.

b) *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact. Please refer to the discussion under Section 12.a.

13. NOISE

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b. Generation of excessive groundborne vibration or groundborne noise levels?			X	
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people				X

10 2014 Clovis General Plan EIR, Chapter 5: Mineral Resources, page 5.11-1.

residing or working in the project area to excessive noise levels?				

ENVIRONMENTAL SETTING

The Project site is considered an in-fill site in that the surrounding areas are urbanized. As such, existing ambient noise levels are typical of those associated with development, such as the sound of vehicles passing by, the sound of talking, and roadways could be expected within the Project vicinity. As a result of construction existing ambient noise levels may be slightly elevated as a result of the use of construction equipment, such as large trucks, tractors, and other construction tools associated with development. These increases would be temporary and would cease upon completion of the Project.

An Environmental Noise Assessment (Noise Study) was prepared for the Project by WJV Acoustics on June 22, 2023 and the analysis below is based, in part, on the study. The Noise Study can be found in Appendix B of this Initial Study.

DISCUSSION

a) *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Less-Than-Significant Impact. The Project would include development of two hotel buildings. Thus, the Project would introduce new ambient noise from the construction and operation of the hotels, these noises would represent the typical type of noise levels that is expected for a hotel use including outdoor dining and recreation areas. While increases in ambient noise would occur due to the construction of the Project, this increase would be temporary and would be required to adhere to local regulations limiting the hours of construction.

The CMC Section 9.22.080, Noise, sets forth noise standards for development which would need to be complied with. For example, construction would only be permitted between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 9:00 a.m. and 5:00 p.m. on weekends. However, between June 1 and September 15, construction may begin at 6:00 a.m. on weekdays.

The Noise Study indicated that exterior traffic noise exposure at the closest to the proposed outdoor recreation area would be approximately 47 dB CNEL and to the closest setback from each hotel building to West Herndon and North Peach Avenues for existing conditions would be between 55-60 dB CNEL and would be between 55-56 dB CNEL for future (2046) traffic conditions.[11] As such, the existing exterior noise exposure would not exceed the City's exterior noise level of 65 dB CNEL. Consequently, a **less-than-significant impact** would occur with no mitigation measures.

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Less-Than-Significant Impact. The Project includes development of two hotel buildings and associated infrastructure (i.e., sidewalks, roadways, curb, gutter, stormdrains, etc.). Therefore, construction equipment typical of the development of residential homes would be utilized temporarily. This equipment could include the use of heavy tractors, trucks, and other equipment; however, this type of equipment isn't typically associated with excessive groundborne vibration. If any vibration were to occur, it's likely that it would be temporary in

11 Environmental Noise Assessment, WJV Acoustics, Inc, page 9, June 2023.

nature and not at levels that would significantly impact the surrounding area. Further, the Project would be required to comply with the provisions of Section 9.22.090 of the CMC which requires that vibration not be perceptible along property lines and that it shall not interfere with operations or facilities on adjoining parcels. It's important to note also that temporary construction vibration and noise is exempt from these provisions due to the fact that construction is temporary. Overall, because the type of equipment likely to be used in the development of the Project is not considered to be of the type and intensity to result in substantial vibration or groundborne noise, the impact would be **less-than-significant** and no mitigation measures are required.

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact. The Project is not located within the vicinity of a private airstrip or within an airport land use plan nor is the site within two miles a public airport. Therefore, **no impact** would occur.

14. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example through extension of roads or other infrastructure)?			X	
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

ENVIRONMENTAL SETTING

The Project site is considered an infill site in that the surrounding areas are urbanized that is planned for commercial uses in the 2014 Clovis General Plan such as professional offices, corporate headquarters, research and development, medical facilities, hotels, and limited related retail uses.

DISCUSSION

a) *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example through extension of roads or other infrastructure)?*

Less-Than-Significant Impact. As mentioned, the Project would include development of two hotel buildings in accordance with the planned land use designation of the General Plan. Unplanned population growth is typically associated with providing new services in remote areas of the City or other infrastructure that was not previously identified in the General Plan. The Project site itself is an infill site, thus, the primary infrastructure (i.e., road network, utilities, etc.) is already in place and would be able to serve the site. Thus, a **less-than-significant** impact would occur no mitigation measures are required.

b) *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

No Impact. The Project site is undeveloped; therefore, **no impact** would occur and no mitigation measures are required.

15. PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a. Fire protection?			X	
b. Police protection?			X	
c. Schools?			X	
d. Parks?			X	
e. Other public facilities?			X	

ENVIRONMENTAL SETTING

The Project would be served by the Clovis Fire Department, Clovis Police Department, with mutual aid from the City of Fresno, when needed. The Project site would also be within the Clovis Unified School District.

The nearest fire station is Fire Station #3, located approximately 0.60-mile northeast of the site.

DISCUSSION

a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services?*

Less-Than-Significant Impact. The Project is an infill site being developed in accordance to the City's planned land use of Office. As part of the entitlement process for the Project, the Clovis Fire Department will review the design and site layout to ensure adequate fire safety measures and site circulation are achieved. This includes placement of new fire hydrants throughout the site, adequate drive widths for fire truck and emergency vehicle access, and the appropriate application of fire codes, such as installation of sprinkler systems, fire alarms, and smoke detectors. The initial review by the Fire Department determined that adequate fire services can be provided to the site subject to standard conditions of approval, including providing minimum clear paths of travel for fire access. Overall, with the site's close proximity to Fire Station #3, construction that would meet the latest

fire code standards, and review by the Clovis Fire Department, impacts related to effects on the performance of the Fire Department would be **less-than-significant** and no mitigation measures are required.

b) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services?*

Less-Than-Significant Impact. The Project site is an infill site, thus is already served by the Clovis Police Department. The Clovis Police Department headquarters are located at 1233 Fifth Street, which is approximately seven (7) miles southeast from the site. As part of the entitlement process for the Project, the Clovis Police Department will review the design and site layout to ensure adequate safety measures are achieved. Consequently, a **less-than-significant impact** would occur and no mitigation measures are required.

c) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?*

Less-Than-Significant Impact. The Project includes construction of two hotel buildings which would not generate students for schools. The Project request was distributed to the Clovis Unified School District (CUSD) for review and the school district did not express any concerns with the development of this project. As part of the process, the Project would be required to pay school fees which typically go towards the improvement and/or construction of new schools or expanding existing schools if and when needed, as determined by the CUSD. Therefore, because the Project is consistent with what was previously planned for at this site in addition to payment of appropriate school fees set by the CUSD, a **less-than-significant** impact would occur and no mitigation measures are required.

d) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?*

Less-Than-Significant Impact. See discussion under Section 16, Recreation for the analysis related to parks.

e) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?*

Less-Than-Significant Impact. Although the Project would result in a new hotel use, the Project's consistency with the planned Office land use designation for this site would mean that the potential impacts on public facilities have been adequately accounted for. The Project would not generate population given that there is no residential component to the Project, thus, would not necessarily result in the increased usage of other public facilities. Further, through the entitlement process, the Project would undergo review by several departments and agencies for compliance with appropriate regulations and policies. This could result in various impact fees that are intended to maintain and enhance public facilities as appropriate. As such, payment of the typical development fees, as well as project review by the different department and agencies, would result in the Project having a **less-than-significant** impact to public facilities. No mitigation measures are required.

16. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?			X	

ENVIRONMENTAL SETTING

The Project is considered an infill site surrounded by existing residential and commercial uses. The nearest park to the site is Been Park, located directly south of the site, and the nearest recreational trail is the Old Town Trail, which is located ±0.60-mile northeast of the Project site.

DISCUSSION

a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Less-Than-Significant Impact. As mentioned in the Population and Housing section of this Initial Study, the Project proposes the construction of a hotel which would not generate new residents to the site. Although the Project would not include the construction of homes, it's possible that workers or patrons of the site could utilize the nearby park, although this is not likely to substantially increase the usage of the park. Further, the Project itself would include landscaped areas along the Project frontages which could be utilized by workers or patrons of the site. Overall, the type and use of Project would not likely increase the use of existing parks such that physical deterioration would occur. Therefore, the impact would be **less-than-significant,** and no mitigation measures are required.

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?*

Less-Than-Significant Impact. The Project site itself would construct on site landscaping in compliance with City standards for commercial development. However, it is not likely that the Project itself would require the construction or expansion of new recreational facilities that would have an adverse physical effect on the environment. As such, a **less-than-significant** impact would occur and no mitigation measures are required.

17. TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d. Result in inadequate emergency access?			X	

ENVIRONMENTAL SETTING

The Project is considered an infill site surrounded by existing residential and commercial uses and is bounded by West Herndon Avenue to the north, North Peach Avenue to the east, and West Magill Avenue to the south. The circulation network serving the site is exiting while the internal site circulation will be constructed as part of the Project.

According to the 2014 Clovis General Plan Circulation Diagram in the Circulation Element (Figure C-1 of the Circulation Element), West Herndon is classified as an "expressway" roadway, North Peach Avenue is classified as a "collector" roadway, and West Magill is classified as a "local" roadway. Expressways are generally defined as major streets designed to carry relatively heavy volumes of traffic through an urban area. Collector roadways provide for relatively short distance travel between and within neighborhoods. Collectors are not designed to handle long-distance through-traffic. Local roadways are designed primarily for service to abutting property.

A Transportation Impact Analysis (TIA) was prepared by Peters Engineering Group on April 22, 2024 (included as Appendix C of this Initial Study). The information and analysis in the following sections is based in part on the results of the TIA.

DISCUSSION

a) *Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?*

Less-Than-Significant Impact. As mentioned above, the site is within an urbanized area that has been planned for professional offices, corporate headquarters, research and development, medical facilities, hotels, and limited related retail uses by the 2014 Clovis General Plan. The Project would not modify the planned land use or include any features that would preclude the City from completing and complying with guiding documents and policy objectives, and therefore, would not conflict with the relevant City plans, policies, and programs.

A TIA was prepared to evaluate potential on-site and off-site traffic impacts, identify short-term and long-term roadway needs, determine potential roadway improvement measures and identify any critical traffic issues that should be addressed as a result of the Project. Based on the analysis, with incorporation of improvements recommended for each scenario intersections the Project will not cause intersections to operate worse than the General Plan target level of service (LOS); thus, the Project, will not conflict with the Circulation Element of the

2014 Clovis General Plan. Consequently, a **less-than-significant** impact would occur. No mitigation measures are required.

b) *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

Less-Than-Significant Impact. Senate Bill 743 (SB 743) requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as vehicle miles traveled (VMT) instead of LOS. VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the proposed project adds excessive car travel onto our roads, the proposed project may cause a significant transportation impact. Per CEQA Guidelines Section 15064.3(b)(4) a lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's VMT, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate VMT and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.

On October 17, 2022, the City of Clovis adopted the Transportation Impact Analysis Guidelines (Guidelines), dated September 15, 2022. Consistent with CEQA Guidelines Section 15064.3, the City of Clovis has adopted thresholds of significance to determine when a project will have a significant transportation impact based on VMT. The City has developed screening criteria to streamline the analysis for projects that meet certain criteria. A project will require a detailed VMT analysis unless it meets at least one of the City's five screening criteria[12]:

- Small Projects that generate less than 500 vehicle trips per day (i.e., Single-Family Residential developments with less than 53 dwelling units).
- Provision of affordable housing
- Local-serving retail projects with areas of 100,000 square feet and below
- Projects located in a High-Quality Transit Area (HQTA) as defined on page 8 of the City's Transportation Impact Analysis Guidelines
- Project located in low VMT area

The Project does not qualify for the screening criteria; therefore, shall be evaluated per Guidelines thresholds. The significance thresholds and specific VMT metrics are described on page 10 of the City's Transportation Impact Analysis Guidelines. Per the City's Transportation Impact Analysis Guidelines, the hotel land use impact threshold may be evaluated using a net increase in total VMT. The total VMT for the region without and with the Project is calculated and the difference between the two scenarios is the net change in total VMT that is attributable to the Project. The VMT memo prepared by LSA using Fresno Council of Governments' (Fresno COG's) Activity-Based Model (ABM) cited in the TIA, concluded that the Project's VMT is not greater than a without project scenario; therefore, is determined to result in a **less-than-significant** VTM impact[13]. No mitigation measures are required.

c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

12 Transportation Impact Analysis Guidelines, City of Clovis, September 15, 2022, page 4.

13 Transportation Impact Analysis, Peters Engineering Group, April 22, 2024 page 3.

Less-Than-Significant Impact. The Project would result in a significant impact if it would include features that would create a hazard such as a sharp curve in a new roadway, or create a blind corner or result in sight distance issues from entryways. Through the entitlement process, the Project would undergo review by multiple City divisions, such as Planning and Engineering, to ensure that the site layout conforms to existing regulations, such as the CMC, and other applicable codes, such as the fire code and building code. During this review, the Project would need to make the necessary corrections to ensure that no hazardous design features would result from the Project. Therefore, because the Project would undergo site plan and design review to ensure consistency and adherence to applicable design and site layout guidelines, a **less-than-significant** impact would occur. No mitigation measures are required.

d) *Would the project result in inadequate emergency access?*

Less-Than-Significant Impact. The Project would include two (2) ingress/egress access points to the proposed development, from Magill Avenue. As part of the Project review, the Clovis Fire Department would review all plans to ensure adequate emergency access is provided. This review includes review for adequate roadway widths, turning radii, as well as adequate access to units and accessibility to water. Consequently, because the Project plans would be required by the CMC to be reviewed and approved by Clovis Fire Department and Police Department prior to construction, this impact would be **less-than-significant** and no mitigation measures are required.

18. TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?				X
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe?		X		

ENVIRONMENTAL SETTING

On September 25, 2014, Governor Jerry Brown signed AB52, which intends to protect a new class of recourse under CEQA. This new class is Tribal Cultural Resources and provides an avenue to identify Tribal Cultural resources through a consultation process. AB52 applies to all projects where a Notice of Determination is filed. Furthermore, the consultation process is required to be complete prior to filing a Notice of Intent.

City staff conducted Native American Consultation in compliance with AB52. In compliance with AB52, invitations for consultation were mailed on March 5, 2025, which affords Native tribes thirty (30) days to respond and to request consultation. No requests for consultation were requested during that time.

DISCUSSION

a) *Would the project cause a substantial adverse change to a listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

No Impact. See discussion under Section 5a.

b) *Would the project cause a substantial adverse change to a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe?*

Less-Than-Significant Impact With Mitigation. The site's ground has been minimally disturbed as a result of previous residential and accessory structures. The site will require trenching and ground-disturbing activities during construction for the installation of utility infrastructure needed to serve the Project. Although no cultural resources were identified at the site, the potential remains that tribal cultural resources could be inadvertently or accidentally uncovered during ground-disturbing activities.

Because there is the slight possibility for the accidental or inadvertent uncovering of tribal cultural resources during construction, Mitigation Measures TCR-1 and TCR-2 would serve to reduce those potential impacts by requiring the stopping of any work until any found artifacts can be properly removed and inventoried by a qualified archaeologist. Therefore, the Project would result in a **less-than-significant impact with mitigation**.

Mitigation Measure TCR-1: If archaeological or tribal resources or materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants.

If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation.

If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Lead Agency, and the project proponent shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Lead Agency as verification that the provisions for managing unanticipated discoveries have been met.

Mitigation Measure TCR-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code and Project shall follow the procedures and protocols set for un CEQA Guidelines Section 15064.4(e)(1). If human remains are identified to be those of Native American, California Health

and Safety Code 7050.5 requires the County coroner notify the NAHC within 24 hours of discovery. All reports, correspondence, and determinations regarding the discovery of human remains on the project site shall be submitted to the Lead Agency.

19. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e. Comply with federal, state, and local management reduction statutes and regulations related to solid waste?			X	

ENVIRONMENTAL SETTING

PG&E provides electricity and natural gas services in the City of Clovis. AT&T/SBC provides telephone service to the City.

The City's water supply sources include groundwater drawn from the Kings Sub-basin of the San Joaquin Valley Groundwater Basin and treated surface water from the FID. Surface water is treated at the City of Clovis Surface Water Treatment Facility.

The City of Clovis provides sewer collection service to its residents and businesses. Treatment of wastewater occurs at the Fresno-Clovis Regional Wastewater Treatment Plant (RWTP). The Fresno-Clovis RWTP is operated and maintained by the City of Fresno and operates under a waste discharge requirement issued by the Central Valley Regional Water Quality Control Board. Additionally, the City of Clovis has completed a 2.8 mgd wastewater treatment/water reuse facility, which will service the City's new growth areas.

The FMFCD has the responsibility for storm water management within the Fresno-Clovis metropolitan area of the Project site. Stormwater runoff that is generated by land development is controlled through a system of pipelines and storm drainage detention basins.

DISCUSSION

a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

Less-Than-Significant Impact. The Project includes construction of two hotel buildings. As mentioned above, the site is a use previously accounted for in the 2014 Clovis General Plan. Further, as part of the review process for the Project, the wastewater impacts will be evaluated by the City Engineer to ensure compliance with the City's Wastewater Master Plan, as well as FMFCD, so that the Project would not exceed wastewater treatment requirements such that a new facility would be required nor would the existing treatment facility need to be expanded. While the Project would introduce new hotels at this site, the type of development would be consistent with the land use designation. Upon review and approval by the City Engineer, the Project would result in a **less-than-significant** impact and no mitigation measures are required.

b) *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

Less-Than-Significant Impact. The Project is of the type of development previously accounted for the in 2014 Clovis General Plan and is surrounded with existing urban uses which are served adequately with City water. Therefore, the Project is anticipated to be adequately served by City water. Further, the Project would comply with current Green Building Codes, as well as the water efficient landscape policies with regards to water conserving features. Lastly, the Project would be required to comply several water conserving policies, such as Policies 3.4 and 3.5 of the Open Space and Conservation Element. Overall, a **less-than-significant** impact would occur no mitigation measures are required.

c) *Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less-Than-Significant Impact. Because the Project is of the type previously planned and accounted for in the 2014 Clovis General Plan, it is not likely that the Project would result in a demand that would exceed the capacity of the wastewater treatment facility. Further, the Project is reviewed by the appropriate departments and agencies to ensure compliance and adequate capacity with regard to infrastructure, such as the ability to provide adequate wastewater treatment. Consequently, the impact would be **less-than-significant** no mitigation measures are required.

d) *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Less-Than-Significant. The Project would introduce new solid waste throughout construction and operation of the Project. However, the Project would be required to comply with Chapter 6.3.1, Recycling and Diversion of Construction and Demolition Debris, of the CMC during construction. This section of the CMC requires that a minimum of fifty percent (50%) of waste tonnage from a project be diverted from disposal, and that all new commercial construction within the City shall submit and obtain approval for a waste management plan prior to construction activities. Compliance with these measures would ensure that the Project does not result in a significant impact during the construction phase of the Project. Further, compliance with policies in the General

Plan for the reduction and recycling of solid waste would serve to reduce impacts of solid waste by promoting and encouraging the recycling of materials. Lastly, according to the California Department of Resources Recycling and Recovery (CalRecycle), the City of Clovis has exceeded their target per employee disposal rate of 15.5 pounds per day per employee, meaning that Clovis employees are actually producing less solid waste than the target set by the State.[14] Consequently, a **less-than-significant** impact would occur no mitigation measures are required.

e) *Would the project comply with federal, state, and local management reduction statutes and regulations related to solid waste?*

Less-Than-Significant. See discussion 19d above.

20. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

ENVIRONMENTAL SETTING

The Project site is located on an infill site surrounded by existing urban uses. The site's topography is generally flat and characterized primarily by low lying shrubs and grasses.

DISCUSSION

14 Calrecycle, City of Clovis, https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006, accessed March 14, 2025.

a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

Less-Than-Significant Impact. The Project is located at a site that is surrounded by existing urban uses. Further, the road network is already in place from previous development. Although the Project could result in temporary traffic detouring or closures during buildout, these delays would be temporary and would be coordinated with the City Engineering Division and other departments to ensure safe access to and from the area is maintained. Further, the site itself would reviewed by City departments to ensure adequate site access and circulation is provided in the event of an emergency. Overall, a **less-than-significant** impact would occur and no mitigation measures are required.

b) *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Less-Than-Significant Impact. The general vicinity of the site is flat, therefore, is not of the type of topography nor in a location likely to exacerbate wildfire risks. Additionally, the Project site is located in an area mapped by CAL FIRE as "unzoned" per the Fire Hazard Severity Zone Viewer[15], indicating the area is not located in an area within State Responsibility Areas into Fire Hazard Severity Zones. Further, the Project would be required to comply with the latest fire codes and would be required to include sprinklers on the interior of the structures and require installation of several hydrants throughout the site. Lastly, the site plans would undergo review by the Clovis Fire Department to ensure that all fire safety regulations are met. Project site is Therefore, a **less-than-significant** impact would occur no mitigation measures are required.

c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Less-Than-Significant Impact. Installation of a private circulation network, water lines, and underground utilities would be required; however, these utilities and infrastructure are typical of development and would be constructed to standards of the respective agencies and departments which oversee them, as well as be required to comply all necessary plan review and permitting requirements of such departments and agencies. As such, a **less-than-significant** impact would occur, and no mitigation measures are required.

d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

No Impact. The City of Clovis is generally flat topography, and the site itself is in an area that is not in close proximity to hillsides such that it would expose people or structures to significant risks associates with downstream flooding or landslides as a result of runoff or post-fire slope instability. As such, **no impact** would occur.

21. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

15 Fire Hazard Severity Zones, https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones, accessed March 18, 2025

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?			X	
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			X	

ENVIRONMENTAL SETTING

The Project is located within an infill site within the City of Clovis, substantially surrounded by urban uses.

DISCUSSION

a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?*

Less-Than-Significant Impact. As discussed above throughout the Initial Study, the Project would not result in any significant impacts with implementation of mitigation measures prescribed above. Therefore, the Project would have a **less-than-significant** impact as it would not substantially degrade the quality of the environment.

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when*

viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less-Than-Significant Impact. The Project includes mitigation measures in certain topic areas identified throughout this Initial Study which would reduce potential impacts to a less-than-significant level. None of these impacts would be cumulatively considerable since most are either temporary impacts from construction or site specific. As such, this Project would be required to comply with those same regulations, ensuring adequate mitigation as development occurs. Thus, the Project was found to have a **less-than-significant impact** as discussed in this Initial Study.

c) *Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?*

Less-Than-Significant Impact. As discussed throughout the document, the Project would not result in an impact that could not be mitigated to a less-than-significant level. Therefore, a **less-than-significant** impact would occur.

I. Report Preparation

LEAD AGENCY

Liz Salazar
Associate Planner
City of Clovis
Planning & Development Services

TECHNICAL STUDIES

Air Quality and Health Risk Impact Study
Peach Avenue & Herndon Avenue Hotel
MD Acoustics, LLC
November 21, 2024

Environmental Noise Assessment
Axis Hospitality Hotel Complex
WJV Acoustics, INC
June 22, 2023

Transportation Impact Analysis
Proposed Hotel
Peters Engineering Group
April 22, 2024

MITIGATION MONITORING AND REPORTING PROGRAM
R2023-004, CUP2023-004, CUP2023-005

Proposed Mitigation	Summary of Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
Cultural Resources				
CULT-1	If archaeological or tribal resources or materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Lead Agency, and the project proponent shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to	City of Clovis Planning	*Prior to Permits and During Construction*	

Proposed Mitigation	Summary of Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	the Lead Agency as verification that the provisions for managing unanticipated discoveries have been met.			
CULT-2	If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code and Project shall follow the procedures and protocols set for un CEQA Guidelines Section 15064.4(e)(1). If human remains are identified to be those of Native American, California Health and Safety Code 7050.5 requires the County coroner notify the NAHC within 24 hours of discovery. All reports, correspondence, and determinations regarding the discovery of human remains on the project site shall be submitted to the Lead Agency.	City of Clovis Planning	*Prior to Permits and During Construction*	
Geological Resources				
GEO-1	If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist and/or paleontologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as	City of Clovis Planning	*Prior to Permits and During Construction*	

Proposed Mitigation	Summary of Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified professional determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. If a potentially-eligible resource is encountered, then the qualified professional archaeologist and/or paleontologist, the Lead Agency, and the project proponent shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Lead Agency as verification that the provisions for managing unanticipated discoveries have been met.			
Tribal Cultural Resources				
TCR-1	If archaeological or tribal resources or materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic	City of Clovis Planning	*Prior to Permits and During Construction*	

Proposed Mitigation	Summary of Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	resources such as glass, metal, wood, brick, or structural remnants. If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Lead Agency, and the project proponent shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Lead Agency as verification that the provisions for managing unanticipated discoveries have been met.			
TCR-2	If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code and Project shall follow the procedures and protocols set for un CEQA Guidelines Section 15064.4(e)(1). If human remains are identified to be those of Native American, California Health and Safety Code 7050.5 requires the County coroner notify the NAHC within 24 hours of discovery. All reports, correspondence, and	City of Clovis Planning	*Prior to Permits and During Construction*	

Proposed Mitigation	Summary of Measure	Monitoring Responsibility	Timing	Verification (Date and Initials)
	determinations regarding the discovery of human remains on the project site shall be submitted to the Lead Agency.			

Appendix A
Air Quality and Health Risk Impact Study

SALEM
engineering group, inc.

4729 W. Jacquelyn Avenue
Fresno, California 93722
(559) 271-9700 Office
(559) 275-0827 Fax

November 2024 **Job No. 1-424-0863**

Mr. Randeep Dhillon
Axis Hotel Group
PO Box 2700
Fresno, CA 93745

Subject: **AIR QUALITY WITH HEALTH RISK ANALYSIS STUDY**
Proposed Springhill Suites & ALOFT Hotel
SWC Herndon Avenue and Peach Avenue
Fresno, California

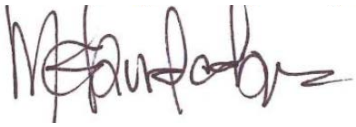
Dear Mr. Dhillon:

An Air Quality Study with Health Risk Impact Study for the above-referenced project to be located on the southwest corner of West Herndon and Peach Avenues at 460-462 West Herndon Avenue in Clovis, California (subject property) was conducted. The air quality and greenhouse gas analysis was prepared to evaluate whether the estimated criteria pollutants and greenhouse gas emissions generated from the subject project would have a significant impact to the air resources in the project area. The assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.); and the assessment is consistent with the methodology and emission factors endorsed by San Joaquin Coast Air Quality Management District (SJAQMD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA). The proposed project consists of a rezone and development of a 108 room, 67,130 square-foot Springhill Suites hotel, and a 242 room, 147,279 square-foot ALOFT/Element hotel with 359 parking spaces on approximately 7.45 acres. Exhibit B as referenced in the report demonstrates the site plan for the project.

Please refer to the following report for detailed information pertaining to the results of the air quality, greenhouse gas and health risk analysis study. We appreciate the opportunity to assist you with this project. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (909) 980-6455.

Respectfully submitted,

SALEM Engineering Group, Inc.



Maria G. Ruvalcaba, EP
Project Manager

Peach Ave & Herndon Ave Hotel

Air Quality and Health Risk Impact Study

City of Clovis, CA

Prepared for:

Ms. Maria Ruvalcaba
SALEM Engineering Group, Inc.
4729 W. Jacquelyn Avenue
Fresno, CA 93722

Prepared by:

MD Acoustics, LLC
Tyler Klassen, EIT
1197 Los Angeles Ave, Ste C-256
Simi Valley, CA 93065

Date: 11/21/2024

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GLOSSARY OF TERMS

AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SOx	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds
WRCC	Western Regional Climate Center

1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This air quality and health risk analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by San Joaquin Valley Air Pollution Control District (SJVAPCD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

1.2 Project Summary

1.2.1 Site Location

The project site is located at 460-462 W. Herndon Ave in Clovis, CA. See Exhibit A for the location. The site is surrounded by single-family residential uses to the south, a massage school to the west, Herndon Avenue to the north, and Peach Avenue to the east. The site is zoned R-1-AH (Single Family Residential - 18,000 Sq Ft) by the City of Clovis.

1.2.2 Project Description

The project consists of a rezone and development of a 108 room, 67,130 sq ft Springhill Suites hotel, and a 242 room, 147,279 sq ft ALOFT/Element hotel with 359 parking spaces on approximately 7.45 acres. Exhibit B demonstrates the site plan for the project.

Construction activities within the Project area will consist of site preparation, on-site grading, building, paving, and architectural coating. Table 1 summarizes the land use description for the Project Site.

Table 1: Land Use Summary

Land Use	Unit Amount	Size Metric
Hotel	350.00	Rooms
Parking Lot	359	Spaces

1.2.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residencies, hospitals, and schools (etc.).

The closest existing sensitive receptors (to the site area) are the single-family residential land uses located 65 feet to the south.

1.3 Executive Summary of Findings and Mitigation Measures

The following is a summary of the analysis results:

Construction-Source Emissions
Project construction-source emissions would not exceed applicable regional thresholds of significance established by the SJVAPCD.

As discussed herein, the project will comply with all applicable SJVAPCD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

Operational-Source Emissions
The project's emissions meet SJVAPCD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less-than significant.

Mitigation Measures

A. Construction Measures
The project applicant shall ensure that all applicable SJVAPCD Rules and Regulations are complied with during construction.

No construction measures are required.

B. Operational Measures to Reduce GHG Emissions
No operational measures are required.

Exhibit A

Location Map

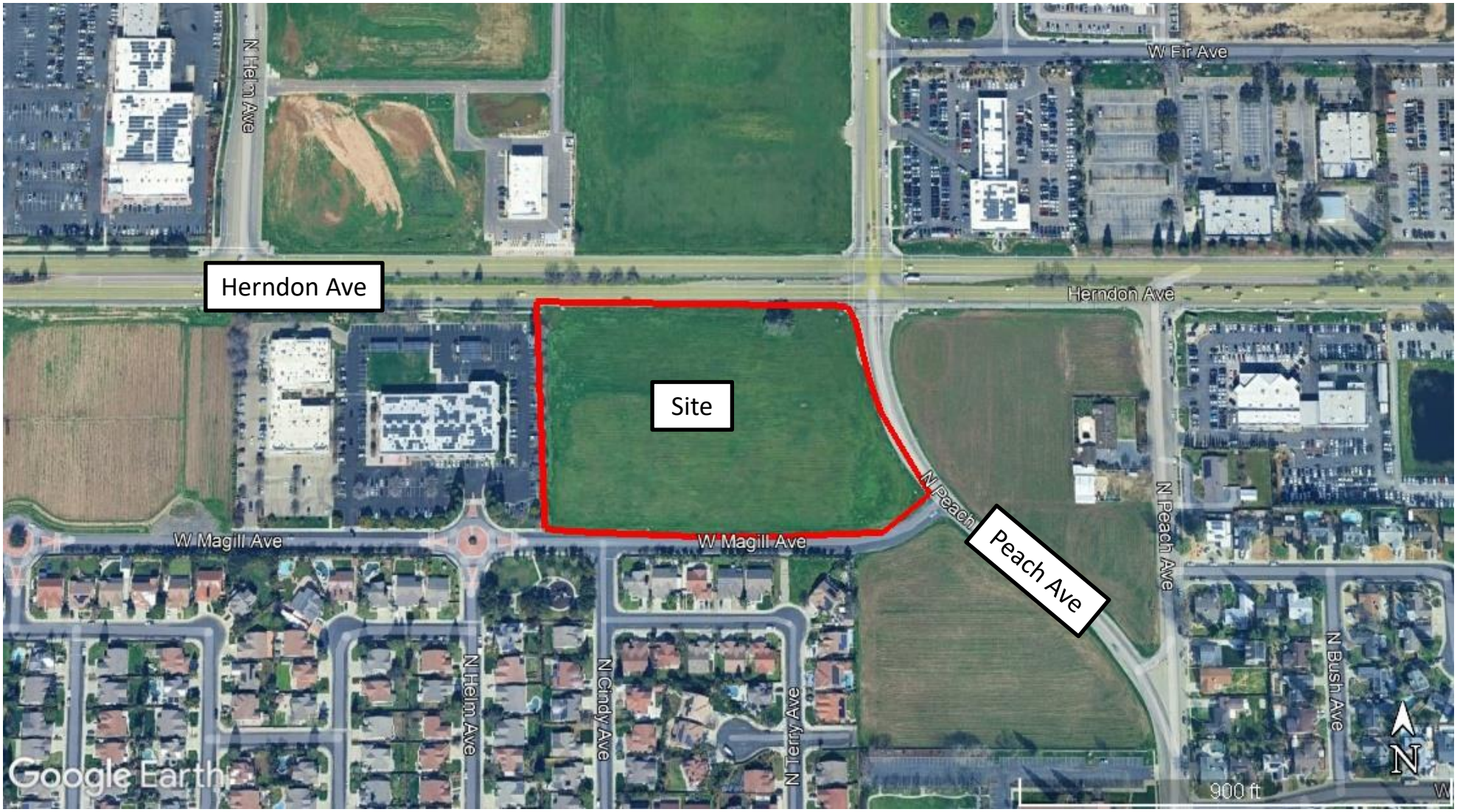
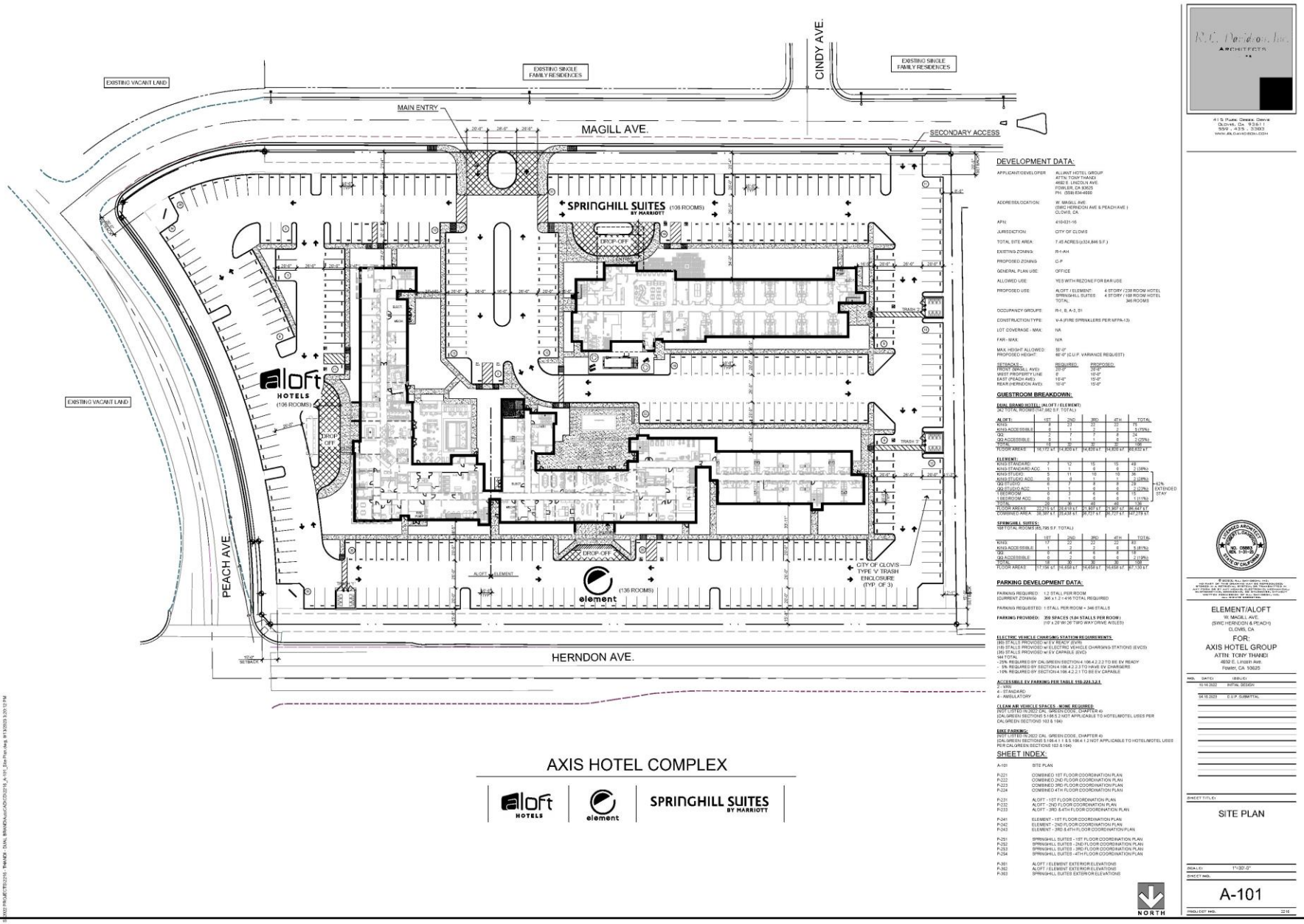


Exhibit B

Site Plan



DEVELOPMENT DATA:

APPLICANT/DEVELOPER	ALLIANT HOTEL GROUP ATTN: TONY THANDI 4692 E. LINCOLN AVE. FOWLER, CA 93625 PH.: (559) 834-4900
ADDRESS/LOCATION:	W. MAGILL AVE. (SWC HERNDON AVE & PEACH AVE.) CLOVIS, CA.
APN:	410-031-16
JURISDICTION:	CITY OF CLOVIS
TOTAL SITE AREA:	7.45 ACRES (±324,846 S.F.)
EXISTING ZONING:	R-1-AH
PROPOSED ZONING:	C-P
GENERAL PLAN USE:	OFFICE
ALLOWED USE:	YES WITH REZONE FOR BAR USE
PROPOSED USE:	ALOFT / ELEMENT: 4 STORY / 238 ROOM HOTEL SPRINGHILL SUITES: 4 STORY / 108 ROOM HOTEL TOTAL: 346 ROOMS
OCCUPANCY GROUPS:	R-1, B, A-3, S1
CONSTRUCTION TYPE:	V-A (FIRE SPRINKLERS PER NFPA-13)
LOT COVERAGE - MAX:	NA
FAR - MAX:	N/A
MAX. HEIGHT ALLOWED: PROPOSED HEIGHT:	55'-0" 60'-0" (C.U.P. VARIANCE REQUEST)

SETBACKS -	REQUIRED:	PROPOSED:
FRONT (MAGILL AVE):	20'-0"	26'-0"
WEST PROPERTY LINE	0'	10'-0"
EAST (PEACH AVE.)	10'-0"	15'-0"
REAR (HERNDON AVE):	10'-0"	15'-0"

GUESTROOM BREAKDOWN:

DUAL BRAND HOTEL (ALOFT / ELEMENT)
346 TOTAL ROOMS (197,982 S.F. TOTAL)

ALOFT:	1ST	2ND	3RD	4TH	TOTAL
KING	8	23	22	22	75
KING ACCESSIBLE	0	1	1	2	5 (75%)
QQ	2	7	7	8	24
QQ ACCESSIBLE	0	1	1	0	2 (25%)
TOTAL	10	32	31	32	106
FLOOR AREAS:	16,172 S.F.	54,826 S.F.	54,826 S.F.	49,832 S.F.	

ELEMENT:	1ST	2ND	3RD	4TH	TOTAL
KING STANDARD	7	12	15	15	49
KING STANDARD ACC.	1	1	0	0	2 (4%)
KING STUDIO	5	11	10	10	36
KING STUDIO ACC.	0	0	1	1	2 (4%)
QQ STUDIO	6	7	9	8	29
QQ STUDIO ACC.	0	0	0	1	2 (12%)
1 BEDROOM	0	1	6	6	13
1 BEDROOM ACC.	0	0	0	1	1 (11%)
TOTAL	19	32	40	40	131
FLOOR AREAS:	22,293 S.F.	62,619 S.F.	51,807 S.F.	50,647 S.F.	
COMBINED AREA:	36,397 S.F.	33,438 S.F.	28,727 S.F.	47,219 S.F.	

+62% EXTENDED STAY

SPRINGHILL SUITES:
108 TOTAL ROOMS (85,795 S.F. TOTAL)

	1ST	2ND	3RD	4TH	TOTAL
KING	17	22	22	22	83
KING ACCESSIBLE	1	2	2	2	5 (81%)
QQ	5	6	6	6	23
QQ ACCESSIBLE	0	0	0	0	2 (19%)
TOTAL	23	30	30	30	108
FLOOR AREAS:	17,156 S.F.	19,638 S.F.	19,638 S.F.	17,130 S.F.	

PARKING DEVELOPMENT DATA:

PARKING REQUIRED: 1.2 STALL PER ROOM
(CURRENT ZONING): 346 x 1.2 = 416 TOTAL REQUIRED

PARKING REQUESTED: 1 STALL PER ROOM = 346 STALLS

PARKING PROVIDED: 359 SPACES (1.04 STALLS PER ROOM)
(19' x 28'-9" (26' TWO WAY DRIVE AISLES)

ELECTRIC VEHICLE CHARGING STATION REQUIREMENTS
(80) STALLS PROVIDED w/ EV READY (EVR)
(18) STALLS PROVIDED w/ ELECTRIC VEHICLE CHARGING STATIONS (EVCS)
(26) STALLS PROVIDED w/ EV CAPABLE (EVC)
144 TOTAL
- 25% REQUIRED BY CALGREEN SECTION 4.106.4.2.2.2 TO BE EV READY
- 5% REQUIRED BY SECTION 4.106.4.2.2.3 TO HAVE EV CHARGERS
- 10% REQUIRED BY SECTION 4.106.4.2.2.1 TO BE EV CAPABLE

ACCESSIBLE EV PARKING PER TABLE 11B-228.3.2.1
2 - VAN
4 - STANDARD
4 - AMBULATORY

CLEAN AIR VEHICLE SPACES - NONE REQUIRED
(NOT LISTED IN 2022 CAL. GREEN CODE, CHAPTER 4)
(CALGREEN SECTIONS 5.106.5.2 NOT APPLICABLE TO HOTEL/MOTEL USES PER CALGREEN SECTIONS 103 & 104)

BIKE PARKING:
(NOT LISTED IN 2022 CAL. GREEN CODE, CHAPTER 4)
(CALGREEN SECTIONS 5.106.4.1.1 & 5.106.4.1.2 NOT APPLICABLE TO HOTEL/MOTEL USES PER CALGREEN SECTIONS 103 & 104)

SHEET INDEX:

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P-222	COMBINED 2ND FLOOR COORDINATION PLAN
P-223	COMBINED 3RD FLOOR COORDINATION PLAN
P-224	COMBINED 4TH FLOOR COORDINATION PLAN
P-231	ALOFT - 1ST FLOOR COORDINATION PLAN
P-232	ALOFT - 2ND FLOOR COORDINATION PLAN
P-233	ALOFT - 3RD & 4TH FLOOR COORDINATION PLAN
P-241	ELEMENT - 1ST FLOOR COORDINATION PLAN
P-242	ELEMENT - 2ND FLOOR COORDINATION PLAN
P-243	ELEMENT - 3RD & 4TH FLOOR COORDINATION PLAN
P-251	SPRINGHILL SUITES - 1ST FLOOR COORDINATION PLAN
P-252	SPRINGHILL SUITES - 2ND FLOOR COORDINATION PLAN
P-253	SPRINGHILL SUITES - 3RD FLOOR COORDINATION PLAN
P-254	SPRINGHILL SUITES - 4TH FLOOR COORDINATION PLAN
P-361	ALOFT / ELEMENT EXTERIOR ELEVATIONS
P-362	ALOFT / ELEMENT EXTERIOR ELEVATIONS
P-363	SPRINGHILL SUITES EXTERIOR ELEVATIONS

NORTH

R.C. Davidson, Inc. ARCHITECTS
41 S. Park Circle Drive
Clovis, Ca. 93611
559 . 435 . 3383

ELEMENT/ALOFT
W. MAGILL AVE.
(SWC HERNDON & PEACH)
CLOVIS, CA.
FOR:
AXIS HOTEL GROUP
ATTN: TONY THANDI
4692 E. Lincoln Ave.
Fowler, CA 93625

NO.	DATE	ISSUE
	12.16.2022	INITIAL SESSION
	04.10.2023	C.U.P. SUBMITTAL

SHEET TITLE:
SITE PLAN

SCALE: 1"=30'-0"
SHEET NO.
A-101
PROJECT NO. 2216

2.0 Regulatory Framework and Background

2.1 Air Quality Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates at the air basin level.

2.1.1 National and State

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to project the public health.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. See http://www.arb.ca.gov/research/aaqs/aaqs.htm for additional information on criteria pollutants and air quality standards.

The federal and state ambient air quality standards are summarized in Table 2 and can also be found at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

Table 2: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentrations[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O3)	1-Hour	0.09 ppm	Ultraviolet Photometry	- -	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm		0.070 ppm (147 µg/m³)		
Respirable Particulate Matter (PM10)[8]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µ/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		- -		
Fine Particulate Matter (PM2.5)[8]	24-Hour	- -	- -	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 µg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 µg/m³)	- -	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 µg/m³)		9 ppm (10 µg/m³)	- -	
	8-Hour (Lake Tahoe)	6 ppm (7 µg/m³)		- -	- -	
Nitrogen Dioxide (NO_2)[9]	1-Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	- -	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (357 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	- -	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	- -		- -	0.5 ppm (1300 mg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[10]	- -	
	Annual Arithmetic Mean	- -		0.130ppm (for certain areas)[10]	- -	
Lead[11,12]	30 Day Average	1.5 µg/m³	Atomic Absorption	- -		
	Calendar Qrtr	- -		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	- -		0.15 µg/m³		
Visibility Reducing Particles[13]	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Notes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

10. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

2.1.2 San Joaquin Valley Air Pollution Control District

The SJVAPCD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SJVAB. The SJVAPCD jurisdiction includes all of Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings, and Tulare Counties, and the San Joaquin Valley portion of Kern County.

Air Quality Plans

The SJVAPCD has prepared several air quality attainment plans to achieve the O3 and PM standards, the most recent of which include the 2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard (SJVAPCD 2020a); 2016 Plan for the 2008 8-Hour Ozone Standard (SJVAPCD 2016a); 2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan (SJVAPCD 2014a); 2013 Plan for the Revoked 1-Hour Ozone Standard (SJVAPCD 2013); 2007 PM10 Maintenance Plan and Request for Redesignation (SJVAPCD 2007a); 2012 PM2.5 Plan

(SJVAPCD 2012); 2015 Plan for the 1997 PM2.5 Standard (SJVAPCD 2015b); 2016 Moderate Area Plan for the 2012 PM2.5 Standard (SJVAPCD 2016b); and the 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards (SJVAPCD 2020b). The following sections summarize key elements of these and other recent air quality attainment plans.

Extreme 1-Hour Ozone Attainment Demonstration Plan

The Extreme 1-Hour Ozone Attainment Demonstration Plan, adopted by the SJVAPCD Governing Board October 8, 2004, sets forth measures and emission-reduction strategies designed to attain the federal 1-hour O3 standard by November 15, 2010, as well as an emissions inventory, outreach, and rate of progress demonstration. This plan was approved by the EPA on March 8, 2010; however, the EPA's approval was subsequently withdrawn effective November 26, 2012, in response to a decision issued by the U.S. Court of Appeals for the Ninth Circuit (Sierra Club v. EPA, 671 F.3d 955) remanding EPA's approval of these SIP revisions. Concurrent with the EPA's final rule, CARB withdrew the 2004 plan. The SJVAPCD developed a new plan for the 1-hour O3 standard, the 2013 Plan for the Revoked 1-Hour Ozone Standard, which it adopted in September 2013.

2007 8-Hour Ozone Plan

The 2007 8-Hour Ozone Plan, adopted by the Governing Board on April 30, 2007, sets forth measures and a "dual path" strategy to attain the federal 1997 8-hour O3 standard by 2023 for the SJVAB by reducing emissions of O3 and PM precursors (SJVAPCD 2007b). The plan also includes provisions for improved pollution control technologies for mobile and stationary sources, as well as an increase in state and federal funding for incentive-based measures to reduce emissions. All local measures would have been adopted by the SJVAPCD before 2012. This plan was approved by the EPA on April 30, 2012. On November 26, 2012, however, the EPA withdrew its determination that the plan satisfied the federal Clean Air Act requirements regarding emissions growth caused by growth in vehicle miles traveled. All other determinations in the EPA's March 1, 2012, rule approving the plan remain unchanged and in effect. The SJVAPCD is currently in the process of developing an O3 plan to address EPA's 2008 8-hour O3 standard, with attainment required by 2032.

2009 Reasonably Available Control Technology State Implementation Plan

On April 16, 2009, the Governing Board adopted the Reasonably Available Control Technology Demonstration for Ozone State Implementation Plans (2009 RACT SIP) (SJVAPCD 2009). In part, the 2009 RACT SIP satisfied the commitment by the SJVAPCD for a new RACT analysis for the 1-hour O3 plan (see discussion of the EPA withdrawal of approval in the Extreme 1-Hour Ozone Attainment Demonstration Plan summary above) and was intended to prevent all sanctions that could be imposed by the EPA for failure to submit a required SIP revision for the 1-hour O3 standard. With respect to the 8-hour standard, the plan also assesses the SJVAPCD's rules based on the adjusted major source definition of 10 tons per year (due to the SJVAB's designation as an extreme O3 nonattainment area), evaluates SJVAPCD rules against new Control Techniques Guidelines promulgated since August 2006, and reviews additional rules and rule amendments that had been adopted by the Governing Board since August 17, 2006, for RACT consistency.

2013 Plan for the Revoked 1-Hour Ozone Standard

The SJVAPCD developed a plan for EPA's revoked 1-hour O3 standard after the EPA withdrew its approval of the 2004 Extreme 1-Hour Ozone Attainment Demonstration Plan as a result of litigation. As a result of the litigation, the EPA reinstated previously revoked requirements for 1-hour O3 attainment plans. The 2013 plan addresses those requirements, including a demonstration of implementation of reasonably available control measures and a demonstration of a rate of progress averaging 3% annual reductions of ROG or NOx emissions every 3 years. The 2013 Plan for the Revoked 1-Hour Ozone Standard was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013).

2014 RACT SIP

On June 19, 2014, the Governing Board adopted the 2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan (2014 RACT SIP) (SJVAPCD 2014a). The 2014 RACT SIP includes a demonstration that the SJVAPCD rules implement RACT. The plan reviews each of the NOx reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed RACT. The plan's analysis of further ROG reductions through modeling and technical analyses demonstrates that added ROG reductions will not advance SJVAB's O3 attainment. Each ROG (i.e., VOC) rule evaluated in the 2009 RACT SIP, however, has been subsequently approved by the EPA as meeting RACT within the last 2 years. The O3 attainment strategy, therefore, focuses on further NOx reductions.

SJVAPCD 2016 Plan for the 2008 8-Hour Ozone Standard

The SJVAPCD adopted the 2016 Plan for the 2008 8-Hour Ozone Standard in June 2016. This plan demonstrates the practicable and expeditious attainment of the 75 parts per billion 8-hour O3 standard (SJVAPCD 2016a).

SJVAPCD 2016 Moderate Area Plan for the 2012 PM2.5 Standard

The SJVAPCD adopted the 2016 Moderate Area Plan for the 2012 PM2.5 Standard on September 15, 2016. This plan addresses the EPA federal annual PM2.5 standard of 12 micrograms per cubic meter (µg/m3), established in 2012. This plan includes an attainment impracticability demonstration and request for reclassification of the SJVAB from Moderate nonattainment to Serious nonattainment (SJVAPCD 2016b).

SJVAPCD 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards on November 15, 2018. This plan addresses the EPA federal 1997 annual PM2.5 standard of 15 µg/m³ and 24-hour PM2.5 standard of 65 µg/m³, the 2006 24-hour PM2.5 standard of 35 µg/m³, and the 2012 annual PM2.5 standard of 12 µg/m³. This plan demonstrates attainment of the federal PM2.5 standards as expeditiously as practicable (SJVAPCD 2018a).

2020 RACT Demonstration

The SJVAPCD adopted the 2020 RACT Demonstration for the 2015 8-Hour Ozone Standard on June 18, 2020. San Joaquin Valley is classified as an Extreme nonattainment area for the 2015 O3 standard. The 2020 RACT Demonstration includes a comprehensive evaluation of all NOx and ROG SJVAPCD rules to ensure that each rule meets or exceeds RACT. The 2020 RACT Demonstration fulfills Clean Air Act requirements and demonstrates that all federal RACT requirements continue to be satisfied in San Joaquin Valley (SJVAPCD 2020a).

Particulate Matter Attainment Plans

2007 PM10 Maintenance Plan and Request for Redesignation

On September 20, 2007, the Governing Board approved the 2007 PM10 Maintenance Plan and Request for Redesignation (SJVAPCD 2007a). After achieving compliance with the annual and 24-hour NAAQS for PM10 during the period from 2003 to 2006,[1] the SJVAPCD prepared the 2007 PM10 Maintenance Plan and Request for Redesignation. The plan includes future emission estimates through 2020 and, based on modeling, projects that SJVAB will continue to attain the PM10 NAAQS through 2020. The plan does not call for adoption of new control measures. Measures called for in the 2007 8-Hour Ozone Plan and 2008 PM2.5 Plan (discussed below) will also produce PM10 benefits; however, the plan does include a contingency plan if future PM10 levels were to exceed the NAAQS. It also includes a request that the EPA redesignate the SJVAB to attainment status for the PM10 NAAQS. On October 25, 2007, CARB approved the SJVAPCD's plan with modifications to the transportation conformity budgets. On September 25, 2008, the EPA redesignated the SJVAB to attainment for the PM10 NAAQS and approved the PM10 maintenance plan.

2008 PM2.5 Plan

The SJVAPCD Governing Board adopted the 2008 PM2.5 Plan on April 30, 2008 (SJVAPCD 2008). This plan is designed to assist the SJVAB in attaining all PM2.5 standards, including the 1997 federal standards, the 2006 federal standards, and the state standard, as soon as possible. On July 13, 2011, the EPA issued a proposed rule partially approving and disapproving the 2008 PM2.5 Plan. Subsequently, on November 9, 2011, the EPA issued a final rule approving most of the plan with an effective date of January 9, 2012. However, the EPA disapproved the plan's contingency measures because they would not provide sufficient emissions reductions.

2012 PM2.5 Plan

Approved by the Governing Board on December 20, 2012, the 2012 PM2.5 Plan addresses attainment of EPA's 24- hour PM2.5 standard of 35 µg/m³ established in 2006. In addition to reducing direct emissions of PM2.5, this plan focuses on reducing emissions of NOx, which is a predominant pollutant in the

[1] Attainment is achieved if the 3-year annual average PM10 concentration is less than or equal to 50 µg/m3 and the expected 24- hour exceedance days is less than or equal to 1.

formation of PM2.5 in the SJVAB. The plan relies on a multilevel approach to reducing emissions through SJVAPCD efforts (industry, the general public, employers, and small businesses) and state/federal efforts (passenger vehicles, heavy-duty trucks, and off-road sources), as well as SJVAPCD and state/federal incentive programs to accelerate replacement of on- and off-road vehicles and equipment (SJVAPCD 2012).

2015 Plan for the 1997 PM2.5 Standard

The Governing Board adopted the 2015 Plan for the 1997 PM2.5 Standard on April 16, 2015 (SJVAPCD 2015b). This plan addresses the EPA's annual PM2.5 standard of 15 µg/m3 and 24-hour PM2.5 standard of 65 µg/m3 established in 1997. Although nearly achieving the 1997 standards, the SJVAB experienced higher PM2.5 levels in winter 2013–2014 due to the extreme drought, stagnation, strong inversions, and historically dry conditions; thus, the SJVAPCD was unable to meet the attainment date of December 31, 2015. Accordingly, this plan also contains a request for a one-time extension of the attainment deadline for the 24-hour standard to 2018 and the annual standard to 2020. The plan builds on past development and implementation of effective control strategies. Consistent with EPA regulations for PM2.5 plans to achieve the 1997 standards, the plan contains Most Stringent Measures, Best Available Control Measures, and additional enforceable commitments for further reductions in emissions, and ensures expeditious attainment of the 1997 standard.

2016 Moderate Area Plan for the 2012 PM2.5 Standard

On September 15, 2016, the Governing Board adopted the 2016 Moderate Area Plan for the 2012 PM2.5 Standard (SJVAPCD 2016b). This plan addresses the federal mandates for areas classified as "moderate nonattainment" for the 2012 PM2.5 NAAQS of 12 µg/m3. Consistent with EPA's PM2.5 Implementation Rule, the plan satisfies the mandate to submit a moderate nonattainment plan to EPA by October 2016, demonstrates impracticability of attaining the 2012 PM2.5 standard by the moderate nonattainment deadline of 2021, includes a request to reclassify San Joaquin Valley to a "serious nonattainment" area for the 2012 PM2.5 standard, satisfies all federal Clean Air Act requirements for moderate nonattainment areas, and demonstrates that emissions are continuing to be reduced in San Joaquin Valley.

2017 Particulate Matter Plans

The SJVAPCD is in the process of developing an attainment strategy to address the 1997, 2006, and 2012 PM2.5 standards and a plan to demonstrate maintenance of the 1987 PM10 standard, as required under the federal Clean Air Act.

Senate Bill 656 Particulate Matter Control Measure Implementation Schedule

Senate Bill (SB) 656 was enacted in 2003 and codified as California Health and Safety Code Section 39614. SB 656 seeks to reduce exposure to PM10 and PM2.5 and to make further progress toward attainment of the NAAQS and CAAQS for PM10 and PM2.5. SB 656 required CARB, in consultation with local air districts, to develop and adopt lists of "the most readily available, feasible, and cost-effective" PM control measures. Subsequently, the air districts were required to adopt implementation schedules for

the relevant control measures in their districts. In June 2005, the SJVAPCD adopted its SB 656 Particulate Matter Control Measure Implementation Schedule. The SJVAPCD analysis of the CARB list concluded that all but one of the measures that apply to SJVAPCD sources had been implemented or were in one of the SJVAPCD's attainment plans for adoption within the next 2 years. The remaining measure pertains to a future amendment of a rule for gasoline transfer into stationary storage containers, delivery vessels, and bulk plants.

Applicable Rules

The SJVAPCD's primary means of implementing air quality plans is by adopting and enforcing rules and regulations. Stationary sources within the jurisdiction are regulated by the SJVAPCD's permit authority over such sources and through its review and planning activities. Unlike stationary source projects, which encompass very specific types of equipment, process parameters, throughputs, and controls, air emissions sources from land use development projects are mainly mobile sources (traffic) and area sources (small dispersed stationary and other non-mobile sources), including exempt (i.e., no permit required) sources such as consumer products, landscaping equipment, furnaces, and water heaters. Mixed-use land development projects may include nonexempt sources, including devices such as small to large boilers, stationary internal combustion engines, gas stations, and asphalt batch plants. Notwithstanding nonexempt stationary sources, which would be permitted on a case-by-case basis, SJVAPCD Regulations VIII and IX generally apply to land use development projects and are described below.

Regulation IV – Prohibitions

- Rule 4102: Nuisance – Prohibits discharge of air contaminants or other materials from any source which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.

- Rule 4601: Architectural Coatings – The purpose of the rule is to limit VOC emissions from architectural coatings. This rule specifies architectural coatings storage, cleanup, and labeling requirements.

- Rule 4641: Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations – The purpose of this rule is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations.

Regulation VIII – Fugitive PM10 Prohibition

- Rule 8021: Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities – The purpose of this rule is to limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities. The rule outlines Dust Control Plan requirements for certain applicable construction activities.

- Rule 8031: Bulk Materials – The purpose of the rule is to limit fugitive dust emissions from the outdoor handling, storage, and transport of bulk materials.

- Rule 8041: Carryout and Trackout – The purpose of this rule is to prevent or limit fugitive dust emissions from carryout and trackout.

- Rule 8051: Open Areas – The purpose of this rule is to limit fugitive dust emissions from open areas.

- Rule 8061: Paved and Unpaved Roads – The purpose of this rule is to limit fugitive dust emissions from paved and unpaved roads by implementing control measures and design criteria.

- Rule 8071: Unpaved Vehicle/Equipment Traffic Areas – The purpose of this rule is to limit fugitive dust emissions from unpaved vehicle and equipment traffic areas.

Regulation IX – Mobile and Indirect Sources

- Rule 9110: General Conformity – The rule specifies the criteria and procedures for determining the conformity of federal actions with the San Joaquin Valley Unified Air Pollution Control District's air quality implementation plan.

- Rule 9120: Transportation Conformity – The rule sets forth the principles for determining conformity of transportation plans, programs, and projects which are developed, funded, or approved by the United States Department of Transportation (DOT), and by metropolitan planning organizations (MPOs) or other recipients of funds under Title 23 U.S.C. or the Federal Transit Act. The rule sets forth policy, criteria, and procedures for demonstrating and assuring conformity of such activities to an applicable implementation plan developed pursuant to the Clean Air Act.

- Rule 9410: Employer Based Trip Reduction – The purpose of this rule is to reduce vehicle miles traveled (VMT) from private vehicles used by employees to commute to and from their worksites to reduce emissions of oxides of nitrogen, volatile organic compounds, and particulate matter.

- Rule 9510: Indirect Source Review (ISR) – The purpose of this rule is to fulfill the District's emission reduction commitments in the PM10 and Ozone Attainment Plans, achieve emission reductions from the construction and use of development projects through design features and on-site measures, and provide a mechanism for reducing emissions from the construction of and use of development projects through off- site measures.

- Rule 9610: State Implementation Plan Credit for Emission Reductions Generated through Incentive Programs – The purpose of this rule is to provide an administrative mechanism for the District to achieve credit towards State Implementation Plan requirements for emission reductions achieved in the San Joaquin Valley Air Basin through incentive programs administered by the District, United States Department of Agriculture Natural Resources Conservation Service, or CARB.

Rule 9510: Indirect Source Review

The ISR rule, which was adopted December 15, 2005, and went into effect March 1, 2006, requires developers of new residential, commercial, and some industrial projects to reduce NOx and PM10 emissions generated by their projects. Pursuant to Rule 9510, the purpose of the ISR rule is to reduce emissions of NOx and PM10 from new land development projects. In general, development contributes to air pollution in the SJVAB by increasing the number of vehicles and vehicle miles traveled. ISR applies to development projects that require discretionary approval from the lead agency. The ISR rule also applies to transportation and transit projects with construction exhaust emissions that equal or exceed 2 tons per year of NOx or PM10. The ISR rule requires submittal of an air impact assessment application no later than the date on which the application is made for a final discretionary approval from the public agency. The air impact assessment contains the information necessary to calculate construction and operational emissions of a development project.

Section 6.0 of the ISR rule outlines general mitigation requirements for developments that include reduction in construction emissions of 20% of the total construction NOx emissions, and 45% of the total construction PM10 exhaust emissions. The rule also requires the Project to reduce operational NOx emissions by 33.3% and operational PM10 emissions by 50% compared to the unmitigated baseline. Section 7.0 of the ISR rule includes fee schedules for construction or operational excess emissions of NOx or PM10—those emissions above the goals identified in Section 6.0 of the rule. Monies collected from this fee are used by the SJVAPCD to fund emissions reduction projects in the SJVAB on behalf of that project.

Currently, the SJVAPCD is proposing revisions to Rule 9510 that may affect the applicability mechanism of the ISR rule to ensure that the rule applies consistently throughout San Joaquin Valley, as well as clarification and enhancement of several other aspects of the rule.

Rule 9610: State Implementation Plan Credit for Emission Reductions Generated through Incentive Programs

Rule 9610 provides an administrative mechanism for the SJVAPCD to receive credit toward SIP requirements for emissions reductions achieved in the SJVAB through incentive programs administered by the SJVAPCD, United States Department of Agriculture Natural Resources Conservation Service, or CARB. On April 9, 2015, the EPA finalized a limited approval and limited disapproval (for a minor administrative error) of Rule 9610 as a revision to the California SIP. Additional documentation regarding the effectiveness of SJVAPCD's incentive programs can be found in 2015 Annual Demonstration Report SIP Credit for Emission Reductions Generated Through Incentive Programs (SJVAPCD 2015c).

2.1.3 City of Clovis

City of Clovis General Plan

OVERARCHING GOAL: Improved air quality through effective land use and transportation planning, regional cooperation, and a reduction in emissions.

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

Policy 1.1 Land use and transportation. Reduce greenhouse gas and other local pollutant emissions through mixed use and transit-oriented development and well-designed transit, pedestrian, and bicycle systems.

Policy 1.2 Sensitive Land Uses. Prohibit, without sufficient mitigation, the future siting of sensitive land uses within the distances of emission sources as defined by the California Air Resources Board.

Policy 1.3 Construction activities. Encourage the use of best management practices during construction activities to reduce emissions of criteria pollutants as outlined by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Policy 1.4 City buildings. Require that municipal buildings be designed to exceed energy and water conservation and greenhouse gas reduction standards set in the California Building Code.

Policy 1.5 Fleet operations. Purchase low- or zero-emission vehicles for the city's fleet where feasible. Use clean fuel sources for city-owned mass transit vehicles, automobiles, trucks, and heavy equipment where feasible.

Policy 1.6 Alternative fuel infrastructure. Encourage public and private activity and employment centers to incorporate electric charging and alternative fuel stations.

Policy 1.7 Employment measures. Encourage employers to provide programs, scheduling options, incentives, and information to reduce vehicle miles traveled by employees.

Policy 1.8 Trees. Maintain or plant trees where appropriate to provide shade, absorb carbon, improve oxygenation, slow stormwater runoff, and reduce the heat island effect.

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

Policy 2.1 Regional coordination. Support regional efforts to reduce air pollution (criteria air pollutants and greenhouse gas emissions) and collaborate with other agencies to improve air quality at the emission source and reduce vehicle miles traveled.

Policy 2.2 Cross-jurisdictional issues. Collaborate with regional agencies and surrounding jurisdictions to address cross-jurisdictional transportation and air quality issues.

Policy 2.3 Valleywide programs. Establish parallel air quality programs and implementation measures with other communities across the San Joaquin Valley.

Policy 2.4 Public participation. Encourage participation of local citizens, the business community, and interested groups and individuals in air quality planning and implementation.

Policy 2.5 Public education. Promote programs that educate the public about regional air quality issues and solutions.

Policy 2.6 Innovative mitigation. Encourage innovative mitigation measures to reduce air quality impacts by coordinating with the SJVAPCD, project applicants, and other interested parties.

3.0 Setting

3.1 Existing Physical Setting

The project site is located in the City of Clovis within the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi mountains to the south.

3.1.1 Local Climate and Meteorology

The SJVAB has an inland Mediterranean climate with warm, dry summers, relatively cool nights, and cooler winters with limited rainfall. Winters are mild with light rains and frequent heavy fog from December to January. In the SJVAB, the surrounding mountains restrict air movement and impede the dispersion of pollutants out of the basin. The SJVAB also experiences temperature inversions frequently throughout the year, which restrict vertical dispersion of air pollutants; an inversion occurs when a mass of warm dry air sits over cooler air near the ground, essentially trapping the air mass below. In addition, the Valley's long, hot summers, and stagnant, foggy winters, provide ideal conditions for the formation of photochemical oxidants and reduce dispersion, respectively.

Wind speed and direction determine the dispersion of air pollutants. Marine air comes into the basin from the Sacramento River–San Joaquin River Delta, although most air movement is restricted by the surrounding mountains. Winds from the Bay Area flow northeasterly into the Sacramento Valley and southward into San Joaquin County. This results in weak winds from the north and northeast, with an average speed of seven miles per hour. During the summer, wind from the north flows south and southeasterly through the Valley, through the Tehachapi Pass and into the Southeast Desert Air Basin. Thus, emissions from the San Francisco Bay Area and the Broader Sacramento air basins are transported into San Joaquin County and the SJVAB. Emissions in the San Joaquin Valley are then transported to the Southeast Desert and Great Basin Valley Air Basins. In late fall and winter, cold air from the mountains flows into the Valley. This results in winds from the south that flow north and northwesterly. Some emissions from San Joaquin County are transported to the broader Sacramento air basin during these times. However, the winds are relatively light, limiting the dispersion of CO and other pollutants.

In the late fall and winter, when there is little interchange of air between the valley and the coast, humidity is high following winter rains, and temperature inversions at ground level persist over the entire valley for several weeks, air movement is virtually absent and radiation fog, known as tule fog, forms. This is typically when peak concentrations of carbon monoxide (CO), oxides of nitrogen (NOX), and particulate matter (PM) occur.

The temperature and precipitation levels for Fresno are in Table 3. Table 3 shows that July is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table 3: Meteorological Summary

Month	Temperature (˚F)		Average Precipitation (inches)
	Average High	Average Low	
January	54.4	37.6	2.13
February	61.5	40.6	1.88
March	66.9	43.7	1.94
April	74.6	47.8	1.00
May	83.4	54.1	0.37
June	91.6	60.2	0.15
July	98.1	65.4	0.01
August	96.2	63.7	0.01
September	90.5	59.3	0.17
October	79.8	50.9	0.53
November	65.2	42.2	1.17
December	54.6	37.2	1.58
Annual Average	**76.4**	**50.2**	**10.9**

Notes:
[1] Source : https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?cafres+nca

3.1.2 Local Air Quality

The SJVAPCD maintains an air-monitoring network that measures levels of several air pollutants throughout the air basin. Since not all air monitoring stations measure all of the tracked pollutants, the data from the following two monitoring stations, listed in the order of proximity to the project site have been used. The nearest air monitoring stations to the project site with available data is the Fresno – Drummond Street Station monitoring station (Drummond Street Station) located approximately 9.5 miles south of the project site at 4706 E Drummond Street. Table 4 presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

<Table 4, next page>

Table 4: Local Area Air Quality Levels

Pollutant (Standard)[2]	Year		
	2020	2021	2022
Ozone:			
Maximum 1-Hour Concentration (ppm)	0.123	0.125	0.111
Days > CAAQS (0.09 ppm)	**11**	**9**	**3**
Maximum 8-Hour Concentration (ppm)	0.091	0.099	0.089
Days > NAAQS (0.07 ppm)	**27**	**39**	**8**
Days > CAAQS (0.070 ppm)	**27**	**41**	**8**
Carbon Monoxide:			
Maximum 8-Hour Concentration (ppm)	*	*	*
Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide:			
Maximum 1-Hour Concentration (ppm)	0.067	0.065	0.058
Days > NAAQS (0.25 ppm)	0	0	0
Inhalable Particulates (PM10):			
Maximum 24-Hour Concentration (µg/m^3)	350.4	151.8	73.4
Days > NAAQS (150 µg /m^3)	**1**	**0**	**0**
Days > CAAQS (50 µg /m^3)	**25**	**20**	**133**
Annual Average (ug/m^3)	59.9	43.8	31.2
Annual > NAAQS (50 µg /m^3)	**Yes**	No	No
Annual > CAAQS (20 µg /m^3)	**Yes**	**Yes**	**Yes**
Ultra-Fine Particulates (PM2.5):			
Maximum 24-Hour Concentration (µg /m^3)	163.2	99.9	53.3
Days > NAAQS (35 µg /m^3)	45	30	14
Annual Average (µg /m^3)	19.1	15.6	12.9
Annual > NAAQS (15 µg /m3)	**Yes**	**Yes**	**Yes**
Annual > CAAQS (12 µg /m^3)	**Yes**	**Yes**	**Yes**

[1.] Source: obtained from https://www.arb.ca.gov/adam/topfour/topfour1.php
[2] CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million; µg/m^3 = micrograms/cubic meter
[3] No data available.

The monitoring data presented in Table 4 shows that ozone and particulate matter (PM10) are the air pollutants of primary concern in the project area, which are detailed below.

Ozone

During the 2020 to 2022 monitoring period, the State 1-hour concentration standard for ozone were exceeded between 3 and 11 days each year at the Drummond Street Station. The State 8-hour ozone standard has been exceeded between 8 and 41 days each year over the past three years at the Drummond Street Station. The Federal 8-hour ozone standard has been exceeded between 8 and 39 days each year of the past three years at the Drummond Street Station.

Carbon Monoxide

CO is another important pollutant that is due mainly to motor vehicles. The Drummond Street Station did not record an exceedance of the state or federal 8-hour CO standards for the last three years.

Nitrogen Dioxide
The Drummond Street Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Particulate Matter
During the 2020 to 2022 monitoring period, the State 24-hour concentration standard for PM10 was exceeded between 20 and 133 days each, while the Federal 24-hour standard was exceeded one day in 2020 at the Drummond Street Station. Over the same time period the Federal annual standard for PM10 was exceeded in 2020 at the Drummond Street Station and the State annual standard was exceeded each year.

The Federal 24-hour standard for PM2.5 has been exceeded between 14 and 45 days each year over the last three years at the Drummond Street Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

3.1.3 Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard. Table 5 lists the attainment status for the criteria pollutants in the basin.

As indicated below in Table 5, the SJVAPCD has been designated by the EPA as a non-attainment area for ozone (O3) and suspended particulates (PM2.5). Currently, the Basin is in attainment with the ambient air quality standards for carbon monoxide (CO), lead, sulfur dioxide (SO2), nitrogen dioxide (NO2) and particulate matter (PM2.5).

Table 5: Attainment Status of SJVAPCD[1,2]

Pollutant	Federal Designation	State Designation
1-Hour Ozone	Revoked	Nonattainment/Severe
8-Hour Ozone	Nonattainment/Extreme	Nonattainment
CO	Unclassified/Attainment	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
Lead	Unclassified/Attainment	Attainment
SO2	Unclassified/Attainment	Attainment
NO2	Unclassified/Attainment	Attainment

Notes:

[1] SJVAPCD = San Joaquin Valley Air Pollution Control District

[2] Source: https://ww2.valleyair.org/air-quality-information/ambient-air-quality-standards-valley-attainmnet-status/.

4.0 Modeling Parameters and Assumptions

4.1 Construction

Emissions are estimated using the CalEEMod (Version 2022.1.1.28) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.

The CalEEMod program uses the EMFAC2021 computer program to calculate the emission rates specific for the Fresno region of the SJVAPCD for construction-related employee vehicle trips and the OFFROAD2017 computer program to calculate emission rates for heavy truck operations. EMFAC2021 and OFFROAD2017 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak annual air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed project as indicated in Table 1. Per the site plan, the overall area to be disturbed during construction of the proposed project was estimated to be approximately 7.45 acres. Construction is estimated to occur over approximately 14 months beginning in early 2025. The phases of the construction activities which have been analyzed below are: 1) site preparation, 2) grading, 3) building, 4) paving, and 5) architectural coating. For details on construction modeling and construction equipment for each phase, please see Appendix A.

4.2 Operations

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, from landscaping emissions, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

Mobile Sources
Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The project will generate approximately 2,797 trips per day. The program then applies the emission factors for each trip which is provided by the EMFAC2021 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A for details.

Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

Per SJVAPCD Rule 4601, the architectural coatings that would be applied after January 1, 2022 will be limited to an average of 50 grams per liter or less.

Energy Usage

2022.1.1.28 CalEEMod defaults were utilized.

5.0 Thresholds of Significance

5.1 Air Quality Thresholds of Significance

5.1.1 CEQA Guidelines for Air Quality

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA Guidelines Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the project are, therefore, evaluated according to thresholds developed by SJVAPCD in their CEQA Guidelines.

5.1.2 Regional Significance Thresholds

According to the SJVAPCD, a project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable SJVAPCD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and it is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan).

Violation of Air Quality Standards or Substantial Contribution to Air Quality Violations. The SJVAPCD currently recommends that projects with construction-related and/or operational emissions that exceed any of the following emissions thresholds listed in Table 6 should be considered significant:

Table 6: SJVAPCD Air Quality Significance Thresholds

Pollutant	Annual Thresholds (tons/year)
NOx	10
VOC	10
PM10	15
PM2.5	15
SOx	27
CO	100

For the purposes to this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SJVAPCD significance thresholds identified above in Table 6.

6.0 Air Quality Emissions Impact

6.1 Construction Air Quality Emissions Impact

The latest version of CalEEMod was used to estimate the onsite and offsite construction emissions. The emissions incorporate Regulation VIII. Regulation VIII (fugitive dust) is not considered a mitigation measure as the project by default is required to incorporate this rule during construction.

6.1.1 Regional Construction Emissions

The construction emissions for the project would not exceed SJVAPCD annual emissions thresholds as demonstrated in Table 7, and therefore would be considered less than significant.

Table 7: Regional Significance - Construction Emissions (tons/year)

Activity	Pollutant Emissions (tons/year)					
	VOC	NOx	CO	SO_2	PM10	PM2.5
2025	0.19	1.54	2.03	0.00	0.30	0.16
2026	0.55	0.20	0.30	0.00	0.02	0.01
Total	**0.74**	**1.74**	**2.32**	**0.00**	**0.32**	**0.17**
SJVAPCD Thresholds	**10**	**10**	**100**	**27**	**15**	**15**
Exceeds Thresholds	No	No	No	No	No	No

Notes:
[1] Source: CalEEMod Version 2022.1.1.28
[2] On-site emissions from equipment operated on-site that is not operated on public roads. On-site grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with SJVAPCD Regulation VIII.
[3] Off-site emissions from equipment operated on public roads.
[4] Construction, architectural coatings and paving phases may overlap.

6.1.3 Odors

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

6.1.4 Construction-Related Toxic Air Contaminant Impact

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment

(HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or non-cancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure.

Given the relatively limited number of heavy-duty construction equipment and construction schedule, the proposed project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

6.2 Operational Air Quality Emissions Impact

6.2.1 Regional Operational Emissions

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2025, which is a conservative estimate of the opening year for the project. The summer and winter emissions created by the proposed project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 8.

Table 8: Regional Significance - Operational Emissions (tons/year)

Activity	Pollutant Emissions (tons/year)[1]					
	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources[2]	1.03	0.01	0.84	0.00	0.00	0.00
Energy Usage[3]	0.02	0.38	0.32	0.00	0.03	0.03
Mobile Sources[4]	1.65	1.39	9.56	0.02	1.87	0.49
Total Emissions	**2.70**	**1.78**	**10.71**	**0.02**	**1.90**	**0.52**
SJVAPCD Annual Thresholds	**25**	**25**	**100**	**25**	**15**	**12**
Exceeds Threshold?	No	No	No	No	No	No

Notes:
[1] Source: CalEEMod Version 2022.1.1.28
[2] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
[3] Energy usage consists of emissions from on-site natural gas usage.
[4] Mobile sources consist of emissions from vehicles and road dust.

Table 8 provides the project's unmitigated operational emissions. Table 8 shows that the project does not exceed the SJVAPCD regional emissions thresholds. Therefore, operational emissions are considered to be less than significant.

6.2.2 Operations-Related Toxic Air Contaminant Impacts

The proposed project involves the construction of two new hotels would be located 65 feet from the nearest sensitive receptor (single-family residences). The primary toxic air contaminant (TAC) of concern from the project would be diesel particulate matter (DPM) from vehicles onsite. In accordance with the

SJVAPCD health risk assessment methodology[2], a screening health risk assessment was done for DPM emissions using a conservative estimate of one tenth of the total DPM to be generated by the project per CalEEMod estimates, shown in Appendix A.[3] The results of the screening assessment, shown in Appendix B, gave the project an intermediate risk, which means the project does not require any further analysis at this time but will be required to provide an update summary on a quadrennial basis to the SJVAPCD.

Therefore, impacts to nearby sensitive receptors are considered to be less than significant.

6.2.3 Operations-Related Odor Impacts

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from vehicular emissions and trash storage areas. As the project is that of a commercial use, no significant impact related to odors would occur during the on-going operations of the proposed project.

6.3 Cumulative Regional Air Quality Impacts

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the project's air quality must be generic by nature.

The project area is out of attainment for both ozone and particulate matter. Construction and operation of cumulative projects will further degrade the air quality of the SJVAB. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SJVAPCD methodology, projects that do not exceed the SJVAPCD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact.

Project operations would generate emissions of NOx, ROG, CO, SO_2, PM10, and PM2.5, which would not exceed the SJVAPCD regional thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Therefore, operation of the project would not result in a cumulatively considerable net increase for non-attainment of criteria pollutants or ozone precursors. As a result, the project would result in a less than significant cumulative impact for operational emissions.

[2] https://ww2.valleyair.org/permitting/air-toxics-program/resources-for-regulated-facilities/health-risk-assessment/
[3] The project is approximately 0.17 miles in length at the longest point. As the CalEEMod default trip length for the project was 5.18 miles, this represents approximately 1/30th of an average trips length. Therefore, assuming 1/10th of all trips would occur onsite is a conservative assumption.

6.4 Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). According to the SJVAPCD, a project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan.

A project is conforming if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. An example of a non-conforming project would be one that increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan).

The project site is located in the City of Clovis. The proposed project will be a hotel. Per the City's Land Use Zoning map, the current land use zoning is residential R-1, however an amendment has been proposed to change the zoning to C-P to allow for commercial use. As shown by the results of this air analysis, the project's emissions do not exceed any SJVAPCD thresholds during either short-term construction or long-term operation of the project. Therefore, as the project would be a commercial use, the proposed project is not anticipated to exceed the Attainment Plan assumptions for the project site with an approved zoning amendment.

Based on the above, the proposed project would not conflict with implementation of the SJVAPCD Attainment Plans, impacts are considered to be less than significant.

7.0 References

The following references were used in the preparing this analysis.

California Air Pollution Control Officers Association
2009 Health Risk Assessments for Proposed Land Use Projects

California Air Resources Board
2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

2008 Climate Change Scoping Plan, a framework for change.

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2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

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City of Clovis
2014 General Plan – City of Clovis. 2014. https://cityofclovis.com/wp-content/uploads/2018/10/Clovis-General-Plan-2014.pdf.

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2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

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2000 Environmental Review Guidelines Procedures for Implementing the California Environmental Quality Act. August 2000. http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf.

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2015 Guidance for Assessing and Mitigating Air Quality Impacts. Accessed August 2017. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

Appendix A:

CalEEMod Emissions Output

Peach & Herndon Hotel Clovis Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Peach & Herndon Hotel Clovis
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	12.2
Location	462 Herndon Ave, Clovis, CA 93612, USA
County	Fresno
City	Clovis
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2438
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hotel	350	Room	4.22	214,409	0.00	—	—	—

Parking Lot	359	Space	3.23	0.00	20,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.54	11.4	16.7	0.03	0.44	0.61	1.05	0.40	0.15	0.55	—	3,406	3,406	0.12	0.11	3.24	3,445
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	51.8	31.7	30.7	0.05	1.37	19.8	21.1	1.26	10.1	11.4	—	5,390	5,390	0.22	0.37	0.15	5,409
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.99	8.45	11.1	0.02	0.33	1.31	1.64	0.30	0.56	0.86	—	2,356	2,356	0.09	0.08	0.94	2,384
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.55	1.54	2.03	< 0.005	0.06	0.24	0.30	0.06	0.10	0.16	—	390	390	0.01	0.01	0.16	395

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	1.54	11.4	16.7	0.03	0.44	0.61	1.05	0.40	0.15	0.55	—	3,406	3,406	0.12	0.11	3.24	3,445
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.38	31.7	30.7	0.05	1.37	19.8	21.1	1.26	10.1	11.4	—	5,390	5,390	0.22	0.37	0.15	5,409
2026	51.8	10.9	15.8	0.03	0.38	0.61	0.99	0.35	0.15	0.50	—	3,326	3,326	0.13	0.11	0.08	3,363
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.05	8.45	11.1	0.02	0.33	1.31	1.64	0.30	0.56	0.86	—	2,356	2,356	0.09	0.08	0.94	2,384
2026	2.99	1.10	1.62	< 0.005	0.04	0.05	0.09	0.04	0.01	0.05	—	306	306	0.01	0.01	0.10	309
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.19	1.54	2.03	< 0.005	0.06	0.24	0.30	0.06	0.10	0.16	—	390	390	0.01	0.01	0.16	395
2026	0.55	0.20	0.30	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	50.7	50.7	< 0.005	< 0.005	0.02	51.2

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.6	9.25	69.7	0.14	0.27	10.3	10.5	0.26	2.60	2.86	120	16,345	16,465	13.1	0.75	379	17,393
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.9	10.2	55.4	0.13	0.26	10.3	10.5	0.25	2.60	2.85	120	15,246	15,366	13.2	0.80	336	16,270
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.8	9.73	58.7	0.13	0.27	10.2	10.4	0.26	2.58	2.84	120	15,563	15,683	13.1	0.77	354	16,595
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.70	1.78	10.7	0.02	0.05	1.86	1.90	0.05	0.47	0.52	19.9	2,577	2,597	2.17	0.13	58.6	2,747

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.1	7.12	58.6	0.13	0.10	10.3	10.4	0.09	2.60	2.70	—	13,000	13,000	0.64	0.68	43.7	13,263
Area	6.41	0.08	9.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	38.3	38.3	< 0.005	< 0.005	—	38.5
Energy	0.11	2.06	1.73	0.01	0.16	—	0.16	0.16	—	0.16	—	3,287	3,287	0.35	0.02	—	3,302
Water	—	—	—	—	—	—	—	—	—	—	17.0	19.9	36.9	1.75	0.04	—	93.1
Waste	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	335	335
Total	16.6	9.25	69.7	0.14	0.27	10.3	10.5	0.26	2.60	2.86	120	16,345	16,465	13.1	0.75	379	17,393
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.87	8.12	53.7	0.12	0.10	10.3	10.4	0.09	2.60	2.70	—	11,939	11,939	0.76	0.74	1.13	12,178
Area	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.11	2.06	1.73	0.01	0.16	—	0.16	0.16	—	0.16	—	3,287	3,287	0.35	0.02	—	3,302
Water	—	—	—	—	—	—	—	—	—	—	17.0	19.9	36.9	1.75	0.04	—	93.1
Waste	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	335	335
Total	13.9	10.2	55.4	0.13	0.26	10.3	10.5	0.25	2.60	2.85	120	15,246	15,366	13.2	0.80	336	16,270
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.03	7.63	52.4	0.12	0.10	10.2	10.3	0.09	2.58	2.68	—	12,237	12,237	0.70	0.71	18.9	12,484
Area	5.64	0.04	4.60	< 0.005	0.01	—	0.01	0.01	—	0.01	—	18.9	18.9	< 0.005	< 0.005	—	19.0
Energy	0.11	2.06	1.73	0.01	0.16	—	0.16	0.16	—	0.16	—	3,287	3,287	0.35	0.02	—	3,302
Water	—	—	—	—	—	—	—	—	—	—	17.0	19.9	36.9	1.75	0.04	—	93.1
Waste	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	335	335
Total	14.8	9.73	58.7	0.13	0.27	10.2	10.4	0.26	2.58	2.84	120	15,563	15,683	13.1	0.77	354	16,595
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.65	1.39	9.56	0.02	0.02	1.86	1.87	0.02	0.47	0.49	—	2,026	2,026	0.12	0.12	3.13	2,067
Area	1.03	0.01	0.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.13	3.13	< 0.005	< 0.005	—	3.14
Energy	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	544	544	0.06	< 0.005	—	547
Water	—	—	—	—	—	—	—	—	—	—	2.82	3.30	6.11	0.29	0.01	—	15.4
Waste	—	—	—	—	—	—	—	—	—	—	17.1	0.00	17.1	1.71	0.00	—	59.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55.5	55.5
Total	2.70	1.78	10.7	0.02	0.05	1.86	1.90	0.05	0.47	0.52	19.9	2,577	2,597	2.17	0.13	58.6	2,747

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.53	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.2	94.2	< 0.005	< 0.005	0.01	95.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	7.10	7.10	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.89	0.98	< 0.005	0.04	—	0.04	0.04	—	0.04	—	162	162	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	0.39	0.39	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.16	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.45	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.7	80.7	< 0.005	< 0.005	0.01	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	2.80	0.65	0.01	0.04	0.58	0.62	0.04	0.16	0.20	—	2,187	2,187	0.05	0.34	0.14	2,289
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.58	4.58	< 0.005	< 0.005	0.01	4.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.15	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.13	126
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.8	19.8	< 0.005	< 0.005	0.02	20.8

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	5.97	7.45	0.01	0.25	—	0.25	0.23	—	0.23	—	1,370	1,370	0.06	0.01	—	1,375
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.09	1.36	< 0.005	0.05	—	0.05	0.04	—	0.04	—	227	227	0.01	< 0.005	—	228
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.21	3.35	0.00	0.00	0.49	0.49	0.00	0.11	0.11	—	546	546	0.02	0.02	2.04	555
Vendor	0.02	0.74	0.33	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	462	462	0.01	0.07	1.20	484
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.34	0.25	2.72	0.00	0.00	0.49	0.49	0.00	0.11	0.11	—	485	485	0.02	0.02	0.05	492
Vendor	0.02	0.79	0.35	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	463	463	0.01	0.07	0.03	484
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.13	1.58	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	287	287	0.01	0.01	0.50	292
Vendor	0.01	0.44	0.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	264	264	0.01	0.04	0.30	276
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.29	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	47.5	47.5	< 0.005	< 0.005	0.08	48.3
Vendor	< 0.005	0.08	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.8	43.8	< 0.005	0.01	0.05	45.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.60	0.79	< 0.005	0.02	—	0.02	0.02	—	0.02	—	145	145	0.01	< 0.005	—	146

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.23	2.50	0.00	0.00	0.49	0.49	0.00	0.11	0.11	—	475	475	0.02	0.02	0.05	482
Vendor	0.02	0.77	0.34	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	454	454	0.01	0.07	0.03	475
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.8	29.8	< 0.005	< 0.005	0.05	30.3
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	27.5	27.5	< 0.005	< 0.005	0.03	28.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	0.01	5.02
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.56	4.56	< 0.005	< 0.005	< 0.005	4.77
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.42	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.1	79.1	< 0.005	< 0.005	0.01	80.3
Vendor	< 0.005	0.11	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	64.7	64.7	< 0.005	0.01	< 0.005	67.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.49	4.49	< 0.005	< 0.005	0.01	4.56
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.54	3.54	< 0.005	< 0.005	< 0.005	3.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.76
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.61
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	51.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34

Architectural	2.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.50	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.01	96.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.39	5.39	< 0.005	< 0.005	0.01	5.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	763	763	0.12	0.01	—	771
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	68.9	68.9	0.01	< 0.005	—	69.6
Total	—	—	—	—	—	—	—	—	—	—	—	832	832	0.13	0.02	—	840
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	763	763	0.12	0.01	—	771
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	68.9	68.9	0.01	< 0.005	—	69.6
Total	—	—	—	—	—	—	—	—	—	—	—	832	832	0.13	0.02	—	840
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	126	126	0.02	< 0.005	—	128
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	11.4	11.4	< 0.005	< 0.005	—	11.5
Total	—	—	—	—	—	—	—	—	—	—	—	138	138	0.02	< 0.005	—	139

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.11	2.06	1.73	0.01	0.16	—	0.16	0.16	—	0.16	—	2,455	2,455	0.22	< 0.005	—	2,462
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	2.06	1.73	0.01	0.16	—	0.16	0.16	—	0.16	—	2,455	2,455	0.22	< 0.005	—	2,462
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.11	2.06	1.73	0.01	0.16	—	0.16	0.16	—	0.16	—	2,455	2,455	0.22	< 0.005	—	2,462
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	2.06	1.73	0.01	0.16	—	0.16	0.16	—	0.16	—	2,455	2,455	0.22	< 0.005	—	2,462
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	407	407	0.04	< 0.005	—	408
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	407	407	0.04	< 0.005	—	408

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	4.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.53	0.08	9.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	38.3	38.3	< 0.005	< 0.005	—	38.5
Total	6.41	0.08	9.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	38.3	38.3	< 0.005	< 0.005	—	38.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	4.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.14	0.01	0.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.13	3.13	< 0.005	< 0.005	—	3.14
Total	1.03	0.01	0.84	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.13	3.13	< 0.005	< 0.005	—	3.14

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	17.0	19.5	36.6	1.75	0.04	—	92.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.37	0.37	< 0.005	< 0.005	—	0.37
Total	—	—	—	—	—	—	—	—	—	—	17.0	19.9	36.9	1.75	0.04	—	93.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	17.0	19.5	36.6	1.75	0.04	—	92.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.37	0.37	< 0.005	< 0.005	—	0.37
Total	—	—	—	—	—	—	—	—	—	—	17.0	19.9	36.9	1.75	0.04	—	93.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	2.82	3.24	6.05	0.29	0.01	—	15.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.06	0.06	< 0.005	< 0.005	—	0.06
Total	—	—	—	—	—	—	—	—	—	—	2.82	3.30	6.11	0.29	0.01	—	15.4

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	17.1	0.00	17.1	1.71	0.00	—	59.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	17.1	0.00	17.1	1.71	0.00	—	59.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	335	335
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	335	335

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	335	335
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	335	335
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55.5	55.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55.5	55.5

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/30/2025	2/13/2025	5.00	10.0	—
Grading	Grading	2/14/2025	3/14/2025	5.00	20.0	—
Building Construction	Building Construction	3/15/2025	1/31/2026	5.00	230	—
Paving	Paving	2/1/2026	3/1/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	3/2/2026	3/30/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	—	4.00	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	4.00	HHDT,MHDT
Grading	Hauling	31.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	90.1	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	35.1	4.00	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	5.00	4.00	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	18.0	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	4.00	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	321,614	107,205	8,445

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	5,000	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	3.23

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Parking Lot	3.23	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2,797	2,797	2,797	1,020,905	14,498	14,498	14,498	5,291,779

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	321,614	107,205	8,445

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hotel	1,365,354	204	0.0330	0.0040	7,661,192
Parking Lot	123,290	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hotel	8,878,370	0.00
Parking Lot	0.00	274,544

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hotel	192	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	32.1	annual days of extreme heat
Extreme Precipitation	1.25	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	96.4
AQ-DPM	47.9
Drinking Water	47.6
Lead Risk Housing	20.7
Pesticides	74.9
Toxic Releases	63.3
Traffic	58.6
Effect Indicators	—
CleanUp Sites	37.6
Groundwater	0.07

Haz Waste Facilities/Generators	63.6
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	89.7
Cardio-vascular	50.9
Low Birth Weights	67.6
Socioeconomic Factor Indicators	—
Education	23.3
Housing	28.7
Linguistic	11.3
Poverty	51.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	40.10008982
Employed	81.25240601
Median HI	61.31143334
Education	—
Bachelor's or higher	53.54805595
High school enrollment	100
Preschool enrollment	28.57692801
Transportation	—
Auto Access	87.47593995
Active commuting	59.04016425

Social	—
2-parent households	68.08674451
Voting	54.70293853
Neighborhood	—
Alcohol availability	89.63172078
Park access	14.25638393
Retail density	30.91235724
Supermarket access	40.83151546
Tree canopy	49.0183498
Housing	—
Homeownership	55.83215706
Housing habitability	71.71820865
Low-inc homeowner severe housing cost burden	79.66123444
Low-inc renter severe housing cost burden	57.28217631
Uncrowded housing	45.59219813
Health Outcomes	—
Insured adults	51.2511228
Arthritis	23.1
Asthma ER Admissions	6.6
High Blood Pressure	30.8
Cancer (excluding skin)	25.9
Asthma	43.1
Coronary Heart Disease	37.1
Chronic Obstructive Pulmonary Disease	33.2
Diagnosed Diabetes	60.0
Life Expectancy at Birth	7.7
Cognitively Disabled	36.6
Physically Disabled	78.7

Heart Attack ER Admissions	23.7
Mental Health Not Good	50.5
Chronic Kidney Disease	64.9
Obesity	51.2
Pedestrian Injuries	19.6
Physical Health Not Good	54.5
Stroke	51.7
Health Risk Behaviors	—
Binge Drinking	26.9
Current Smoker	57.8
No Leisure Time for Physical Activity	55.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	43.1
Elderly	64.7
English Speaking	92.9
Foreign-born	12.9
Outdoor Workers	58.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	53.4
Traffic Density	42.8
Traffic Access	0.0
Other Indices	—
Hardship	40.6
Other Decision Support	—
2016 Voting	54.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	61.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Per site plan
Construction: Construction Phases	No demolition required

Appendix B:

SJVAPCD Air Toxics Hot Spots Facility Prioritization Score Calculator

Name

Air Toxics Hot Spots Facility Prioritization Score Calculator

Applicability	Use to provide a Prioritization score for facility emissions according to Toxic Hot Spots guidelines. Entries required in yellow areas, output in gray areas.					
Author or updater	Matthew Cegielski		*Last Update*	September 14, 2023		
Facility:	Peach Ave and Herndon Ave Hotel					
ID#:						
Project #:						
Data Entered by:	Tyler Klassen, MD Acoustics LLC					
Data Reviewed by:						
Location						

Use the substance dropdown list in the CAS# Finder to locate CAS# of substances.

Substance	CAS# Finder
Diesel engine exhaust,	9901

Operating Hours hr/yr	8,760.00	Stack Height m	46				
	Emissions Potency Method			Dispersion Adjustment Method			
Receptor Proximity and Proximity Factors	Cancer Score	Non-Cancer Score	Facility Ranking Priority	Cancer Score	Non-Cancer Score	Facility Ranking Priority	
0< R<100 1.000	8.50E+00	1.26E-02	Medium	1.41E-01	2.10E-04	Medium	Medium
100≤R<250 0.250	2.13E+00	3.15E-03	Medium	1.41E-01	2.10E-04	Medium	Medium
250≤R<500 0.040	3.40E-01	5.04E-04	Low	1.27E-01	1.89E-04	Low	Low
500≤R<1000 0.011	9.35E-02	1.39E-04	Low	5.65E-02	8.40E-05	Low	Low
1000≤R<1500 0.003	2.55E-02	3.78E-05	Low	1.84E-02	2.73E-05	Low	Low
1500≤R<2000 0.002	1.70E-02	2.52E-05	Low	9.33E-03	9.33E-03	Low	Low
2000<R 0.001	8.50E-03	1.26E-05	Low	5.94E-03	5.94E-03	Low	Low

Receptor proximity is in meters. Priortization scores are calculated by multiplying the total scores summed below by the proximity and height factors. Emissions Potency method does not take height into account. The Dispersion adjustment method should only be used for individual stacks and not for facility approximation.

Height Adjustment		<100m	<250m	<500m	<1000m	<1500m	<2000m	>=2000m
<20m	60	1	0.25	0.04	0.011	0.003	0.002	0.001
20m<= <45m	9	1	0.85	0.22	0.064	0.018	0.009	0.006
=>45m	1	1	1	0.9	0.4	0.13	0.066	0.042

	Enter the unit's CAS# of the substances emitted and their amounts.							Prioritization score for each substance generated below. Totals on last row.				Prioritzation score for each substance generated below. Totals on last row.			
Substance	**CAS#**	**MW Correction**	**Annual Emissions (lbs/yr)**	**Maximum Hourly (lbs/hr)**	**Corrected Annual Emissions (lbs/yr)**	**Corrected Maximum Hourly (lbs/hr)**	**Average Hourly (lbs/hr)**	**EP Method Cancer**	**EP Method Chronic**	**EP Method Acute**	**EP Max of Chronic and Acute**	**Disp Adj Method Carc**	**Disp Adj Method Chronic**	**Disp Adj Method Acute**	**Disp Adj Max of Chronic and Acute**
Diesel engine exhaust, particulate matter (Diesel PM)	9901	1.0000	3.68E+00		3.68E+00	0.00E+00	4.20E-04	8.50E+00	1.26E-02	0.00E+00	1.26E-02	1.41E-01	2.10E-04	0.00E+00	2.10E-04
		0.0000			0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B
Environmental Noise Assessment

ENVIRONMENTAL NOISE ASSESSMENT

AXIS HOSPITALITY HOTEL COMPLEX
CLOVIS, CALIFORNIA

WJVA Report No. 23-17

PREPARED FOR

ALLIANT HOSPITALITY, INC.
P.O. BOX 2700
FRESNO, CALIFORNIA 93745

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

wjv acoustics

JUNE 22, 2023

1. INTRODUCTION

Project Description

The project includes the construction of two new four-story hotels with a total of 350 rooms. The larger of the two buildings fronts Herndon Avenue, and is a dual brand ALOFT/Element, 242 room hotel with a total area of 147,279 square feet. The first floor consists of 38,387 square feet and each brand will have separate entry lobbies, common use areas, fitness centers, guestrooms and outdoor pool/patio areas. The upper three floors are each approximately 21,000 sq. ft. and are comprised of guest rooms and guest laundry facilities. The second building which fronts Magill Avenue is a Springhill Suites brand, 108 room hotel with a total area of 67,130 square feet. The first floor consists of 17,156 square feet complete with entry lobby, common use areas, fitness center, guestrooms, and outdoor pool/patio area. The upper three floors are each approximately 16,650 sq. ft. and are comprised of guest rooms and guest laundry facilities. The project site plan is provided as Figure 1.

Environmental Noise Assessment

This environmental noise assessment has been prepared to determine if significant noise impacts would be produced by the project and to describe mitigation measures for noise if significant impacts are determined. The environmental noise assessment, prepared by WJV Acoustics, Inc. (WJVA), is based upon the project site plan prepared by R.L. Davidson, Inc. (dated April 18, 2023), traffic data provided by Fresno Council of Governments (Fresno COG) and findings of on-site noise level measurements. Revisions to the site plan, construction details or other project-related information available to WJVA at the time the analysis was prepared may require a reevaluation of the findings and/or recommendations of the report.

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides typical A-weighted sound levels for common noise sources.

In terms of human perception, a 5 dB increase or decrease is considered to be a noticeable change in noise levels. Additionally, a 10 dB increase or decrease is perceived by the human ear as half as loud or twice as loud. In terms of perception, generally speaking the human ear cannot perceive an increase (or decrease) in noise levels less than 3 dB.

2. THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines apply the following questions for the assessment of significant noise impacts for a project:

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

a. Noise Level Standards

City of Clovis

The Noise Element of the City of Clovis General Plan establishes noise level standards for both transportation and non-transportation (stationary) noise sources. Table I provides the maximum interior and exterior noise level standards for various land use categories, in terms of the CNEL. The CNEL (Community Noise Equivalent Level) is the time-weighted average noise level for a 24-hour day with penalties of 4.77 dB added to noise levels occurring during the evening hours (7:00 p.m-10:00 p.m.) and 10 dB added to noise levels occurring during the nighttime hours (10:00 p.m-7:00 a.m.). Table II provides the Land Use Compatibility Matrix. The City of Clovis applies Table II as guidance to approve development and require mitigation measures to ensure existing and future land use compatibility.

The noise element establishes an exterior noise standard of 65 dB CNEL for exterior noise exposure within outdoor recreation areas of hotel, motel and transient lodging land uses. Outdoor recreation areas for such land uses would typically include outdoor pool areas and outdoor common use picnic areas. The intent of the exterior noise level requirement is to provide an acceptable noise environment for outdoor activities and recreation. There is no applicable exterior noise level standard for commercial or office land uses provided in the General Plan Noise Element.

The Noise Element also requires that interior noise levels attributable to exterior noise sources not exceed 45 dB CNEL. The intent of the interior noise level standard is to provide an acceptable noise environment for indoor communication and sleep. The Noise Element also establishes an interior noise level standard of 55 dB CNEL for commercial land uses and 50 dB CNEL for office land uses.

TABLE I

MAXIMUM NOISE STANDARDS
CITY OF CLOVIS GENERAL PLAN NOISE ELEMENT

Land Use Categories		Energy Average (CNEL)	
Primary Land Use	**Additional Uses Allowed**	**Interior[1]**	**Exterior[2]**
Residential	Single Family, Multi Family	45[3]/55[4]	65[7]
	Mobile Home	--	65[5]
Commercial/Industrial	Hotel, Motel, Transient Lodging	45	65[6]
	Commercial, Retail, Bank, Restaurant	55	--
	Office Building, Professional Office, Research & Development	50	--
	Gymnasium (Multipurpose)	50	--
	Health Clubs	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
	Hospital, School Classroom	45	65
Institutional	Church Library	45	--
Open Space	Parks	--	65

Source: City of Clovis General 2-12 Plan Environmental and Safety Element, 2014.

Notes:

[1] Interior environment excludes bathrooms, toilets, closets, and corridors.

[2] Outdoor environment limited to private yard of single family or multifamily residences private patio which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.

[3] Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.

[4] Noise level requirement with open windows, if they are used to meet natural ventilation requirement.

[5] Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

[6] Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.

[7] Except those areas affected by aircraft noise.

TABLE II

LAND USE AND NOISE COMPATABILITY MATRIX
CITY OF CLOVIS GENERAL PLAN NOISE ELEMENT

LAND USES	ENERGY AVERAGE (CNEL)						
Example Land Uses	**<**	**55**	**60**	**65**	**70**	**75**	**80>**
Amphitheater, concert hall, auditorium, meeting hall	B	B	C	C	D	D	D
Mobile Home	A	A	B	C	C	D	D
Hospital, library, school, faith/religious uses	A	A	B	C	C	D	D
Hotel, motel, transient lodging	A	A	B	B	C	C	D
Single-family, multi-family	A	A	B	B	C	D	D
Parks	A	A	A	B	C	D	D
Office buildings, research & development, professional office, city office building	A	A	A	B	B	C	D
Amusement park, miniature golf, go-cart track, health club, equestrian center	A	A	A	B	B	D	D
Golf courses, nature centers, cemeteries, wildlife reserves, wildlife habitat	A	A	A	A	B	C	C
Commercial retail, bank, restaurant, movie theater	A	A	A	A	B	B	C
Automobile service station, auto dealer, manufacturing, warehousing, wholesale, utilities	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

Notes: Compatibility zones indicate the degree to which the land uses listed are compatible with the noise levels (CNEL) shown in the table.
Zone A. Clearly Compatible. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B. Normally Compatible. New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C. Normally Incompatible. New construction or development should normally be discouraged. If new construction or development does proceed, a detailed analysis or noise reduction requirements must be made and needed noise insulation features must be included in the design.
Zone D. Clearly Incompatible. New construction or development should generally not be undertaken.

Additionally, the City of Clovis Municipal Code provides noise level standards applicable to the project. Section 9.22.080 (Noise) of the City's Municipal Code provides maximum allowable exterior and interior noise level standards for specific land use types. Noise level standards are provided as energy average (L_{eq}) noise levels and apply to any 15-minute interval of time. Table III provides the maximum allowable exterior noise level standards and Table IV provides the maximum allowable interior noise level standards. The Municipal Code also states that *"If the ambient noise level exceeds the resulting standard, the ambient shall be the standard".*

TABLE III MAXIMUM EXTERIOR NOISE STANDARDS CITY OF CLOVIS MUNICIPAL CODE			
Noise Zone	Type of Land Use	A-Weighted Decibels, L_{eq} dBA Sources	
		7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
I	Single-, two- or multi-family residential	55	50
II	Commercial	65	60
III	Residential portions of mixed-use properties	60	50
IV	Industrial or manufacturing	70	70

Source: City of Clovis Municipal Code

TABLE IV MAXIMUM INTERIOR NOISE STANDARDS CITY OF CLOVIS MUNICIPAL CODE			
Noise Zone	Type of Land Use	A-Weighted Decibels, L_{eq} dBA Sources	
		7:00 a.m. to 10:00 p.m.	10:00 p.m. to 7:00 a.m.
I	Residential	45	40
II	Administrative/professional office	50	--
III	Residential portions of mixed-use properties	45	40

Source: City of Clovis Municipal Code

State of California

There are no state noise standards that are applicable to the project.

Federal Noise Standards

There are no federal noise standards that are applicable to the project.

3. SETTING

The proposed project would include the development of a hotel complex on an approximately 7.45-acre parcel of land located within the City of Clovis. The project site is generally bound by Herndon Avenue to the north, Peach Avenue to the east, Magil Avenue to the south, and a vocational school campus (Institute of Technology) to the west. Existing land uses in the vicinity of the project site include the above-described vocational school campus, residential land uses, commercial/retail land uses and undeveloped land. The project site is currently an undeveloped lot.

a. Project Site Noise Exposure

The dominant source of noise in the project vicinity includes vehicle traffic along Herndon Avenue and Peach Avenue, as well as occasional aircraft overflights. Traffic noise represents the dominant source of project site noise exposure and dictates overall project site noise exposure levels.

Noise exposure from traffic on Herndon Avenue and Peach Avenue was calculated for existing and future (2046) conditions using the FHWA Traffic Noise Model and traffic data obtained from Fresno COG. A description of the noise model, applied data, methodology and findings is provided below.

WJVA utilized the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The FHWA Model is a standard analytical method used for roadway traffic noise calculations. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Noise level measurements and concurrent traffic counts were conducted by WJVA staff at two (2) locations within the project site on June 14, 2023. The purpose of the measurements was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. One traffic noise measurement site was located along Herndon Avenue (T-1) and the second traffic noise measurement site was located along Peach Avenue (T-2). The traffic noise measurement sites were located at a distance of approximately 100 feet and 50 feet from the centerlines of Herndon Avenue and Peach Avenue, respectively. The speed limit was assumed to be 50 mph (miles per hour) for Herndon Avenue and 40 mph for Peach Avenue. The project vicinity and noise monitoring site location are provided as Figure 3. A photograph showing the Herndon Avenue noise measurement site (T-1) is provided as Figure 4. A photograph showing the Peach Avenue noise measurement site (T-2) is provided as Figure 5.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzer equipped with a B&K Type 4176 1/2" microphone. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meter was calibrated in the field prior to use with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements. The microphone was located on a tripod at 5 feet above the ground. The project site presently consists of undeveloped land and a portion is currently used for industrial purposes.

Noise measurements were conducted in terms of the equivalent energy sound level (L_{eq}). Measured L_{eq} values were compared to L_{eq} values calculated (predicted) by the FHWA Model using as inputs the traffic volumes, truck mix and vehicle speed observed during the noise measurements. The results of the comparison are shown in Table V.

From Table V it may be determined that the traffic noise levels predicted by the FHWA Model were 5.5 dB higher than those measured for the conditions observed at the time of the noise measurements for Herndon Avenue. This is due to the project site's proximity to the signaled intersection at Herndon Avenue and N. Peach Avenue, which results in vehicles slowing down, and traveling significantly slower than the posted speed limit of 50 mph. Slower traveling vehicles produce lower noise levels. This discrepancy in measured noise levels compared to modeled noise levels warrants an adjustment to the model, in order to accurately describe traffic noise levels associated with vehicles traveling along Herndon Avenue. A 5 dB offset was applied to Herndon Avenue traffic noise calculations. Also from Table V, it may be determined that predicted noise levels were 1.3 dB higher than those measured for the conditions observed at the time of the noise measurements for Peach Avenue. This is considered to be reasonable agreement with the model and therefore no adjustments to the model are necessary for Peach Avenue.

TABLE V

COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS AXIS HOSPITALITY HOTEL COMPLEX, CLOVIS

	Herndon Ave.	Peach Ave.
Measurement Start Time	2:20 p.m.	2:40 p.m.
Observed # Autos/Hr.	3,060	540
Observed # Medium Trucks/Hr.	36	0
Observed # Heavy Trucks/Hr.	12	0
Observed Speed (MPH)	50	40
Distance, ft. (from center of roadway)	100	50
L_{eq}, dBA (Measured)	62.9	60.8
L_{eq}, dBA (Predicted)	68.4	62.1
Difference between Predicted and Measured L_{eq}, dBA	**5.5**	**1.3**

Note: FHWA "soft" site assumed for calculations.
Source: WJV Acoustics, Inc.

Annual Average Daily Traffic (AADT) data for Peach Avenue and Herndon Avenue, in the project vicinity was obtained from Fresno COG. Truck percentages and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources. Table VI summarizes annual average traffic data used to model noise exposure within the project site.

TABLE VI

TRAFFIC NOISE MODELING ASSUMPTIONS
AXIS HOSPITALITY HOTEL COMPLEX, CLOVIS

	Herndon Ave		Peach Ave	
	Existing	2046	Existing	2046
Annual Avenue Daily Traffic (AADT)	36,142	47,268	2,221	2,784
Day/Night Split (%)	90/10			
Assumed Vehicle Speed (mph)	50		40	
% Medium Trucks (% AADT)	2			
% Heavy Trucks (% AADT)	1			

Sources: Fresno COG
WJV Acoustics, Inc.

Using data from Table VI, the FHWA Model, annual average traffic noise exposure was calculated for the closest proposed hotel building setbacks from both Herndon Avenue and Peach Avenue. The project would consist of two (2) individual buildings, comprising three (3) total hotels. The closest proposed hotel building to Herndon Avenue (Element) would be located approximately 175 feet from the centerline of Herndon Avenue. The closest proposed hotel building to Peach Avenue (Aloft) would be located approximately 125 feet from Peach Avenue. Table VII provides the noise exposure levels for the closest proposed hotel setbacks to each adjacent roadway.

TABLE VII

MODELED TRAFFIC NOISE LEVELS, dB, CNEL
AXIS HOSPITALITY HOTEL COMPLEX, CLOVIS

Roadway	Existing Conditions	2046 Conditions
Herndon Avenue (175 feet)	60	61
Peach Avenue (125 feet)	55	56

Source: WJV Acoustics
Fresno COG

EXTERIOR NOISE COMPLIANCE-

The City of Clovis exterior noise level standard applicable to the project is 65 dB CNEL. This exterior noise standard applies to “outdoor activity areas.” For hotel land uses, outdoor activity areas typically include outdoor pool areas and common use recreation or picnic areas. The hotel

complex would include three (3) individual outdoor pools (one associated with each hotel type). Based on a review of the site plan, there are no additional outdoor common use areas proposed for the hotel complex. These three pool areas are located at greater setback distances from the roadways than those analyzed above in Table VII. Additionally, each pool area is centrally located, in areas where the hotel building itself would provide acoustic shielding from roadway traffic noise. Based upon setback distances and shielding, noise exposure levels at the three outdoor pool areas would be expected be in the range of approximately 47-79 dB CNEL. Such levels do not exceed the City's 65 dB CNEL exterior noise level standard for hotel land uses.

INTERIOR NOISE COMPLIANCE-

The City of Clovis interior noise level standard applicable to the project is 45 dB CNEL. The worst-case noise exposure at the exterior facades of the hotels would be approximately 61 dB CNEL This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 16 dB (61-45=16).

A specific analysis of interior noise levels was not performed. However, it may be assumed that construction methods complying with current building code requirements will reduce exterior noise levels by at least 25 dB if windows and doors are closed. This will be sufficient for compliance with the assumed 45 dB CNEL interior standard at all proposed hotel units.

4. IMPACT SUMMARY

The proposed Axis Hotel Complex project to be located at the southwest corner of Herndon Avenue and Peach Avenue, in Clovis, will comply with the all applicable exterior and interior noise level standards of the City of Clovis. Mitigation measures are not required to comply with applicable exterior or interior noise standards.

The conclusions and recommendations of this acoustical analysis are based upon the best information known to WJV Acoustics, Inc. at the time the analysis was prepared concerning the proposed site plan, building construction, existing ambient noise levels, including roadway traffic. Any significant changes in these factors will require a reevaluation of the findings of this report. Additionally, any significant future changes in noise control technology, noise regulations or other factors beyond WJVA's control may result in long-term noise results different from those described by this analysis.

FIGURE 1: PROJECT SITE PLAN

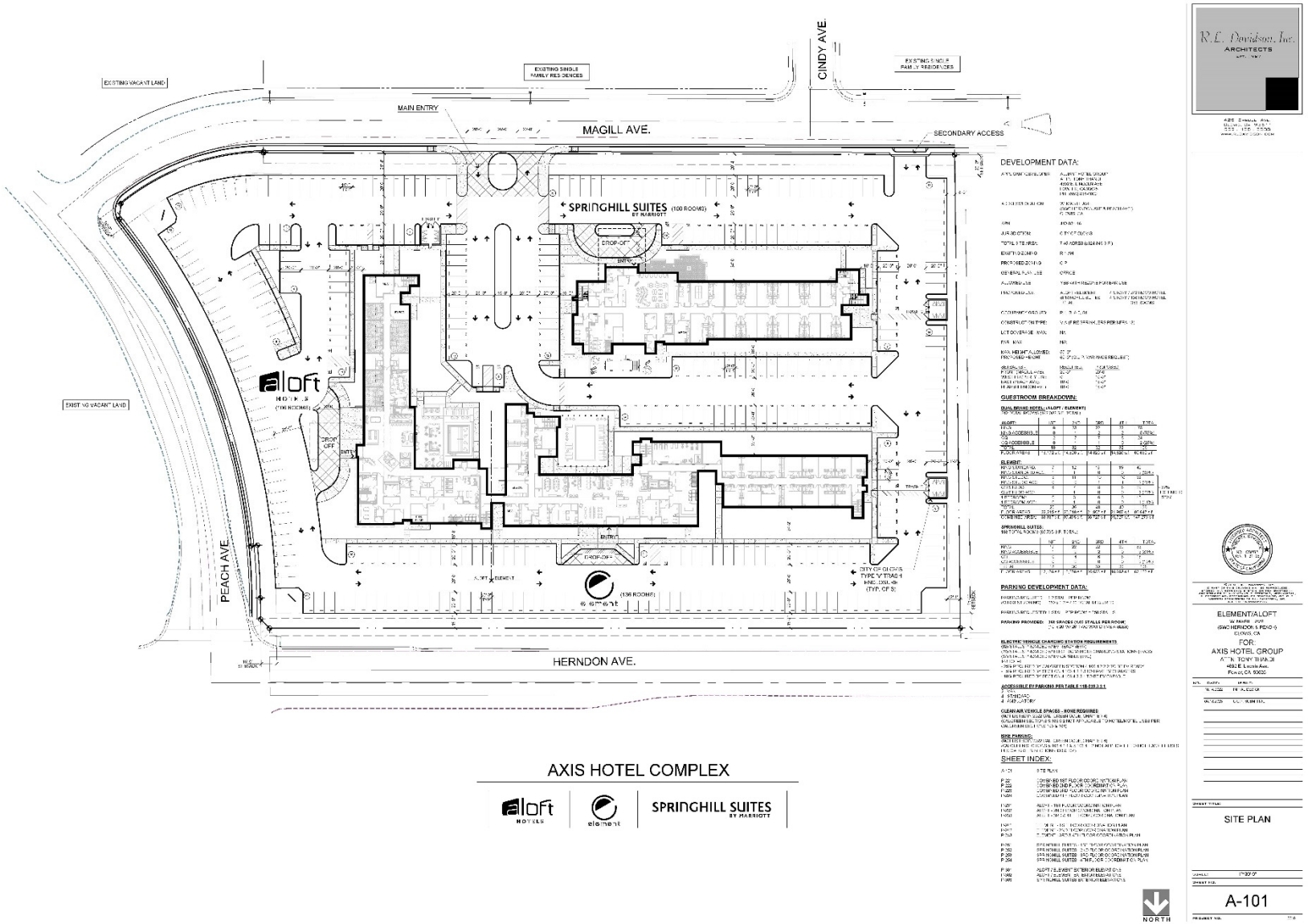


FIGURE 2: PROJECT VICINITY AND AMBIENT NOISE MONITORING SITES

FIGURE 4: TRAFFIC NOISE MEASUREMENT SITE T-1 (HERNDON AVENUE)

FIGURE 5: TRAFFIC NOISE MEASUREMENT SITE T-2 (PEACH AVENUE)

APPENDIX A-1

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

A-2

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

Appendix C
Transportation Impact Analysis

TRANSPORTATION IMPACT ANALYSIS

Proposed Hotel

Southwest of the Intersection of Peach and Herndon Avenues

Clovis, California

Prepared For:

Alliant Hospitality, Inc.
P.O. Box 2700
Fresno, California 93745

Date:

April 22, 2024

Job No.:

23-045.01

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

EXECUTIVE SUMMARY

This report presents the results of a Transportation Impact Analysis for a proposed hotel development in Clovis, California. This analysis focuses on the anticipated effect of vehicle traffic resulting from the Project. The Transportation Impact Analysis was performed in general conformance with the City of Clovis *Transportation Impact Analysis Guidelines* dated September 15, 2022 (City Guidelines).

The Project site is located on approximately 7.45 acres southwest of the intersection of Herndon and Peach Avenues with frontage along Magill Avenue (APN 410-031-16). The Project includes two four-story hotel buildings with a total of 350 rooms and typical hotel amenities such as lobbies, laundry facilities, fitness centers, bars, and patios. The larger hotel will contain 242 rooms (85 of which are identified as extended-stay rooms) and the smaller hotel will contain 108 rooms. The operational statement indicates that the maximum stay for any hotel customer will be 21 days.

The Project proposes to rezone the property from R-1-AH to C-P for the hotel use and alcohol sales. The City of Clovis General Plan designates the site as Office.

The estimated total number of employees is 30 to provide coverage for four planned eight-hour shifts. Site access is proposed via two driveways connecting to Magill Avenue.

This report includes analysis of the following intersections:

1. Peach Avenue / Spruce Avenue
2. Peach Avenue / Fir Avenue
3. Willow Avenue / Herndon Avenue
4. Helm Avenue / Herndon Avenue
5. Peach Avenue / Herndon Avenue
6. Villa Avenue / Herndon Avenue
7. Willow Avenue / Magill Avenue
8. Peach Avenue / Magill Avenue
9. Peach Avenue / Peach Avenue
10. Minnewawa Avenue / Alluvial Avenue

The study time periods include the weekday a.m. and p.m. peak hours determined between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. The peak hours are analyzed for the following conditions:

- Existing Conditions;
- Existing-Plus-Project Conditions;
- Near-Term With-Project Conditions (includes pending and approved projects);
- Cumulative (Year 2045) With-Project Conditions.

Standard traffic engineering principles and methods were employed to establish the existing conditions, to estimate the number of trips expected to be generated by the Project, and to

analyze the traffic conditions that are expected to occur in the future. The conclusions of the study are summarized in the following sections.

Trip Generation

The Project is expected to generate approximately 2,797 vehicle trips per weekday (approximately 1,399 trips entering the site and 1,399 trips exiting the site). Weekday peak-hour traffic volumes are expected to be on the order of 162 trips during the a.m. peak hour and 207 trips during the p.m. peak hour.

The proposed Project will likely result in fewer trips than would have occurred if the site were developed in accordance with the current General Plan land use designation.

CEQA Impact Analysis (VMT)

Project-specific traffic modeling indicates the regional VMT with the Project is less than the regional VMT without the Project. Therefore, the Project does not create a significant transportation impact.

Existing Conditions

The study intersections are currently operating at acceptable levels of service. The calculated 95th-percentile queues are contained within the available storage capacity, with the following exceptions:

- Willow Avenue / Herndon Avenue: right-turn lane on the eastbound approach during the p.m. peak hour.
- Peach Avenue / Herndon Avenue: left-turn lane on the southbound approach during the p.m. peak hour.

Existing-Plus-Project Conditions

The study intersections are expected to continue to operate at levels of service very similar to the existing conditions. The Project will not cause the study intersections to operate worse than the target LOS. The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods. The existing left-turn lane (approximately 150 feet long) is shorter than most similar left-turn lanes in median islands at signalized intersections. In order to prevent queues in the left-turn lane from backing up into the adjacent through lane, the existing left-turn lane could be lengthened to provide at least 275 feet of storage.

Near-Term With-Project Conditions

The study intersections are expected to continue to operate at acceptable levels of service. The cumulative near-term projects will not cause the study intersections to operate worse than the target LOS. Calculated 95th-percentile queues exceed the available storage capacity at the following locations:

- Willow Avenue / Herndon Avenue: right-turn lane on the eastbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition).
- Peach Avenue / Herndon Avenue: left-turn lane on the southbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition) and the

left-turn lane on the westbound approach during the p.m. peak hour (this condition is similar to the existing-plus-Project conditions).

- Willow Avenue / Magill Avenue: left-turn lanes on the westbound and southbound approaches during the p.m. peak hour. These queues are expected to exceed the storage capacity primarily as a result of the SPR 2023-008 medical office buildings on the north side of Magill Avenue at Timmy Avenue.

The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods as discussed above for the existing-plus-Project conditions.

At the intersection of Willow and Magill Avenues, the length of the left-turn lane on the westbound approach could likely be extended with striping modifications. However, the length of the left-turn lane on the southbound approach appears to be constrained by the left-turn lanes on the northbound Willow Avenue approach to Herndon Avenue.

Cumulative Year 2045 With-Project Conditions

The following study intersections are expected to operate worse than the target LOS D in the year 2045:

- Peach Avenue / Spruce Avenue: LOS F during the a.m. and p.m. peak hours on the eastbound approach.
- Peach Avenue / Fir Avenue: LOS F during the p.m. peak hour on the westbound approach.
- Willow Avenue / Herndon Avenue: LOS F during the a.m. and p.m. peak hours.
- Peach Avenue / Magill Avenue: LOS E during the peak hour on the eastbound approach.

The calculated 95th-percentile queues exceed the storage capacity during at least one peak hour at following locations:

- Willow Avenue / Herndon Avenue: left-turn lanes on the eastbound, westbound, and northbound approaches, right-turn lanes on the eastbound, westbound, and southbound approaches, and the through lanes on the northbound approach.
- Peach Avenue / Herndon Avenue: left-turn lanes on the eastbound and westbound approaches and right-turn lane on the westbound approach. (It should be noted that the future lane configurations include the assumption that a second left-turn lane has been constructed on the southbound approach.)
- Villa Avenue / Herndon Avenue: left-turn lane on the southbound approach and right-turn lane on the eastbound approach.
- Willow Avenue / Magill Avenue: left-turn lanes on the eastbound, northbound, and southbound approaches, through lanes on the southbound approach.

Potential Improvements

The intersection of Peach and Spruce Avenues is expected to require signalization or a roundabout to operate at acceptable LOS. With signalization, the intersection is expected to

operate at LOS B during the a.m. and p.m. peak hours in the year 2045. As a single-lane roundabout, the intersection is expected to operate at LOS A during the a.m. peak hour and LOS B during the p.m. peak hour in the year 2045. The queueing analyses suggest that there is no clear preferred option; therefore, the eventual improvement could be determined based on cost. Traffic signal installations at existing intersections are typically less costly than new roundabouts.

The intersection of Peach and Fir Avenues is expected to be frequently blocked by queues extending from Herndon Avenue. Furthermore, the relatively short distances between Fir and Herndon Avenues and between Fir and Spruce Avenues suggests that signalization is not an option at Fir Avenue. Therefore, it is suggested that westbound-to-southbound left turns from Fir Avenue to Peach Avenue may ultimately need to be restricted. A median worm could be constructed on Peach Avenue that would prevent left turns from Fir Avenue while allowing southbound-to-eastbound left turns to Fir Avenue.

The intersection of Willow and Herndon Avenues has been constructed to its ultimate configuration; therefore, physical improvements are not likely to be feasible. The City has considered timing improvements, such as adaptive signal control technology that adjusts signal timing in real time, to optimize traffic progression on the Herndon Avenue corridor. Lengthening existing turn lanes may be considered to reduce the potential for queues to block through lanes.

The intersection of Peach and Herndon Avenues is expected to operate at acceptable LOS; however, calculated 95th-percentile queues exceeding 400 feet in the left-turn lane on the eastbound approach suggest that the lane may require lengthening in the future, or a second left-turn lane may be considered. The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods as discussed above for the existing-plus-Project conditions. The right-turn lane on the westbound approach may also benefit from lengthening in the future; however, long queues expected in the through lanes are likely to govern accessibility to the right-turn lane.

The intersection of Villa and Herndon Avenues has been constructed to its ultimate configuration; therefore, physical improvements to address queuing issues are not likely to be feasible. The length of the left-turn lane on the southbound approach appears to be constrained by the left-turn lane on the northbound Villa Avenue approach to Fir Avenue. The right-turn lane on the eastbound approach may benefit from lengthening in the future.

At the intersection of Willow and Magill Avenues, the length of the left-turn lane on the westbound approach could likely be extended with striping modifications. However, the lengths of the left-turn lanes on the northbound and southbound approaches appear to be constrained by other left-turn lanes.

The intersection of Peach and Magill Avenues is expected to require signalization or a roundabout to operate at acceptable LOS. With signalization, the intersection is expected to operate at LOS B during the a.m. and p.m. peak hours in the year 2045. As a single-lane roundabout, the intersection is expected to operate at LOS A during the a.m. and p.m. peak hours in the year 2045. Considering the approximate 400-foot spacing to Herndon Avenue, coordination between traffic signals at Magill Avenue and at Herndon Avenue to prevent

blocking of intersections may be difficult to achieve, particularly if priority if given to the Herndon Avenue corridor. Therefore, a roundabout may be the preferred alternative.

The Project may be required to pay an equitable share of future improvements if those improvements are not included in a fee program.

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

Mr. Randeep Dhillon
Alliant Hospitality, Inc.
P.O. Box 2700
Fresno, California 93745

April 22, 2024

Subject: Transportation Impact Analysis
Proposed Hotel
Southwest of the Intersection of Peach and Herndon Avenues
Clovis, California

Dear Mr. Dhillon:

1.0 INTRODUCTION

This report presents the results of a Transportation Impact Analysis for a proposed hotel development in Clovis, California. This analysis focuses on the anticipated effect of vehicle traffic resulting from the Project. The Transportation Impact Analysis was performed in general conformance with the City of Clovis *Transportation Impact Analysis Guidelines* dated September 15, 2022 (City Guidelines).

2.0 PROJECT DESCRIPTION

The Project site is located on approximately 7.45 acres southwest of the intersection of Herndon and Peach Avenues with frontage along Magill Avenue (APN 410-031-16). The Project includes two four-story hotel buildings with a total of 350 rooms and typical hotel amenities such as lobbies, laundry facilities, fitness centers, bars, and patios. The larger hotel will contain 242 rooms (85 of which are identified as extended-stay rooms) and the smaller hotel will contain 108 rooms. The operational statement indicates that the maximum stay for any hotel customer will be 21 days.

The Project proposes to rezone the property from R-1-AH to C-P for the hotel use and alcohol sales. The City of Clovis General Plan designates the site as Office.

The estimated total number of employees is 30 to provide coverage for four planned eight-hour shifts. Site access is proposed via two driveways connecting to Magill Avenue.

A site vicinity map is presented in the attached Figure 1, Site Vicinity Map, following the text of this report. A site plan is presented in Figure 2, Site Plan.

3.0 STUDY AREA AND TIME PERIOD

This report includes analysis of the following intersections:

1. Peach Avenue / Spruce Avenue
2. Peach Avenue / Fir Avenue
3. Willow Avenue / Herndon Avenue
4. Helm Avenue / Herndon Avenue
5. Peach Avenue / Herndon Avenue
6. Villa Avenue / Herndon Avenue
7. Willow Avenue / Magill Avenue
8. Peach Avenue / Magill Avenue
9. Peach Avenue / Peach Avenue
10. Minnewawa Avenue / Alluvial Avenue

The study time periods include the weekday a.m. and p.m. peak hours determined between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. The peak hours are analyzed for the following conditions:

- Existing Conditions;
- Existing-Plus-Project Conditions;
- Near-Term With-Project Conditions (includes pending and approved projects);
- Cumulative (Year 2045) With-Project Conditions.

4.0 LANE CONFIGURATIONS AND INTERSECTION CONTROL

The existing lane configurations and intersection control at the study intersections are illustrated in Figure 3, Existing Lane Configurations and Intersection Control. The lane configurations and intersection control assumed for the year 2045 analyses are presented in Figure 4, Year 2045 Lane Configurations and Intersection Control.

5.0 CITY OF CLOVIS GENERAL PLAN

The City of Clovis General Plan designates the streets at the study locations as follows:

Herndon Avenue: Expressway

Alluvial Avenue: Collector

Spruce Avenue: Local

Fir Avenue: Local

Magill Avenue: Local

Willow Avenue: Arterial

Helm Avenue: Collector

Peach Avenue: Collector

Villa Avenue: Arterial north of Herndon Avenue, Collector south of Herndon Avenue

Minnewawa Avenue: Arterial

6.0 CEQA IMPACT ANALYSIS

6.1 Background and Significance Threshold

The City Guidelines provide guidance relative to analyzing vehicle miles traveled (VMT) for purposes of determining transportation impacts in accordance with the California Environmental Quality Act (CEQA).

For projects such as hotels, the City Guidelines identify the impact threshold as follows: "*The City will make a determination of the applicable thresholds on a case-by-case basis based on the land use type, project description, and setting. Research and development, medical offices, assisted living, and industrial projects may be evaluated similar to office projects using the VMT per employee metric. Projects such as religious institutions, regional parks, hotels, private schools and medical offices may be evaluated using the net VMT criteria similar to retail projects.*"

For retail projects, the City Guidelines state the impact threshold as follows: "*A net increase in total VMT. The total VMT for the region without and with the project is calculated. The difference between the two scenarios is the net change in total VMT that is attributable to the project.*"

6.2 Project-Specific VMT Analysis

The Project will generate more than 500 trips per day (see the Project Trip Generation section of this report). Therefore, the Project was not screened out with respect to transportation impacts and a Project-specific VMT analysis was performed.

Project-specific traffic modeling was performed by a COG-approved traffic modeling consultant and the results are presented in Appendix A. The modeling indicates the regional VMT with the Project is less than the regional VMT without the Project. Therefore, the Project does not create a significant transportation impact.

7.0 LEVEL OF SERVICE

The Transportation Research Board *Highway Capacity Manual, 7th Edition,* (HCM) defines level of service (LOS) as, "A quantitative stratification of a performance measure or measures that represent quality of service, measured on an A-F scale, with LOS A representing the best operating conditions from the traveler's perspective and LOS F the worst." Automobile mode LOS characteristics for both unsignalized and signalized intersections are presented in Tables 1 and 2.

Table 1
Level of Service Characteristics for Unsignalized Intersections

Level of Service	Average Vehicle Delay (seconds)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Table 2
Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Volume-to-capacity ratio is no greater than 1.0. Progression is exceptionally favorable or the cycle length is very short.	<10
B	Volume-to-capacity ratio is no greater than 1.0. Progression is highly favorable or the cycle length is very short.	>10-20
C	Volume-to-capacity ratio is no greater than 1.0. Progression is favorable or cycle length is moderate.	>20-35
D	Volume-to-capacity ratio is high but no greater than 1.0. Progression is ineffective or cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35-55
E	Volume-to-capacity ratio is high but no greater than 1.0. Progression is unfavorable and cycle length is long. Individual cycle failures are frequent.	>55-80
F	Volume-to-capacity ratio is greater than 1.0. Progression is very poor and cycle length is long. Most cycles fail to clear the queue.	>80

Reference for Tables 1 and 2: *Highway Capacity Manual, 7th Edition,* Transportation Research Board, 2022

The City of Clovis General Plan requires a minimum LOS D at intersections under the City's jurisdiction. The City Guidelines state: *"All City intersections and roadway segments shall operate at a LOS D or better under the near-term conditions, unless a finding of overriding consideration was adopted in the General Plan EIR. Under long-term conditions, all City intersections and roadway segments shall operate at a LOS D or better, except for the roadway segments adopted in the General Plan EIR to operate at LOS E or F. Exceptions to this standard may be allowed on a case by case basis where lower levels of service would result in other public benefits, such as:*

a) Preserving agriculture or open space land
b) Preserving the rural/historic character of a neighborhood
c) Preserving or creating a pedestrian-friendly environment in Old Town or mixed-use village districts
d) Avoiding adverse impacts to pedestrians, cyclists, and transit riders
e) Where right-of-way constraints would make capacity expansion infeasible"

For purposes of this study, a traffic issue may be identified if the addition of the traffic generated by the Project results in any one of the following:

- Triggers an intersection operating at acceptable LOS to operate at unacceptable levels of service;
- Increases the average delay for a study intersection that is already operating at unacceptable LOS.

8.0 EXISTING TRAFFIC VOLUMES

Existing traffic volumes were determined by performing manual turning movement counts between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. on a weekday. The traffic count

data sheets are presented in Appendix B. The existing peak-hour turning movement volumes are presented in Figure 5, Existing Peak-Hour Traffic Volumes.

9.0 PROJECT TRIPS

9.1 Project Trip Generation

Data provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, are typically used to estimate the number of trips anticipated to be generated by proposed projects. Table 3 presents the vehicle trip generation estimates for the Project.

Table 3
Project Trip Generation Estimate

Land Use	Units	Daily		A.M. Peak Hour					P.M. Peak Hour				
		Rate	Total	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Hotel (310)	242	7.99	1,934	0.46	56:44	63	49	112	0.59	51:49	73	70	143
Hotel (310)	108	7.99	863	0.46	56:44	28	22	50	0.59	51:49	33	31	64
TOTAL:	**350**	**-**	**2,797**	**-**	**-**	**91**	**71**	**162**	**-**	**-**	**106**	**101**	**207**

Reference: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers 2021
Rates are reported in trips per room

9.2 Trip Generation – Comparison with Current General Plan Designation

The City of Clovis General Plan designates the site as Office. It is assumed that a 90,000-square-foot medical office building with approximately 359 parking spaces (floor area ratio of approximately 28 percent) is feasible on the 7.45-acre site. Table 4 presents the vehicle trip generation estimates for potential development of the site with a medical office.

Table 4
Office Trip Generation Estimate

Land Use	Units	Daily		A.M. Peak Hour					P.M. Peak Hour				
		Rate	Total	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Medical-Dental Office Building – Stand-Alone (720)	90.0	36.00	3,240	3.10	79:21	220	59	279	3.93	30:70	106	248	354

Reference: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers 2021
Rates are reported in trips per 1,000 square feet of building area.

Table 5 presents the net Project trip generation by taking the difference between the proposed Project trip generation (Table 3) and the office land use trip generation (Table 4).

Table 5
Net Project Trip Generation

Development	Daily	A.M. Peak Hour	P.M. Peak Hour
Hotels	2,797	162	207
Medical Office	3,240	279	354
Difference	**-443**	**-117**	**-147**

The results of the trip generation comparison indicate that the proposed Project will likely result in fewer trips than would have occurred if the site were developed in accordance with the current General Plan land use designation.

9.3 Project Parking Generation

Data provided in the Institute of Transportation Engineers (ITE) *Parking Generation Manual, 5th Edition* dated January 2019 were used to estimate the number of parked vehicles anticipated to be generated by the hotels based on empirical data. Table 6 presents parking generation calculations based on ITE Land Use 310, Hotel, for both weekday peak and Saturday peak conditions for General Urban conditions.

Table 6
ITE Parking Generation Estimates – General Urban

Scenario	ITE Land Use	ITE Code	Occupied Rooms	Peak Hour Parking Demand	
				Rate	Demand
Weekday	Hotel	310	350	0.83	291
Saturday	Hotel	310	350	1.18	413

Reference: *Parking Generation Manual, 5th Edition,* Institute of Transportation Engineers 2019
Rates are reported in vehicles per occupied room, assuming all rooms are occupied.

Table 7 presents parking generation calculations based on ITE Land Use 310, Hotel, for both weekday peak and Saturday peak conditions for Dense Multi-Use Urban conditions.

Table 7
ITE Parking Generation Estimates – Dense Multi-Use Urban

Scenario	ITE Land Use	ITE Code	Rooms	Peak Hour Parking Demand	
				Rate	Demand
Weekday	Hotel	310	350	0.89	312
Saturday	Hotel	310	350	0.71	249

Reference: *Parking Generation Manual, 5th Edition,* Institute of Transportation Engineers 2019
Rates are reported in vehicles per occupied room, assuming all rooms are occupied.

A review of the time-of-day distributions presented in the *Parking Generation Manual* indicates that the peak parking hour for all of the scenarios calculated above occurs between 12:00 a.m. and 9:00 a.m., with the exception that the peak for Saturdays in general urban/suburban areas (Table 6) occurred at about 9:00 p.m. and then declines substantially by 11:00 p.m. This suggests the data for Saturdays in Table 6 are likely influenced by large events such as wedding receptions and banquets.

It appears reasonable to estimate the peak parking demand will be on the order of 291 to 312 parking spaces in the absence of large events when the hotels are at 100-percent occupancy.

9.4 Project Trip Distribution and Assignment

The regional distribution of Project trips was estimated using the results of a select zone analysis utilizing the Fresno County travel model maintained by the Fresno Council of Governments (COG), engineering judgment based on knowledge of, and familiarity with, the

Project site area, the traffic counts, the location and configuration of site access points, and available travel routes. A COG-approved traffic modeling consultant performed the Project-specific traffic modeling and the results are presented in Appendix A.

The estimated percentage distribution of Project trips is presented in Figure 6, Peak-Hour Project Traffic Distribution Percentages. The peak-hour trips presented in Table 3 were assigned to the adjacent road network in accordance with the trip distribution percentages in Figure 6. The peak-hour Project traffic volumes at the study intersections for existing-plus-Project and near-term conditions are presented in Figure 7, Peak-Hour Project Traffic Volumes (Near-Term Scenarios). In the future conditions, when the intersection of Helm and Herndon Avenues has been opened to left turns from the southbound approach, the Project trips are expected to be as presented in Figure 8, Peak-Hour Project Traffic Volumes (Future Scenario).

10.0 EXISTING-PLUS-PROJECT TRAFFIC VOLUMES

Existing-Plus-Project traffic volumes are presented in Figure 9, Existing-Plus-Project Peak-Hour Traffic Volumes. The values in Figure 9 were determined by adding the values in Figures 5 and 7.

11.0 PENDING/APPROVED PROJECTS

Projects that were pending or approved but not yet occupied when the traffic counts were performed are considered in the analyses. City staff indicated the following projects should be considered in the analyses:

- SPR 2019-006: 10,143-square-foot medical office building northwest of the intersection of Villa and Herndon Avenues.
- SPR 2023-008: two 44,376-square-foot medical office buildings (total 88,752 square feet) on the north side of Magill Avenue at Timmy Avenue.

The trip generation estimates for the cumulative projects are presented in Table 8.

Table 8
Pending/Approved Trip Generation Estimate

Land Use	Area	Daily		A.M. Peak Hour					P.M. Peak Hour				
		Rate	Total	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Medical-Dental Office Building - Stand-Alone (720)	10,143 sq. ft.	36.00	366	3.10	79:21	25	7	32	3.93	30:70	12	28	40
	88,752 sq. ft.	36.00	3,196	3.10	79:21	218	58	276	3.93	30:70	105	244	349

Reference: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers 2021
Rates are reported in trips 1,000 square feet of building area

12.0 NEAR-TERM TRAFFIC VOLUMES

Peak-hour near-term with-Project traffic volumes are presented in Figure 10, Near-Term With-Project Peak-Hour Traffic Volumes and include trips expected to be generated by the specified cumulative projects.

13.0 CUMULATIVE YEAR 2045 TRAFFIC VOLUMES

Cumulative traffic volumes for the year 2045 were estimated based on information available from the COG travel model. The base year and horizon year model output is presented in Appendix A. Future weekday turning movements were estimated based on the methods presented in Chapter 8 of the Transportation Research Board National Cooperative Highway Research Program Report 255 entitled *"Highway Traffic Data for Urbanized Area Project Planning and Design."* Cumulative With-Project traffic volumes are presented in Figure 11, Cumulative (Year 2045) With-Project Peak-Hour Traffic Volumes.

14.0 INTERSECTION ANALYSES

The intersection levels of service were determined using the computer program Synchro 11, which incorporates HCM procedures for calculating levels of service. For roundabouts, the computer program Sidra Intersection 9 was utilized. The intersection analysis sheets are presented in Appendix C.

Tables 9 through 12 present the results of the intersection analyses. For signalized intersections, the overall intersection LOS and the average delay per vehicle are presented. For one-way and two-way stop-controlled intersections, the HCM does not define an overall intersection LOS; therefore, the average delay and LOS for the approach with the greatest delay is presented. Delays and LOS worse than the target LOS are presented in bold type and are underlined.

Table 9
Intersection LOS Summary – Existing Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Peach / Spruce	One-way stop	17.2	C	23.3	C
Peach / Fir	One-way stop	14.2	B	15.8	C
Willow / Herndon	Signals	46.0	D	40.9	D
Helm / Herndon	Signals	4.5	A	5.5	A
Peach / Herndon	Signals	32.7	C	32.9	C
Villa / Herndon	Signals	33.4	C	32.1	C
Willow / Magill	Signals	12.0	B	21.9	C
Peach / Magill	One-way stop	14.1	B	12.8	B
Peach / Peach	One-way stop	11.9	B	11.6	B
Minnewawa / Alluvial	Signals	31.0	C	24.4	C

Table 10
Intersection LOS Summary – Existing-Plus-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Peach / Spruce	One-way stop	17.2	C	23.7	C
Peach / Fir	One-way stop	14.3	B	15.9	C
Willow / Herndon	Signals	46.8	D	41.4	D
Helm / Herndon	Signals	4.4	A	5.5	A
Peach / Herndon	Signals	33.7	C	35.4	D
Villa / Herndon	Signals	33.7	C	32.8	C
Willow / Magill	Signals	12.2	B	23.5	C
Peach / Magill	One-way stop	17.8	C	16.7	C
Peach / Peach	One-way stop	12.0	B	11.7	B
Minnewawa / Alluvial	Signals	31.0	C	24.4	C

Table 11
Intersection LOS Summary – Near-Term With-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Peach / Spruce	One-way stop	17.9	C	24.8	C
Peach / Fir	One-way stop	14.4	B	16.4	C
Willow / Herndon	Signals	48.3	D	42.5	D
Helm / Herndon	Signals	4.4	A	5.5	A
Peach / Herndon	Signals	35.9	D	37.9	D
Villa / Herndon	Signals	33.9	C	33.5	C
Willow / Magill	Signals	15.2	B	26.1	C
Peach / Magill	One-way stop	24.6	C	31.8	D
Peach / Peach	One-way stop	12.2	B	12.0	B
Minnewawa / Alluvial	Signals	31.5	C	24.7	C

Table 12
Intersection LOS Summary – Year 2045 Cumulative With-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Peach / Spruce	One-way stop	**64.3**	**F**	**>300**	**F**
Peach / Fir	One-way stop	20.3	C	**50.4**	**F**
Willow / Herndon	Signals	**99.9**	**F**	**95.7**	**F**
Helm / Herndon	Signals	14.4	B	14.5	B
Peach / Herndon	Signals	51.0	D	43.8	D
Villa / Herndon	Signals	43.5	D	44.3	D
Willow / Magill	Signals	19.4	B	48.3	D
Peach / Magill	One-way stop	28.1	D	**41.4**	**E**
Peach / Peach	One-way stop	13.0	B	12.8	B
Minnewawa / Alluvial	Signals	40.6	D	37.0	D

The results of the intersection operational analyses include an estimate of the 95th-percentile queue lengths. The existing storage capacity (where applicable) and the calculated 95th-percentile queue lengths are presented in Tables 13 through 16. The storage capacities reported in Tables 13 through 16 are based on measurements from available aerial photographs. Calculated 95th-percentile queue lengths that exceed the storage capacity by more than 25 (approximate average space required for storage of each vehicle) or that are considered to be excessive are indicated in bold type and are underlined.

Table 13
Intersection Queuing Summary – Existing Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Peach / Spruce	Lanes	1		S				1	1			1	S
	Storage	1,350						175	350			470	
	A.M.	38						5	DNS			DNS	
	P.M.	128						5	DNS			DNS	
Peach / Fir	Lanes				1		S		1	S	1	1	
	Storage				1,840				385		175	350	
	A.M.				18				DNS		8	DNS	
	P.M.				40				DNS		5	DNS	
Willow / Herndon	Lanes	2	3	1	2	3	1	2	3	1	2	2	1
	Storage	280	1,800	220	265	1,235	140	315	560	215	250	1,110	200
	A.M.	160	271	95	52	594	49	292	246	22	91	508	119
	P.M.	239	520	**295**	126	361	122	195	330	35	110	357	65
Helm / Herndon	Lanes	2	3			3	1						2
	Storage	300	1,245			1,250	200						>650
	A.M.	12	46			193	14						0
	P.M.	22	97			136	25						0
Peach / Herndon	Lanes	1	3	1	1	3	1	1	1	1	1	1	1
	Storage	285	1,300	125	150	1,765	110	235	>400	50	100+	>400	220
	A.M.	155	233	0	51	539	17	92	255	0	259	215	35
	P.M.	145	523	39	81	453	100	80	138	0	**383**	192	43
Villa / Herndon	Lanes	1	3	1	2	3	1	2	1	1	2	2	1
	Storage	290	1,175	110	255	1,900	165	180	2,525	185+	150	350	150
	A.M.	138	249	56	63	510	129	103	360	44	140	122	28
	P.M.	124	541	52	78	429	70	88	286	15	160	130	9
Willow / Magill	Lanes	1	1	S	1	1	1	1	2	S	1	2	1
	Storage	Priv.	Priv.		80	825	80	140	1,885		165	565	75
	A.M.	60	35		23	14	0	35	443		106	248	0
	P.M.	154	60		41	20	0	85	476		140	348	0
Peach / Magill	Lanes	1		S				S	1			1	S
	Storage	910							400			>490	
	A.M.	18							3			DNS	
	P.M.	13							3			DNS	
Peach / Peach	Lanes				1		S		1	1	S	1	
	Storage				760				1,625	100		485	
	A.M.				3				DNS	DNS		0	
	P.M.				5				DNS	DNS		0	
Minnewawa / Alluvial	Lanes	1	1	1	1	1	1	1	2	S	1	1	1
	Storage	120+	2,525	120	150+	2,675	120	250	2,720		250	2,550	200+
	A.M.	45	226	0	77	408	32	105	208		110	424	10
	P.M.	45	322	10	37	239	17	80	203		91	271	0

S: shared movement DNS: does not stop Priv.: private shopping center driveway

Table 14
Intersection Queuing Summary – Existing-Plus-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Peach / Spruce	Lanes	1		S				1	1			1	S
	Storage	1,350						175	350			470	
	A.M.	38						5	DNS			DNS	
	P.M.	130						5	DNS			DNS	
Peach / Fir	Lanes				1		S		1	S	1	1	
	Storage				1,840				385		175	350	
	A.M.				18				DNS		8	DNS	
	P.M.				40				DNS		5	DNS	
Willow / Herndon	Lanes	2	3	1	2	3	1	2	3	1	2	2	1
	Storage	280	1,800	220	265	1,235	140	315	560	215	250	1,110	200
	A.M.	160	279	100	55	606	51	295	246	25	94	508	119
	P.M.	239	532	**305**	131	371	127	200	330	39	113	357	65
Helm / Herndon	Lanes	2	3			3	1						2
	Storage	300	1,245			1,250	200						>650
	A.M.	12	47			197	14						0
	P.M.	23	100			141	25						0
Peach / Herndon	Lanes	1	3	1	1	3	1	1	1	1	1	1	1
	Storage	285	1,300	125	150	1,765	110	235	>400	50	100+	>400	220
	A.M.	155	233	19	125	539	17	136	261	0	259	219	35
	P.M.	146	527	64	**183**	457	101	141	144	3	**386**	197	43
Villa / Herndon	Lanes	1	3	1	2	3	1	2	1	1	2	2	1
	Storage	290	1,175	110	255	1,900	165	180	2,525	185+	150	350	150
	A.M.	148	255	57	63	523	131	105	360	44	140	122	31
	P.M.	130	556	55	78	442	70	90	286	15	160	130	13
Willow / Magill	Lanes	1	1	S	1	1	1	1	2	S	1	2	1
	Storage	Priv.	Priv.		80	825	80	140	1,885		165	565	75
	A.M.	60	36		34	14	0	36	449		113	249	0
	P.M.	154	60		55	20	0	85	486		145	350	0
Peach / Magill	Lanes	1		S				S	1			1	S
	Storage	910							400			>490	
	A.M.	40							3			DNS	
	P.M.	40							3			DNS	
Peach / Peach	Lanes				1		S		1	1	S	1	
	Storage				760				1,625	100		485	
	A.M.				3				DNS	DNS		0	
	P.M.				5				DNS	DNS		0	
Minnewawa / Alluvial	Lanes	1	1	1	1	1	1	1	2	S	1	1	1
	Storage	120+	2,525	120	150+	2,675	120	250	2,720		250	2,550	200+
	A.M.	45	226	0	78	408	32	105	209		110	428	10
	P.M.	45	322	10	38	239	17	80	205		91	274	0

S: shared movement DNS: does not stop Priv.: private shopping center driveway

Table 15
Intersection Queuing Summary – Near-Term With-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Peach / Spruce	Lanes	1		S				1	1			1	S
	Storage	1,350						175	350			470	
	A.M.	40						5	DNS			DNS	
	P.M.	135						5	DNS			DNS	
Peach / Fir	Lanes				1		S		1	S	1	1	
	Storage				1,840				385		175	350	
	A.M.				18				DNS		8	DNS	
	P.M.				43				DNS		5	DNS	
Willow / Herndon	Lanes	2	3	1	2	3	1	2	3	1	2	2	1
	Storage	280	1,800	220	265	1,235	140	315	560	215	250	1,110	200
	A.M.	164	288	148	56	615	52	309	246	25	95	508	117
	P.M.	245	536	**306**	128	372	127	219	339	39	114	376	72
Helm / Herndon	Lanes	2	3			3	1						2
	Storage	300	1,245			1,250	200						>650
	A.M.	12	47			198	14						0
	P.M.	23	100			143	25						0
Peach / Herndon	Lanes	1	3	1	1	3	1	1	1	1	1	1	1
	Storage	285	1,300	125	150	1,765	110	235	>400	50	100+	>400	220
	A.M.	155	278	12	164	547	36	128	265	0	259	247	36
	P.M.	154	597	74	**198**	449	98	141	173	77	**422**	231	47
Villa / Herndon	Lanes	1	3	1	2	3	1	2	1	1	2	2	1
	Storage	290	1,175	110	255	1,900	165	180	2,525	185+	150	350	150
	A.M.	159	253	57	63	530	130	110	364	44	140	124	43
	P.M.	157	563	62	78	450	70	92	289	15	160	132	23
Willow / Magill	Lanes	1	1	S	1	1	1	1	2	S	1	2	1
	Storage	Priv.	Priv.		80	825	80	140	1,885		165	565	75
	A.M.	62	36		51	14	0	37	513		167	248	0
	P.M.	174	64		**108**	20	43	88	535		**191**	367	0
Peach / Magill	Lanes	1		S				S	1			1	S
	Storage	910							400			>490	
	A.M.	70							8			DNS	
	P.M.	143							8			DNS	
Peach / Peach	Lanes				1		S		1	1	S	1	
	Storage				760				1,625	100		485	
	A.M.				3				DNS	DNS		0	
	P.M.				5				DNS	DNS		0	
Minnewawa / Alluvial	Lanes	1	1	1	1	1	1	1	2	S	1	1	1
	Storage	120+	2,525	120	150+	2,675	120	250	2,720		250	2,550	200+
	A.M.	45	217	18	102	408	54	105	200		126	444	10
	P.M.	45	322	10	44	239	17	80	215		91	280	0

S: shared movement DNS: does not stop Priv.: private shopping center driveway

Table 16
Intersection Queuing Summary – Year 2045 Cumulative With-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Peach / Spruce	Lanes	1		S				1	1			1	S
	Storage	1,350						175	350			470	
	A.M.	213						30	DNS			DNS	
	P.M.	1,065						33	DNS			DNS	
Peach / Fir	Lanes				1		S		1	S	1	1	
	Storage				1,840				385		175	350	
	A.M.				33				DNS		13	DNS	
	P.M.				160				DNS		8	DNS	
Willow / Herndon	Lanes	2	3	1	2	3	1	2	3	1	2	2	1
	Storage	280	1,800	220	265	1,235	140	315	560	215	250	1,110	200
	A.M.	261	537	**341**	189	1,026	115	**501**	381	55	155	996	209
	P.M.	**379**	1,019	**720**	**340**	596	**256**	**422**	**716**	169	230	897	**230**
Helm / Herndon	Lanes	2	3			3	1				2		2
	Storage	300	1,245			1,250	200				325		>650
	A.M.	130	131			528	35				129		31
	P.M.	173	320			438	76				167		44
Peach / Herndon	Lanes	1	3	1	1	3	1	1	1	1	2	1	1
	Storage	285	1,300	125	150	1,765	110	235	>400	50	100+	>400	220
	A.M.	**403**	366	32	**176**	821	**149**	189	405	10	246	311	55
	P.M.	**459**	652	58	**214**	609	**199**	233	180	48	267	286	163
Villa / Herndon	Lanes	1	3	1	2	3	1	2	1	1	2	2	1
	Storage	290	1,175	110	255	1,900	165	180	2,525	185+	150	350	150
	A.M.	210	319	111	76	714	170	146	539	66	**205**	163	52
	P.M.	242	738	**158**	156	545	171	151	425	69	**231**	181	51
Willow / Magill	Lanes	1	1	S	1	1	1	1	2	S	1	2	1
	Storage	Priv.	Priv.		80	825	80	140	1,885		165	565	75
	A.M.	68	40		50	16	0	87	712		**213**	**608**	16
	P.M.	291	89		**154**	28	70	**170**	1,281		**304**	**893**	5
Peach / Magill	Lanes	1		S				S	1			1	S
	Storage	910							400			>490	
	A.M.	83							5			DNS	
	P.M.	173							5			DNS	
Peach / Peach	Lanes				1		S		1	1	S	1	
	Storage				760				1,625	100		485	
	A.M.				5				DNS	DNS		0	
	P.M.				8				DNS	DNS		0	
Minnewawa / Alluvial	Lanes	1	1	1	1	1	1	1	2	S	1	1	1
	Storage	120+	2,525	120	150+	2,675	120	250	2,720		250	2,550	200+
	A.M.	61	276	8	124	543	77	135	304		180	596	30
	P.M.	61	514	21	50	352	44	126	271		149	598	0

S: shared movement DNS: does not stop Priv.: private shopping center driveway

15.0 DISCUSSION

15.1 Existing Conditions

The results of the analyses indicate that the study intersections are currently operating at acceptable levels of service. The calculated 95th-percentile queues are contained within the available storage capacity, with the following exceptions:

- Willow Avenue / Herndon Avenue: right-turn lane on the eastbound approach during the p.m. peak hour.
- Peach Avenue / Herndon Avenue: left-turn lane on the southbound approach during the p.m. peak hour.

15.2 Existing-Plus-Project Conditions

The existing-plus-Project-conditions analyses represent conditions that would occur after construction of the Project if none of the pending and approved projects were constructed. This scenario isolates the specific effects of the Project.

The results of the analyses indicate that the study intersections are expected to continue to operate at acceptable levels of service. The Project will not cause the study intersections to operate worse than the target LOS.

Calculated 95th-percentile queues exceed the available storage capacity at the following locations:

- Willow Avenue / Herndon Avenue: right-turn lane on the eastbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition).
- Peach Avenue / Herndon Avenue: left-turn lane on the southbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition) and the left-turn lane on the westbound approach during the p.m. peak hour.

Potential Improvements

The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods. The existing left-turn lane (approximately 150 feet long) is shorter than most similar left-turn lanes in median islands at signalized intersections. In order to prevent queues in the left-turn lane from backing up into the adjacent through lane, the existing left-turn lane could be lengthened to provide at least 275 feet of storage.

15.3 Near-Term With-Project Conditions

The near-term with-Project analyses represent conditions that are expected after construction of the Project and the known pending and approved projects. This scenario isolates the near-term cumulative effects of the Project and other known projects.

The results of the analyses indicate that the study intersections are expected to continue to operate at acceptable levels of service. The cumulative near-term projects will not cause the study intersections to operate worse than the target LOS.

Calculated 95th-percentile queues exceed the available storage capacity at the following locations:

- Willow Avenue / Herndon Avenue: right-turn lane on the eastbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition).
- Peach Avenue / Herndon Avenue: left-turn lane on the southbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition) and the left-turn lane on the westbound approach during the p.m. peak hour (this condition is similar to the existing-plus-Project conditions).
- Willow Avenue / Magill Avenue: left-turn lanes on the westbound and southbound approaches during the p.m. peak hour. These queues are expected to exceed the storage capacity primarily as a result of the SPR 2023-008 medical office buildings on the north side of Magill Avenue at Timmy Avenue.

Potential Improvements

The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods as discussed above for the existing-plus-Project conditions.

At the intersection of Willow and Magill Avenues, the length of the left-turn lane on the westbound approach could likely be extended with striping modifications. However, the length of the left-turn lane on the southbound approach appears to be constrained by the left-turn lanes on the northbound Willow Avenue approach to Herndon Avenue.

15.4 Cumulative Year 2045 With-Project Conditions

The year 2045 cumulative with-Project conditions analyses are based on the assumption that the Project has been constructed, the pending and approved projects have been constructed, and that 20 years of growth has occurred in the Clovis, Fresno, and Fresno County region as incorporated into the adopted Fresno County travel model.

The analyses indicate that the following study intersections are expected to operate worse than the target LOS D:

- Peach Avenue / Spruce Avenue: LOS F during the a.m. and p.m. peak hours on the eastbound approach.
- Peach Avenue / Fir Avenue: LOS F during the p.m. peak hour on the westbound approach.
- Willow Avenue / Herndon Avenue: LOS F during the a.m. and p.m. peak hours.
- Peach Avenue / Magill Avenue: LOS E during the peak hour on the eastbound approach.

The calculated 95th-percentile queues exceed the storage capacity during at least one peak hour at following locations:

- Willow Avenue / Herndon Avenue: left-turn lanes on the eastbound, westbound, and northbound approaches, right-turn lanes on the eastbound, westbound, and southbound approaches, and the through lanes on the northbound approach.
- Peach Avenue / Herndon Avenue: left-turn lanes on the eastbound and westbound approaches and right-turn lane on the westbound approach. (It should be noted that the future lane configurations include the assumption that a second left-turn lane has been constructed on the southbound approach.)
- Villa Avenue / Herndon Avenue: left-turn lane on the southbound approach and right-turn lane on the eastbound approach.
- Willow Avenue / Magill Avenue: left-turn lanes on the eastbound, northbound, and southbound approaches, through lanes on the southbound approach.

Potential Improvements

The intersection of Peach and Spruce Avenues is expected to require signalization or a roundabout to operate at acceptable LOS. With signalization, the intersection is expected to operate at LOS B during the a.m. and p.m. peak hours in the year 2045. As a single-lane roundabout, the intersection is expected to operate at LOS A during the a.m. peak hour and LOS B during the p.m. peak hour in the year 2045. The queueing analyses suggest that there is no clear preferred option; therefore, the eventual improvement could be determined based on cost. Traffic signal installations at existing intersections are typically less costly than new roundabouts. The intersection analysis sheets for the improved conditions are presented in Appendix D. The improved conditions are summarized in Tables 17 and 18.

The intersection of Peach and Fir Avenues is expected to be frequently blocked by queues extending from Herndon Avenue. Furthermore, the relatively short distances between Fir and Herndon Avenues and between Fir and Spruce Avenues suggests that signalization is not an option at Fir Avenue. Therefore, it is suggested that westbound-to-southbound left turns from Fir Avenue to Peach Avenue may ultimately need to be restricted. A median worm could be constructed on Peach Avenue that would prevent left turns from Fir Avenue while allowing southbound-to-eastbound left turns to Fir Avenue.

The intersection of Willow and Herndon Avenues has been constructed to its ultimate configuration; therefore, physical improvements are not likely to be feasible. The City has considered timing improvements, such as adaptive signal control technology that adjusts signal timing in real time, to optimize traffic progression on the Herndon Avenue corridor. Lengthening existing turn lanes may be considered to reduce the potential for queues to block through lanes.

The intersection of Peach and Herndon Avenues is expected to operate at acceptable LOS; however, calculated 95th-percentile queues exceeding 400 feet in the left-turn lane on the eastbound approach suggest that the lane may require lengthening in the future, or a second left-turn lane may be considered. The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the

intersection of Peach and Herndon Avenues during peak periods as discussed above for the existing-plus-Project conditions. The right-turn lane on the westbound approach may also benefit from lengthening in the future; however, long queues expected in the through lanes are likely to govern accessibility to the right-turn lane.

The intersection of Villa and Herndon Avenues has been constructed to its ultimate configuration; therefore, physical improvements to address queuing issues are not likely to be feasible. The length of the left-turn lane on the southbound approach appears to be constrained by the left-turn lane on the northbound Villa Avenue approach to Fir Avenue. The right-turn lane on the eastbound approach may benefit from lengthening in the future.

At the intersection of Willow and Magill Avenues, the length of the left-turn lane on the westbound approach could likely be extended with striping modifications. However, the lengths of the left-turn lanes on the northbound and southbound approaches appear to be constrained by other left-turn lanes.

The intersection of Peach and Magill Avenues is expected to require signalization or a roundabout to operate at acceptable LOS. With signalization, the intersection is expected to operate at LOS B during the a.m. and p.m. peak hours in the year 2045. As a single-lane roundabout, the intersection is expected to operate at LOS A during the a.m. and p.m. peak hours in the year 2045. Considering the approximate 400-foot spacing to Herndon Avenue, coordination of traffic signals at Magill Avenue and at Herndon Avenue to prevent blocking of intersections may be difficult to achieve, particularly if priority if given to the Herndon Avenue corridor. Therefore, a roundabout may be the preferred alternative. The intersection analysis sheets for the improved conditions are presented in Appendix D. The improved conditions are summarized in Tables 17 and 18.

Table 17
Intersection LOS Summary
Improved Year 2045 Cumulative With-Project Conditions

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Peach / Spruce	Signals	18.8	B	18.6	B
	Roundabout	7.8	A	10.8	B
Peach / Magill	Signals	13.4	B	18.2	B
	Roundabout	5.5	A	6.2	A

Table 18
Intersection Queuing Summary
Improved Year 2045 Cumulative With-Project Conditions

Intersection		Number of Lanes, Storage (feet), and Queue Length (feet)											
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Peach / Spruce Signals	Lanes	1		1				1	1			1	1
	Storage	1,350		TBD				TBD	350			470	TBD
	A.M.	66		61				210	113			455	23
	P.M.	178		77				241	220			311	39
Peach / Spruce Roundabout	Lanes	1		S				S	1			1	S
	Storage	1,350							350			350	
	A.M.	109							133			260	
	P.M.	270							372			174	
Peach / Magill Signals	Lanes	1		1				1	1			1	S
	Storage	910		TBD				TBD	400			>490	
	A.M.	116		21				65	82			245	
	P.M.	190		27				60	65			304	
Peach / Magill Roundabout	Lanes	1		S				S	1			1	S
	Storage	910							400			>490	
	A.M.	28							55			74	
	P.M.	53							37			80	

S: shared movement TBD: to be determined

16.0 EQUITABLE SHARE CALCULATIONS

Where required future improvements are not included in established development fees and are not the sole responsibility of a particular project, but rather a cumulative result of regional growth, the responsibility for the improvement may be determined based on equitable share calculations as presented in the Caltrans *Guide for the Preparation of Traffic Impact Studies* dated December 2002. The following equation was used to determine the project's equitable share percentage at the intersections that may require improvements to improve LOS to acceptable levels.

where:

$$P = \frac{T}{T_B - T_E}$$

P = The equitable share of the project's traffic responsibility;
T = The project trips generated during the peak hour of the adjacent facility;
T_B = The forecasted (future with project) traffic volume on the affected facility;
T_E = The existing traffic on the State Highway facility.

Table 19 presents equitable share responsibility calculations.

Table 19
Equitable Share Responsibility Calculations – P.M. Peak Hour

Location	Project Trips	Existing Traffic	2045 Traffic	Equitable Share
Peach / Spruce	10	1,232	2,031	1.3%
Peach / Fir	10	1,158	1,792	1.6%
Peach / Magill	173	579	1,017	39.5%

Alternatively, the Project trips may be divided by the year 2045 traffic volume to determine the Project's percentage of the overall traffic as presented in Table 20.

Table 20
Project Percentage of Total Trips – Year 2045 P.M. Peak Hour

Location	Project Trips	2045 Traffic	Equitable Share
Peach / Spruce	10	2,031	0.5%
Peach / Fir	10	1,792	0.6%
Peach / Magill	173	1,017	17.0%

17.0 CONCLUSIONS AND RECOMMENDATIONS

Standard traffic engineering principles and methods were employed to establish the existing conditions, to estimate the number of trips expected to be generated by the Project, and to analyze the traffic conditions that are expected to occur in the future. The conclusions of the study are summarized in the following sections.

Trip Generation

The Project is expected to generate approximately 2,797 vehicle trips per weekday (approximately 1,399 trips entering the site and 1,399 trips exiting the site). Weekday peak-hour traffic volumes are expected to be on the order of 162 trips during the a.m. peak hour and 207 trips during the p.m. peak hour.

The proposed Project will likely result in fewer trips than would have occurred if the site were developed in accordance with the current General Plan land use designation.

CEQA Impact Analysis (VMT)

Project-specific traffic modeling indicates the regional VMT with the Project is less than the regional VMT without the Project. Therefore, the Project does not create a significant transportation impact.

Existing Conditions

The study intersections are currently operating at acceptable levels of service. The calculated 95th-percentile queues are contained within the available storage capacity, with the following exceptions:

- Willow Avenue / Herndon Avenue: right-turn lane on the eastbound approach during the p.m. peak hour.
- Peach Avenue / Herndon Avenue: left-turn lane on the southbound approach during the p.m. peak hour.

Existing-Plus-Project Conditions

The study intersections are expected to continue to operate at levels of service very similar to the existing conditions. The Project will not cause the study intersections to operate worse than the target LOS. The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods. The existing left-turn lane (approximately 150 feet long) is shorter than most similar left-turn lanes in median islands at signalized intersections. In order to prevent queues in the left-turn lane from backing up into the adjacent through lane, the existing left-turn lane could be lengthened to provide at least 275 feet of storage.

Near-Term With-Project Conditions

The study intersections are expected to continue to operate at acceptable levels of service. The cumulative near-term projects will not cause the study intersections to operate worse than the target LOS. Calculated 95th-percentile queues exceed the available storage capacity at the following locations:

- Willow Avenue / Herndon Avenue: right-turn lane on the eastbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition).
- Peach Avenue / Herndon Avenue: left-turn lane on the southbound approach during the p.m. peak hour (this condition is nearly identical to the existing condition) and the left-turn lane on the westbound approach during the p.m. peak hour (this condition is similar to the existing-plus-Project conditions).
- Willow Avenue / Magill Avenue: left-turn lanes on the westbound and southbound approaches during the p.m. peak hour. These queues are expected to exceed the storage capacity primarily as a result of the SPR 2023-008 medical office buildings on the north side of Magill Avenue at Timmy Avenue.

The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods as discussed above for the existing-plus-Project conditions.

At the intersection of Willow and Magill Avenues, the length of the left-turn lane on the westbound approach could likely be extended with striping modifications. However, the

length of the left-turn lane on the southbound approach appears to be constrained by the left-turn lanes on the northbound Willow Avenue approach to Herndon Avenue.

Cumulative Year 2045 With-Project Conditions

The following study intersections are expected to operate worse than the target LOS D in the year 2045:

- Peach Avenue / Spruce Avenue: LOS F during the a.m. and p.m. peak hours on the eastbound approach.
- Peach Avenue / Fir Avenue: LOS F during the p.m. peak hour on the westbound approach.
- Willow Avenue / Herndon Avenue: LOS F during the a.m. and p.m. peak hours.
- Peach Avenue / Magill Avenue: LOS E during the peak hour on the eastbound approach.

The calculated 95th-percentile queues exceed the storage capacity during at least one peak hour at following locations:

- Willow Avenue / Herndon Avenue: left-turn lanes on the eastbound, westbound, and northbound approaches, right-turn lanes on the eastbound, westbound, and southbound approaches, and the through lanes on the northbound approach.
- Peach Avenue / Herndon Avenue: left-turn lanes on the eastbound and westbound approaches and right-turn lane on the westbound approach. (It should be noted that the future lane configurations include the assumption that a second left-turn lane has been constructed on the southbound approach.)
- Villa Avenue / Herndon Avenue: left-turn lane on the southbound approach and right-turn lane on the eastbound approach.
- Willow Avenue / Magill Avenue: left-turn lanes on the eastbound, northbound, and southbound approaches, through lanes on the southbound approach.

Potential Improvements

The intersection of Peach and Spruce Avenues is expected to require signalization or a roundabout to operate at acceptable LOS. With signalization, the intersection is expected to operate at LOS B during the a.m. and p.m. peak hours in the year 2045. As a single-lane roundabout, the intersection is expected to operate at LOS A during the a.m. peak hour and LOS B during the p.m. peak hour in the year 2045. The queueing analyses suggest that there is no clear preferred option; therefore, the eventual improvement could be determined based on cost. Traffic signal installations at existing intersections are typically less costly than new roundabouts.

The intersection of Peach and Fir Avenues is expected to be frequently blocked by queues extending from Herndon Avenue. Furthermore, the relatively short distances between Fir and Herndon Avenues and between Fir and Spruce Avenues suggests that signalization is not an option at Fir Avenue. Therefore, it is suggested that westbound-to-southbound left turns

from Fir Avenue to Peach Avenue may ultimately need to be restricted. A median worm could be constructed on Peach Avenue that would prevent left turns from Fir Avenue while allowing southbound-to-eastbound left turns to Fir Avenue.

The intersection of Willow and Herndon Avenues has been constructed to its ultimate configuration; therefore, physical improvements are not likely to be feasible. The City has considered timing improvements, such as adaptive signal control technology that adjusts signal timing in real time, to optimize traffic progression on the Herndon Avenue corridor. Lengthening existing turn lanes may be considered to reduce the potential for queues to block through lanes.

The intersection of Peach and Herndon Avenues is expected to operate at acceptable LOS; however, calculated 95th-percentile queues exceeding 400 feet in the left-turn lane on the eastbound approach suggest that the lane may require lengthening in the future, or a second left-turn lane may be considered. The Project is expected to contribute to queues that may exceed the existing storage capacity in the left-turn lane on the westbound approach to the intersection of Peach and Herndon Avenues during peak periods as discussed above for the existing-plus-Project conditions. The right-turn lane on the westbound approach may also benefit from lengthening in the future; however, long queues expected in the through lanes are likely to govern accessibility to the right-turn lane.

The intersection of Villa and Herndon Avenues has been constructed to its ultimate configuration; therefore, physical improvements to address queuing issues are not likely to be feasible. The length of the left-turn lane on the southbound approach appears to be constrained by the left-turn lane on the northbound Villa Avenue approach to Fir Avenue. The right-turn lane on the eastbound approach may benefit from lengthening in the future.

At the intersection of Willow and Magill Avenues, the length of the left-turn lane on the westbound approach could likely be extended with striping modifications. However, the lengths of the left-turn lanes on the northbound and southbound approaches appear to be constrained by other left-turn lanes.

The intersection of Peach and Magill Avenues is expected to require signalization or a roundabout to operate at acceptable LOS. With signalization, the intersection is expected to operate at LOS B during the a.m. and p.m. peak hours in the year 2045. As a single-lane roundabout, the intersection is expected to operate at LOS A during the a.m. and p.m. peak hours in the year 2045. Considering the approximate 400-foot spacing to Herndon Avenue, coordination between traffic signals at Magill Avenue and at Herndon Avenue to prevent blocking of intersections may be difficult to achieve, particularly if priority if given to the Herndon Avenue corridor. Therefore, a roundabout may be the preferred alternative.

The Project may be required to pay an equitable share of future improvements if those improvements are not included in a fee program.

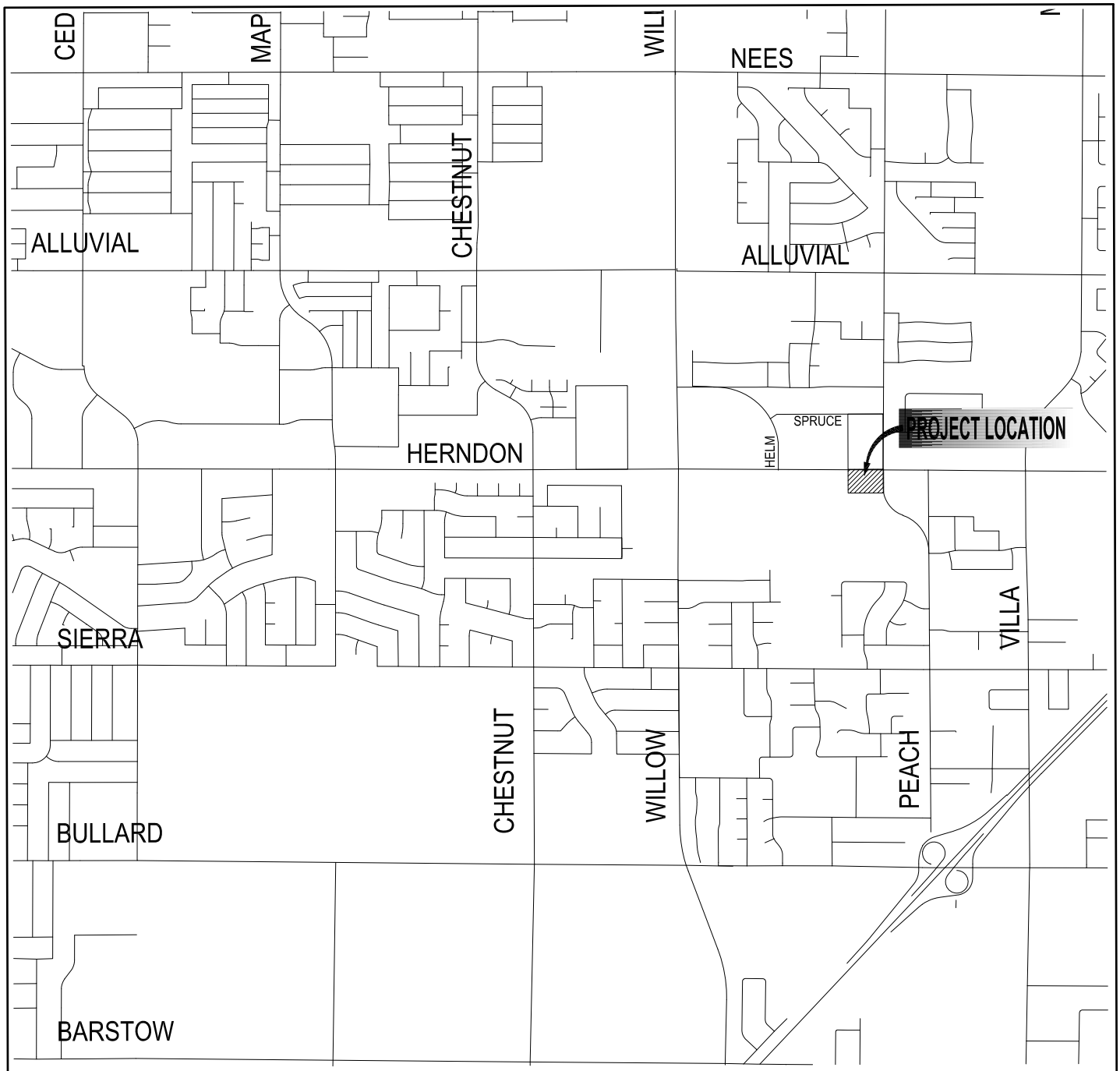
Thank you for the opportunity to perform this transportation impact analysis. Please feel free to contact me if you have any questions.

PETERS ENGINEERING GROUP

John Rowland, PE, TE

Attachments: Figures 1 through 11
Appendix A - Traffic Modeling
Appendix B - Traffic Count Data Sheets
Appendix C - Intersection Analyses
Appendix D - Improved Intersection Analyses

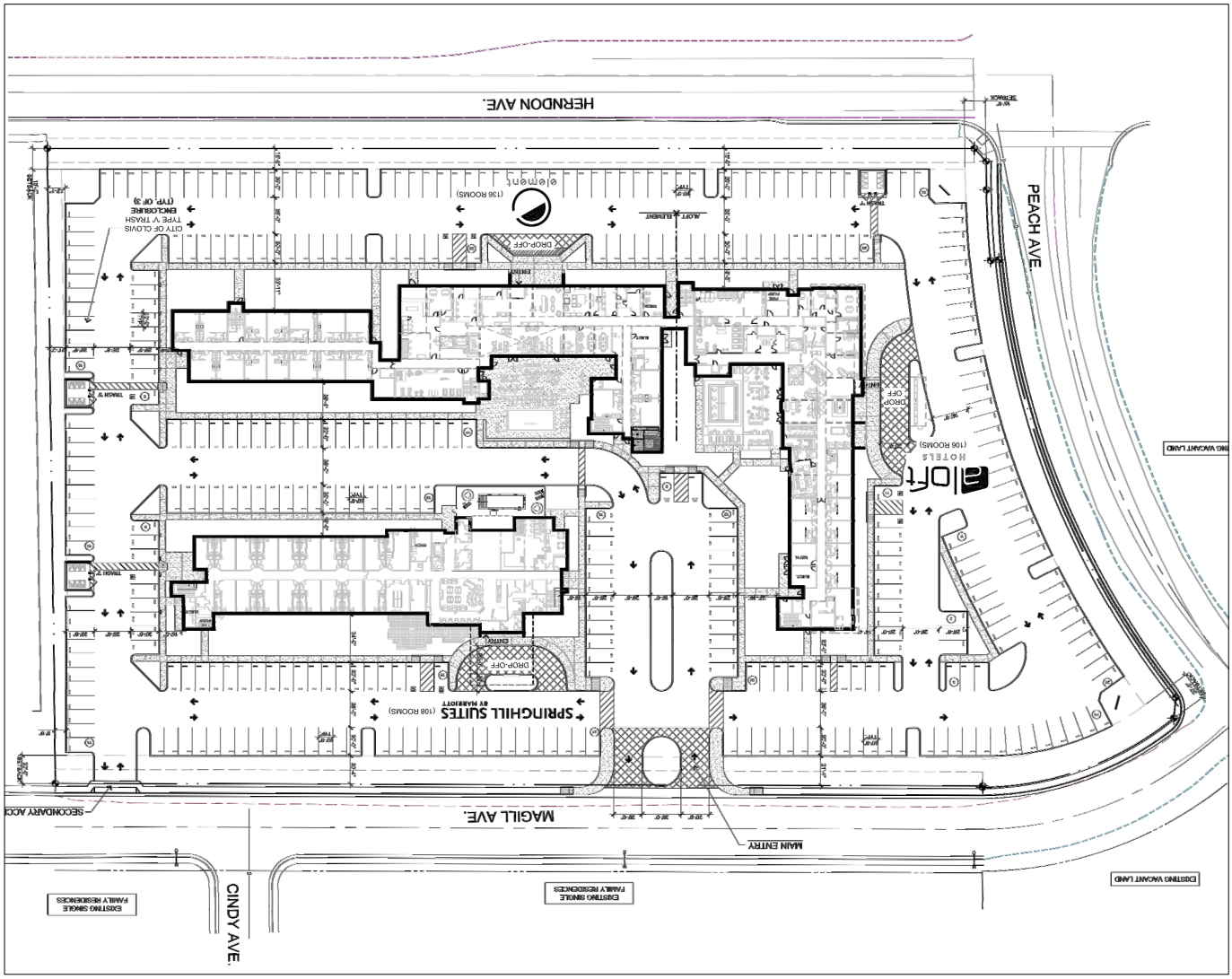
FIGURES



Proposed Hotel
Clovis, California

VICINITY MAP

Not to Scale



Proposed Hotel
Clovis, California

SITE PLAN

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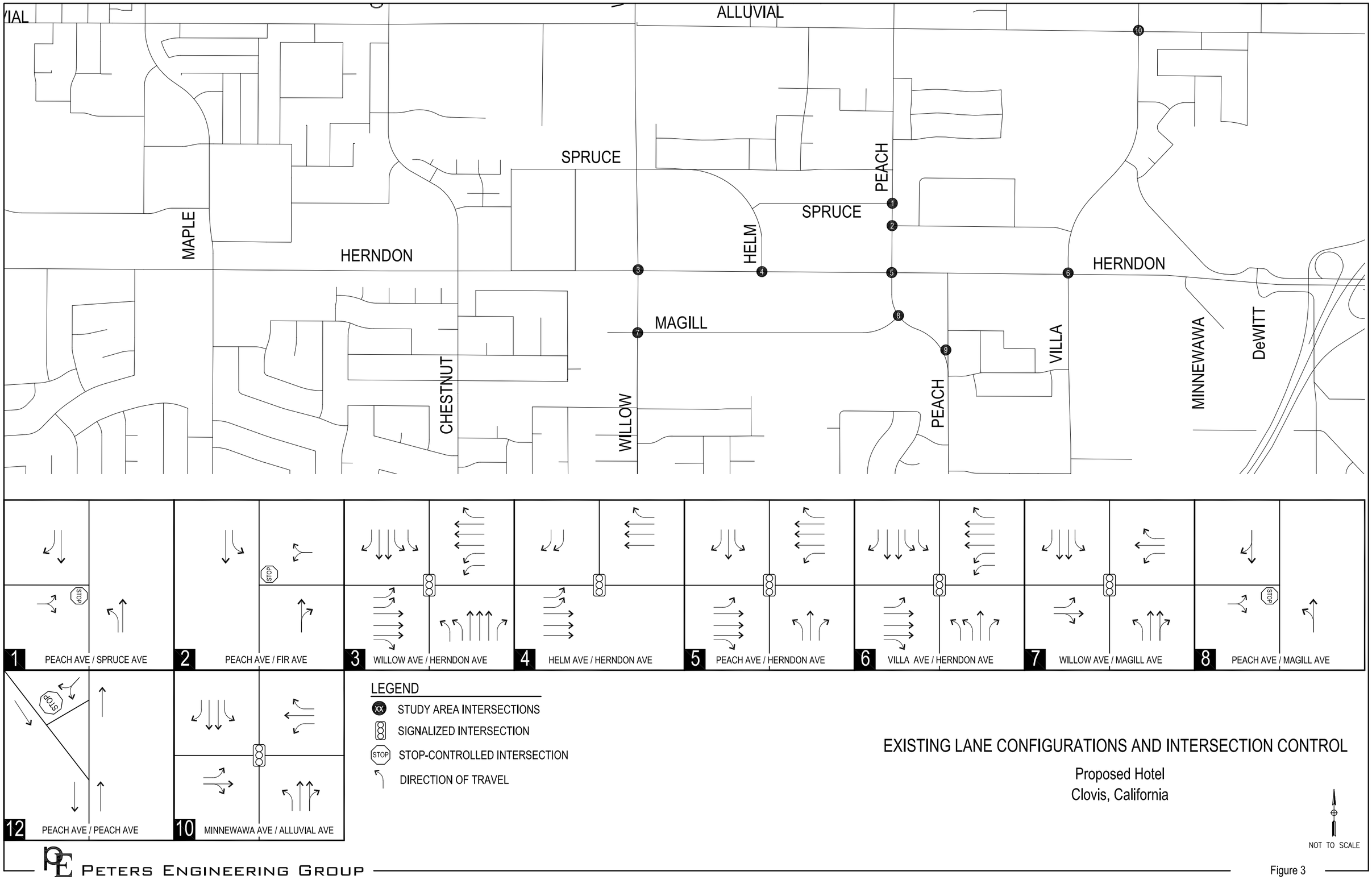

EXISTING LANE CONFIGURATIONS AND INTERSECTION CONTROL

Proposed Hotel
Clovis, California

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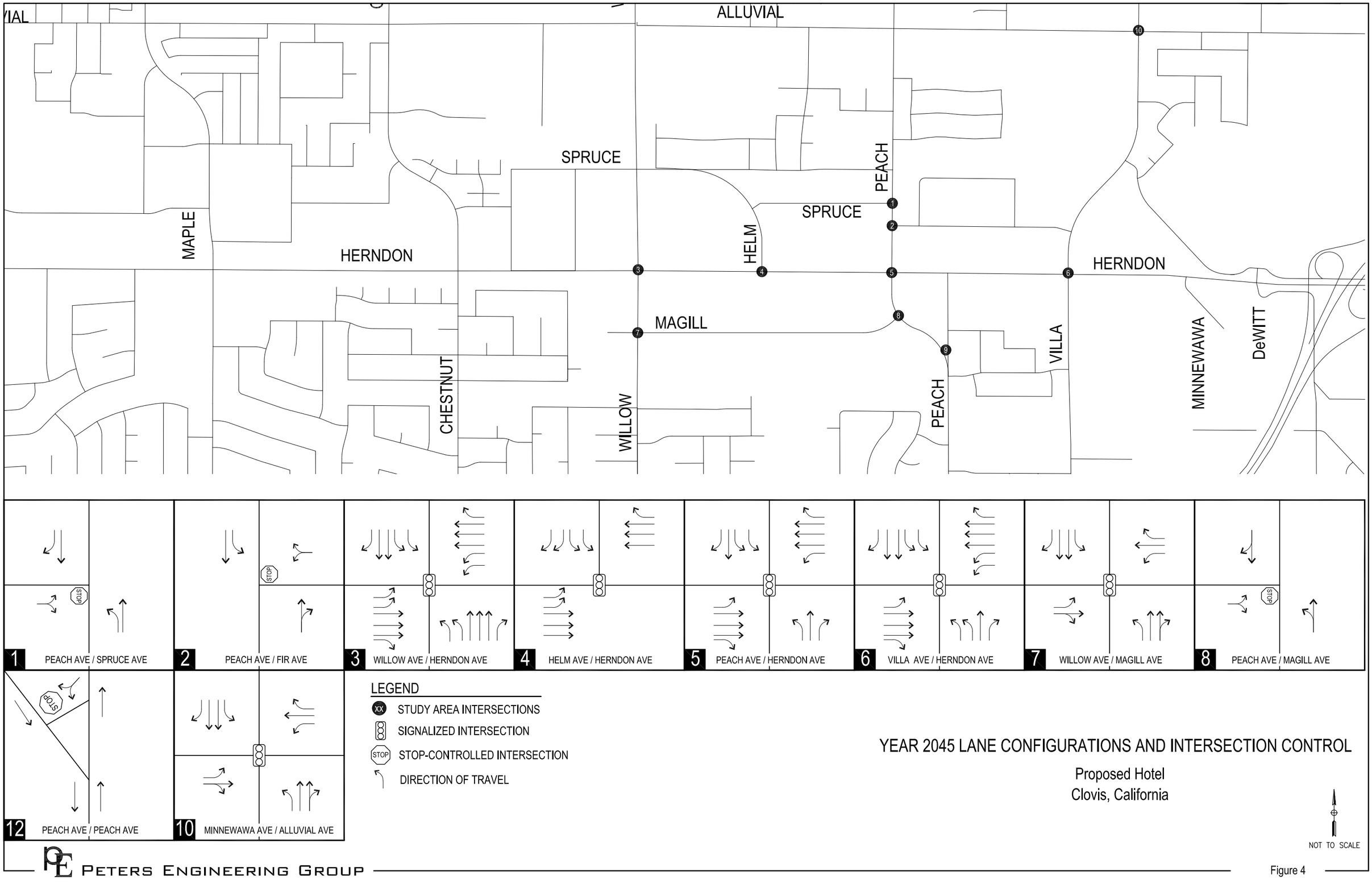

YEAR 2045 LANE CONFIGURATIONS AND INTERSECTION CONTROL

Proposed Hotel
Clovis, California

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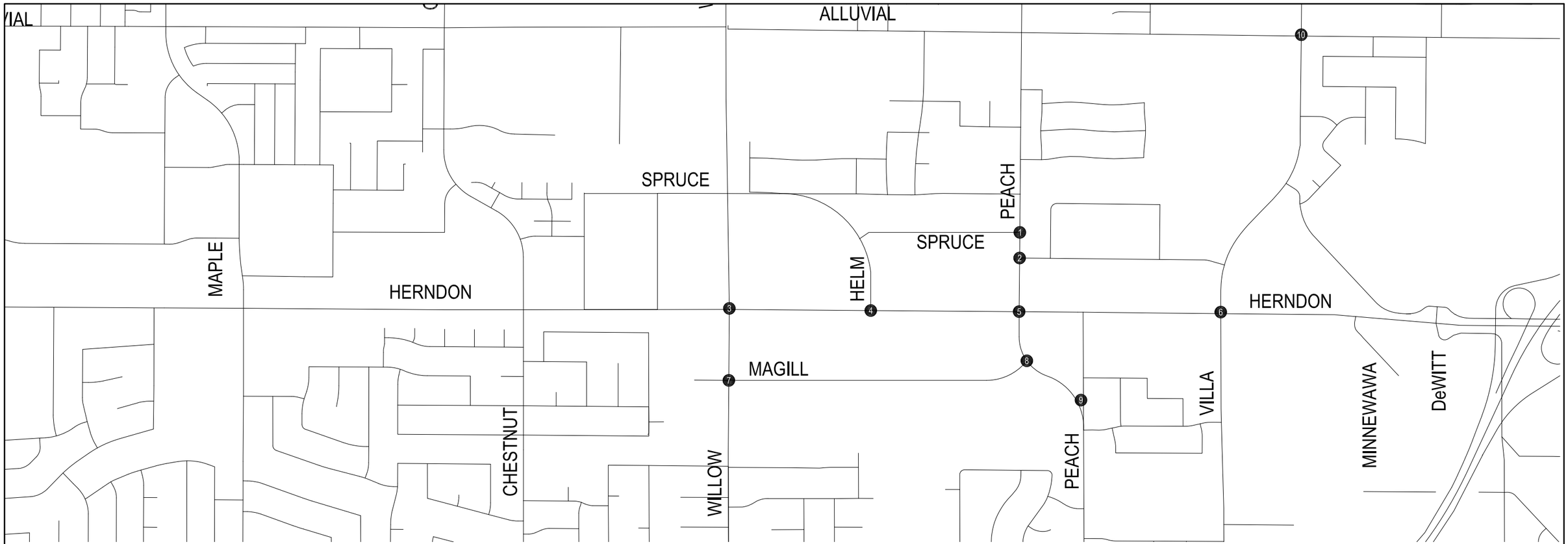

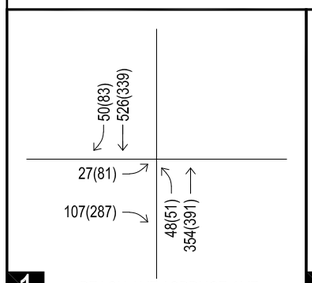

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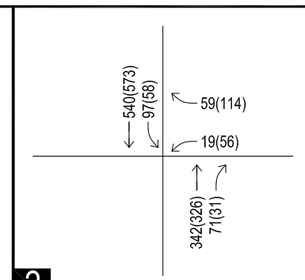

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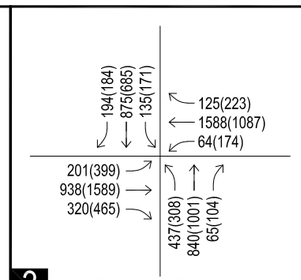
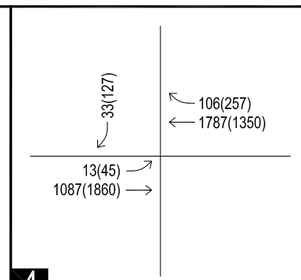


3 WILLOW AVE / HERNDON AVE



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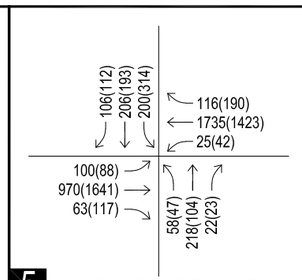

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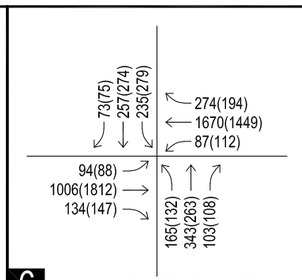

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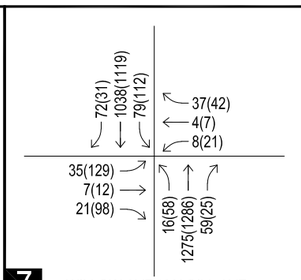

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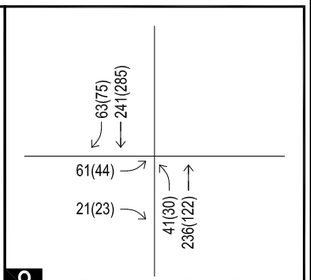

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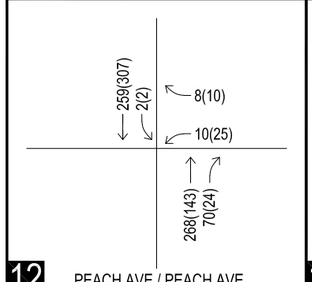

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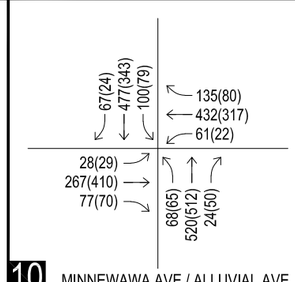


10 MINNEWAWA AVE / ALLUVIAL AVE

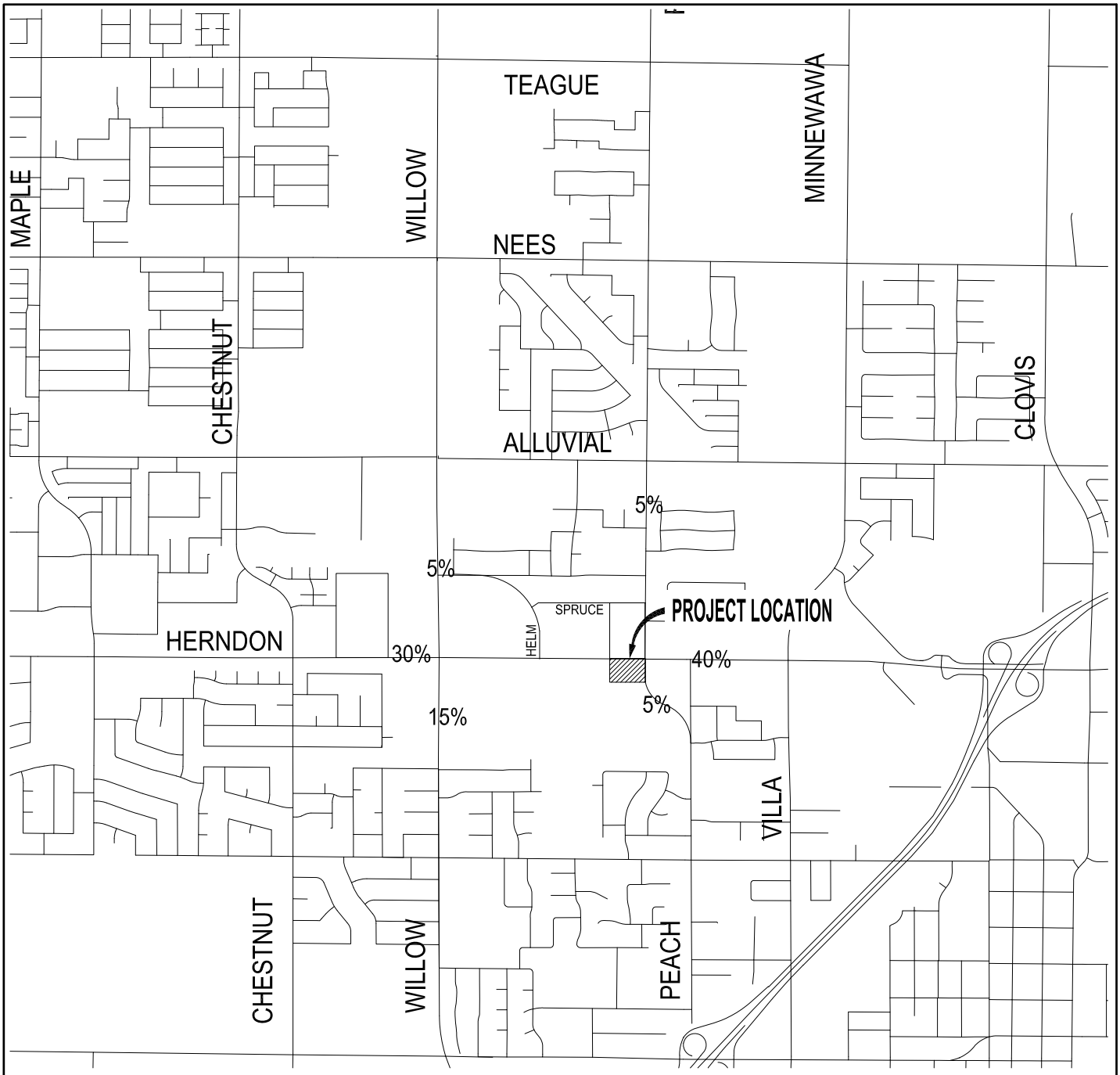
LEGEND

X	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) PEAK HOUR VOLUMES
	PROJECT SITE

EXISTING PEAK-HOUR TRAFFIC VOLUMES

Proposed Hotel
Clovis, California

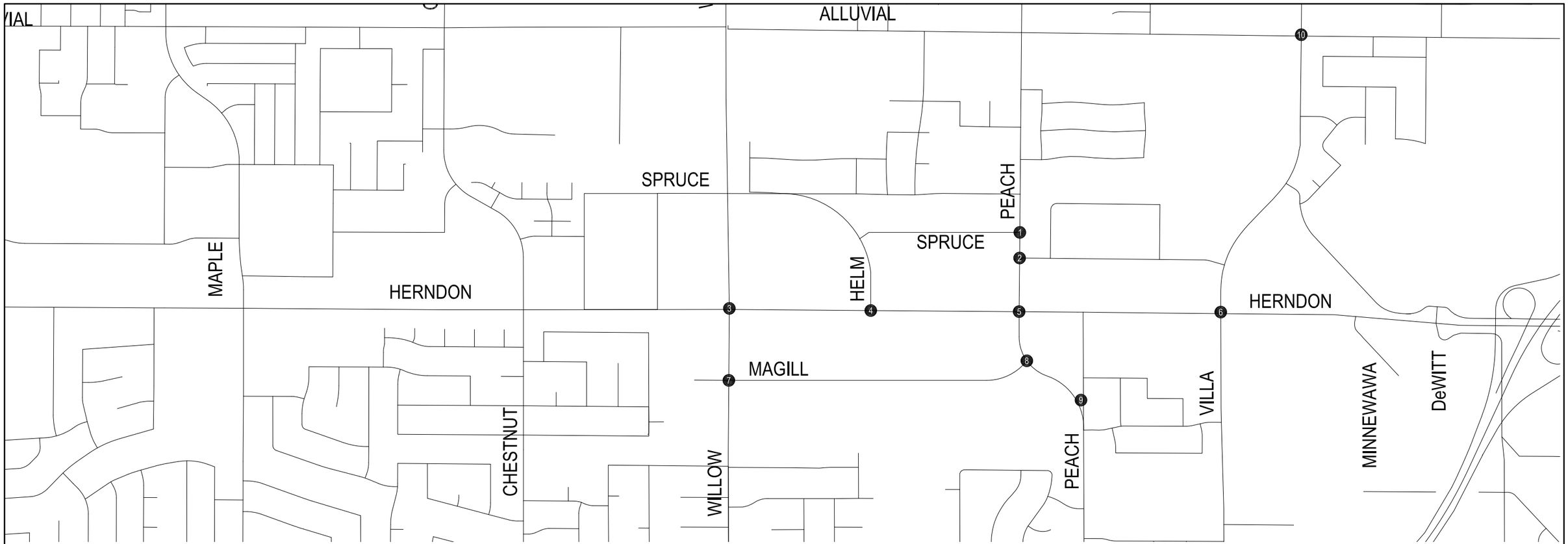
NOT TO SCALE

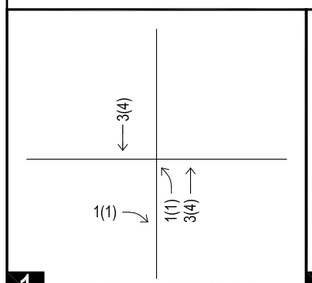


Proposed Hotel
Clovis, California

PEAK-HOUR PROJECT TRAFFIC DISTRIBUTION PERCENTAGES

Not to Scale





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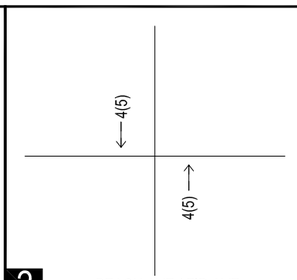

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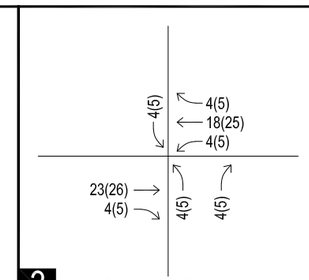

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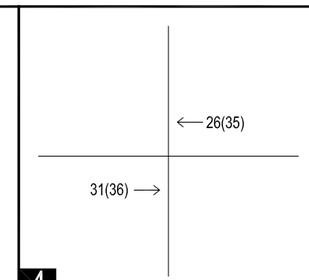

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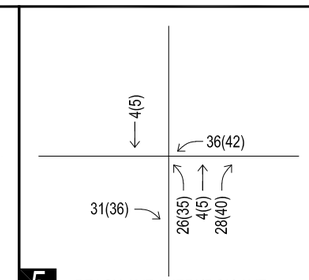

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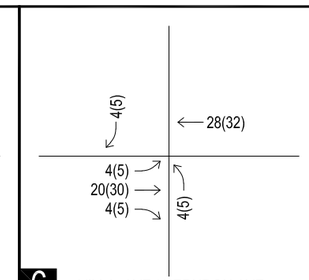

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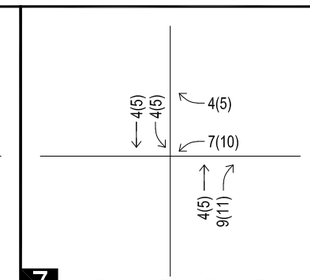

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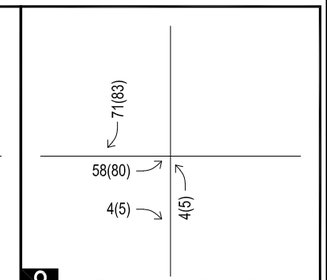

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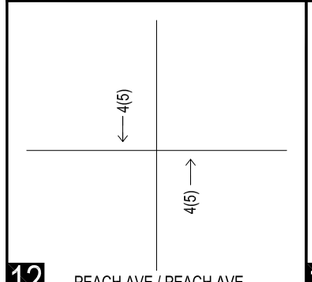
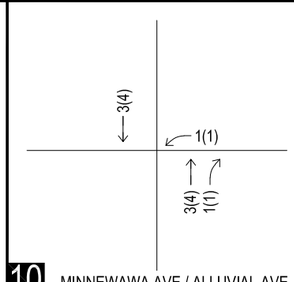


12 PEACH AVE / PEACH AVE



10 MINNEWAWA AVE / ALLUVIAL AVE

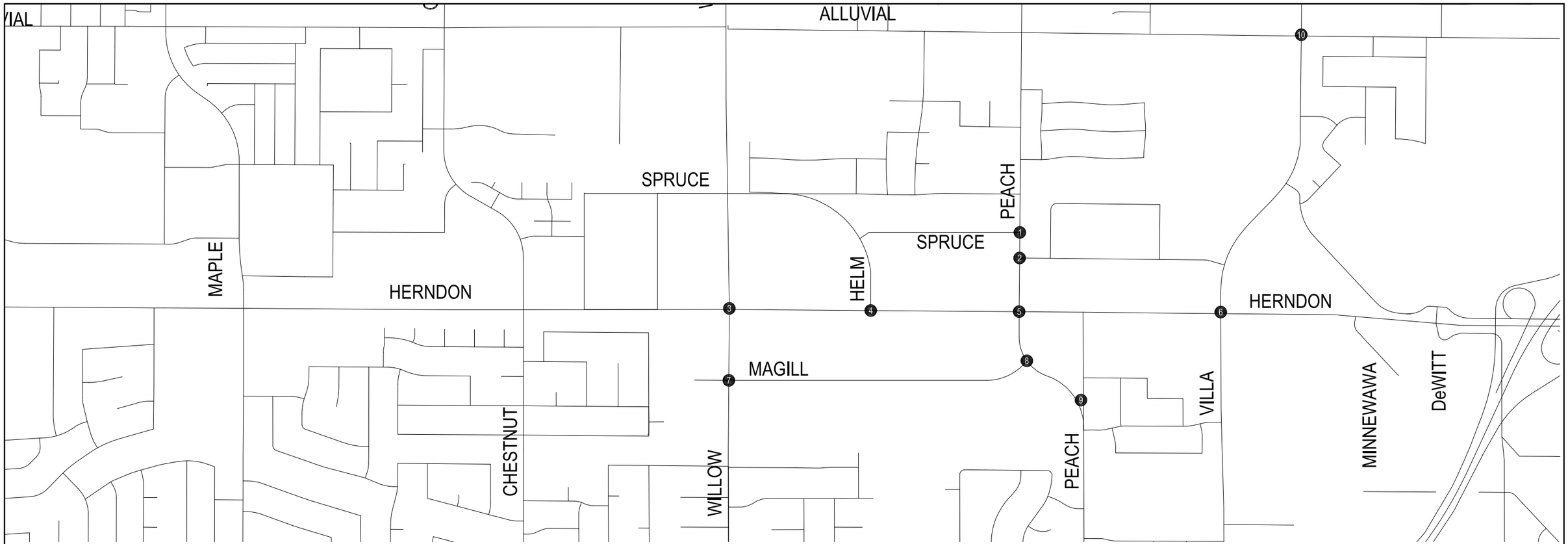
LEGEND

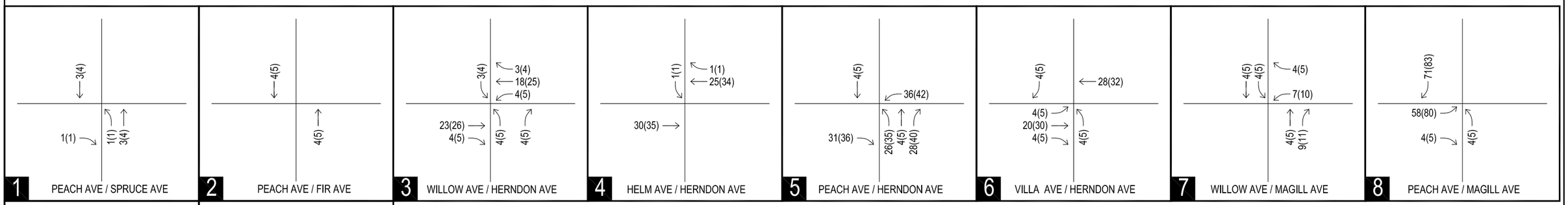
- X — STUDY AREA INTERSECTIONS
- XX (YY) — AM (PM) PEAK HOUR VOLUMES
- PROJECT SITE

PEAK-HOUR PROJECT TRAFFIC VOLUMES

Proposed Hotel
Clovis, California

NOT TO SCALE





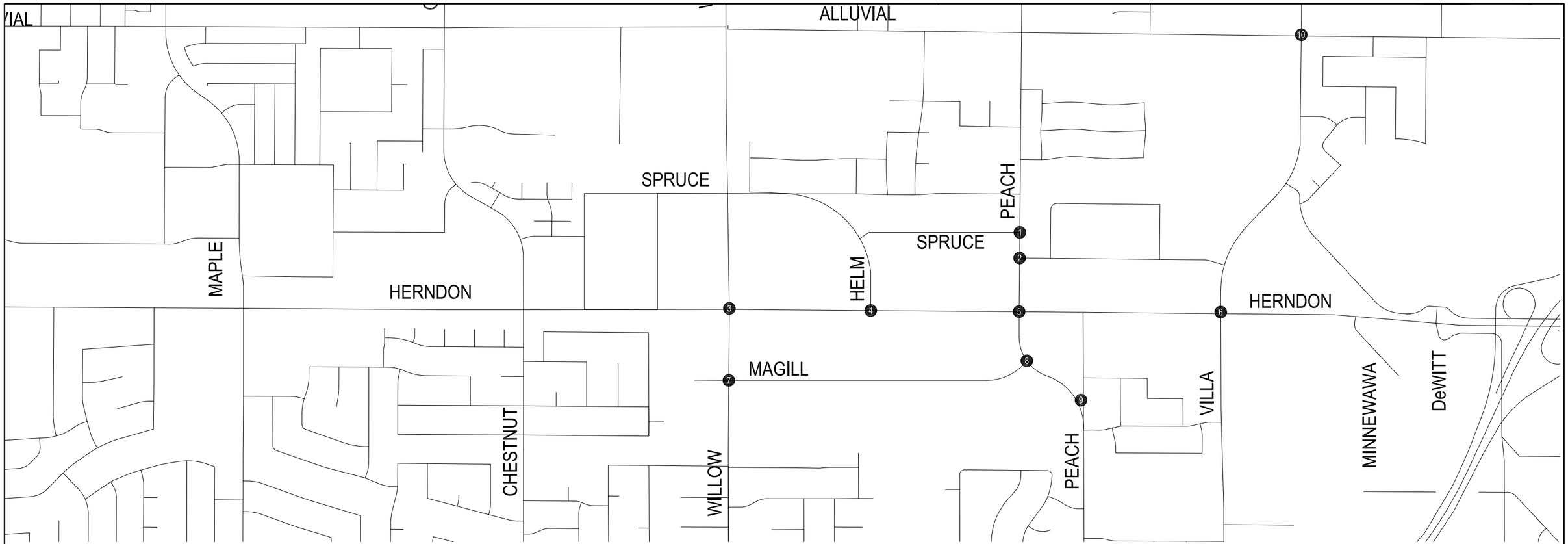
LEGEND

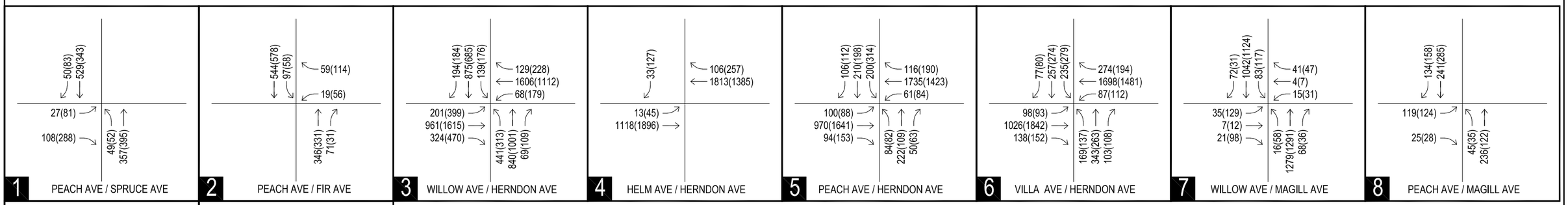
X	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) PEAK HOUR VOLUMES
	PROJECT SITE

PEAK-HOUR PROJECT TRAFFIC VOLUMES (FUTURE SCENARIO)

Proposed Hotel
Clovis, California

NOT TO SCALE





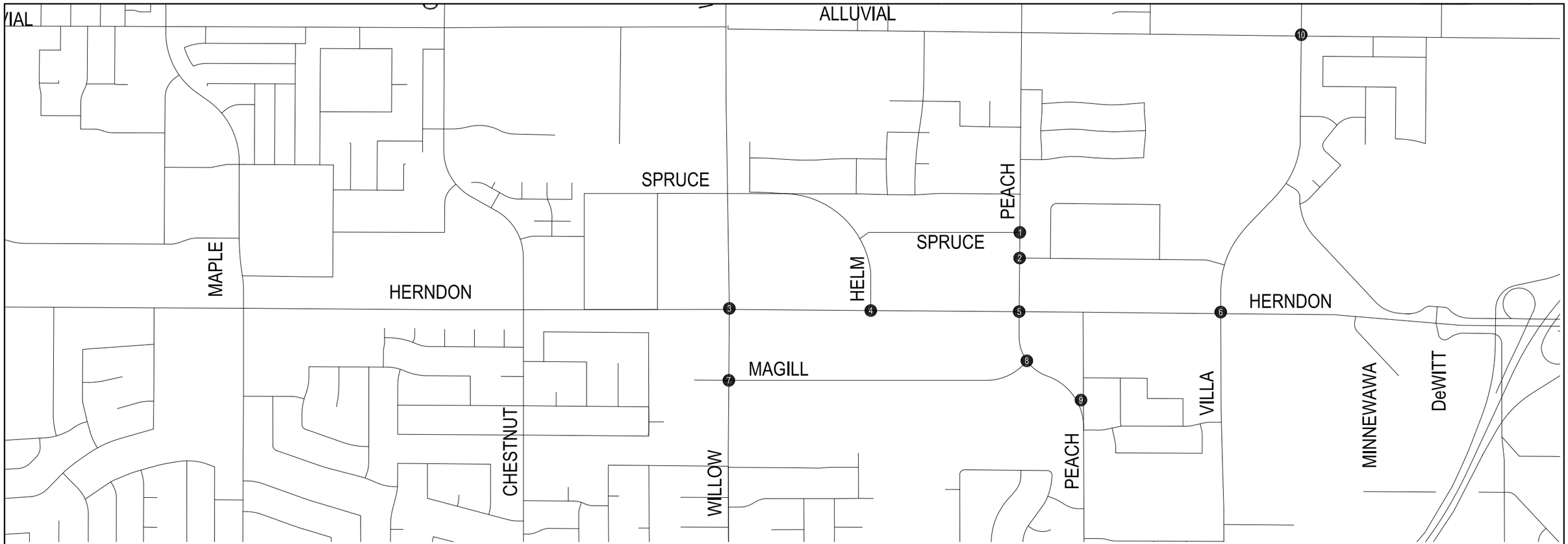
LEGEND

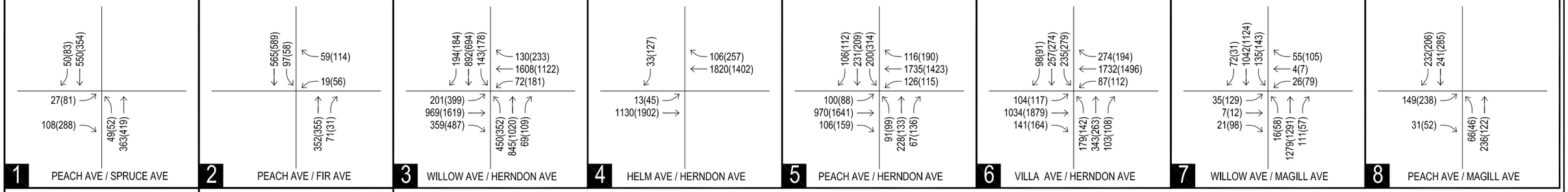
X	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) PEAK HOUR VOLUMES
	PROJECT SITE

EXISTING-PLUS-PROJECT PEAK-HOUR TRAFFIC VOLUMES

Proposed Hotel
Clovis, California

NOT TO SCALE





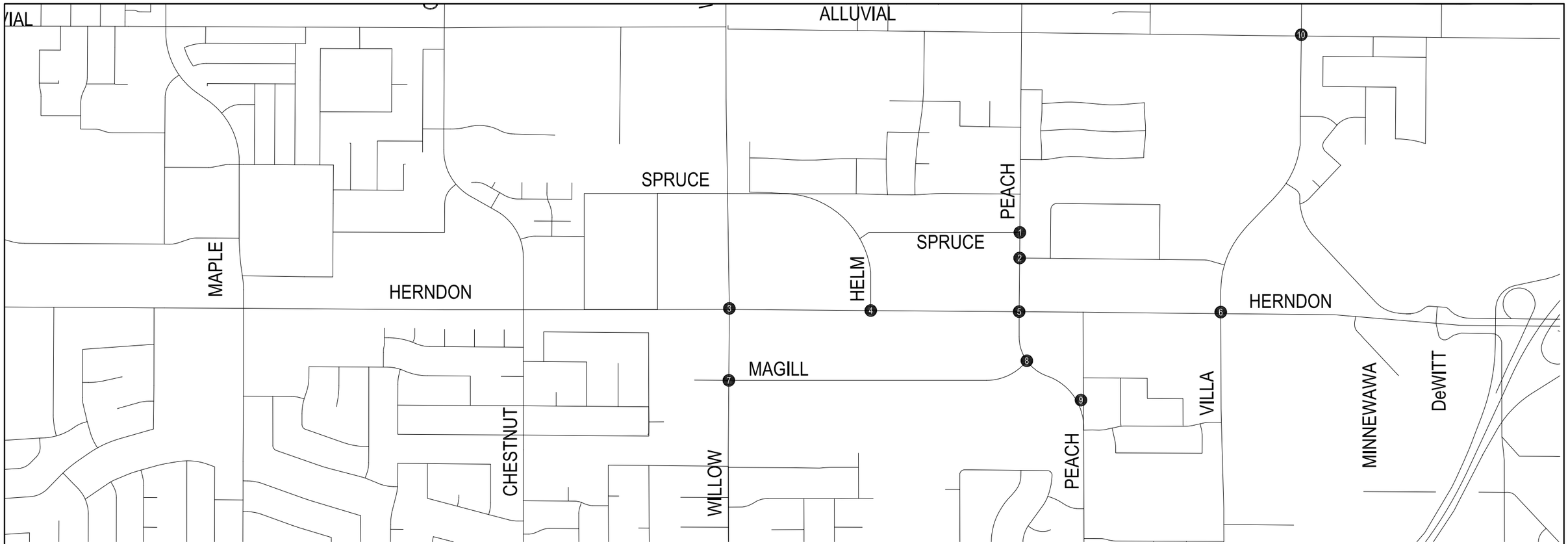
LEGEND

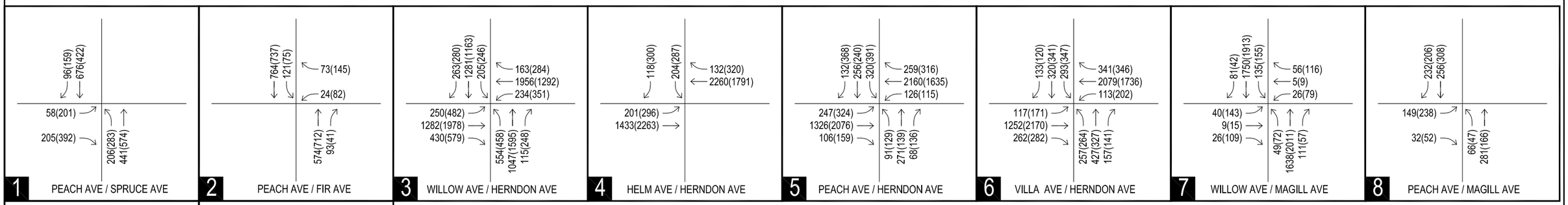
X	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) PEAK HOUR VOLUMES
	PROJECT SITE

NEAR-TERM WITH-PROJECT PEAK-HOUR TRAFFIC VOLUMES

Proposed Hotel
Clovis, California

NOT TO SCALE





LEGEND

X	STUDY AREA INTERSECTIONS
XX (YY)	AM (PM) PEAK HOUR VOLUMES
	PROJECT SITE

CUMULATIVE (YEAR 2045) WITH-PROJECT PEAK-HOUR TRAFFIC VOLUMES

Proposed Hotel
Clovis, California

NOT TO SCALE

APPENDIX A

TRAFFIC MODELING

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

VMT Results

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: December 18, 2023

TO: John Rowland

FROM: Ambarish Mukherjee, P.E., AICP

SUBJECT: Herndon and Peach Hotel Project Vehicle Miles Traveled Analysis Memorandum

LSA has prepared a Vehicle Miles Traveled (VMT) Analysis Memorandum (Memo) for the proposed Herndon and Peach Hotel project (project) in the City of Clovis (City). The project will be located at the southwest corner of Herndon Ave. & Peach Ave. and fronts on Magill Ave., west of Peach Ave. in the City of Clovis. The project proposes to develop a vacant site of 7.45 acres into a hotel with 350 rooms. Based on LSA's understanding, the project would require a General Plan Amendment (GPA).

BACKGROUND

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) guidelines for use. Among the changes to the guidelines was removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project generated VMT.

The City has adopted its Senate Bill 743 (SB 743) guidelines (guidelines) on October 17, 2022 "Transportation Impact Analysis Guidelines, City of Clovis, CA", through City Resolution 22-122. The guidelines include screening criteria, VMT analysis methodology, VMT impact thresholds, and VMT mitigation measures. Therefore, the City's guidelines were used in the evaluation of the project's VMT analysis.

The guidelines provide multiple screening criteria for project types and thresholds for land use projects. The project was compared with the screening criteria established in the "Project Screening" section of the guidelines to check if the project can be screened out. The following is a brief description of the project in relation with the project screening criteria:

- **Small Project:** The guidelines state that projects generating less than 500 daily trips could be screened out of a detailed VMT analysis. The project is estimated to generate 2,797 daily trips. Therefore, the project does not satisfy this screening criteria.

- **Provision of Affordable Housing:** The project proposes to develop a hotel which is not affordable housing. Therefore, this screening criteria does not apply to the project.

- **Local-Serving Retail:** The project consists of hotel use and is greater than 100 KSF. Based on City's guidelines local-serving retail consists of groceries, medicines, fast food and casual

restaurants, fitness, and beauty services. Therefore, this screening criteria does not apply to the project.

- **Project Located in a High-Quality Transit Area (HQTA):** The project is not located within an HQTA; therefore, this screening criteria does not apply to the project.

- **Project Located in Low VMT Area:** This criterion is not applicable for project land use type.

As shown above, the project could not be screened out from a detailed VMT analysis. As such, pursuant to the guidelines, a detailed VMT analysis was conducted to assess the project's VMT impact.

METHODOLOGY

The project is a hotel land use, and the guidelines recommend use of retail land use category for evaluation of hotel projects. The guidelines established use of regional total VMT under cumulative conditions as the VMT metric for evaluation of retail projects. Therefore, the project would result in a significant VMT impact if the project causes a net increase in total VMT i.e., if the total regional VMT for "with project" scenario is greater than total regional VMT for "without project" scenario under cumulative conditions. The definition of the "region" is assumed as the entire Fresno County, consistent with other VMT metric thresholds (VMT per capita and VMT per employee). However, total VMT for the City of Clovis is also provided for comparison purposes.

The guidelines recommend use of the regional travel demand model for detailed VMT analysis. Fresno Council of Governments' (Fresno COG's) Activity-Based Model (ABM) is the regional model for the city and therefore, the Fresno COG ABM was used to conduct project VMT analysis. No project cumulative scenario (2046) model run was conducted to establish the regional total VMT threshold for comparison purposes. Following is a detailed description of the VMT analysis.

Project Traffic Analysis Zone Update

The first step in preparation of this analysis was to update the traffic analysis zones (TAZs) in the model that include the project area. The Fresno COG ABM includes the ability to add or split zones. In order to isolate the project VMT, a new zone was created in the model. The project employment was included in the newly created zone for modeling purposes. No project-specific network modifications were required for the model run. A model run was conducted for the cumulative scenario with updated model inputs. The outputs from this updated model run were used to calculate the total regional VMT under "with project" condition.

VMT ANALYSIS

The project is a hotel and was evaluated as retail under cumulative scenario as suggested in the guidelines. Total regional /countywide VMT for "without project" condition was compared to the "with project" scenario under cumulative scenario. As shown in Table A, the regional total VMT under "with project" is lower than the "without project" under cumulative conditions. Therefore, based on the guidelines, the project will not have a significant VMT impact.

Table A: Cumulative (2046) Total Regional VMT Comparison

Total Roadway VMT	With Project	Without Project	Difference
Within Fresno County	29,254,916	29,263,263	(8,347)
Within City of Clovis	1,551,936	1,552,959	(1,023)

Source: Fresno COG Activity Based Model (ABM)
VMT = Vehicle Miles Traveled

Conclusion

As mentioned before, the project consists of hotel land use. The guidelines recommend evaluation of hotel project as retail land use. Retail land uses should be evaluated using "net change" in regional VMT under cumulative scenario based on the guidelines. Therefore, the project will have a significant VMT impact if total regional VMT under "with project" conditions is greater than "without project" conditions. As shown in Table A, the project doesn't have significant impact.

Select Zone Analysis

PETERS ENGINEERING GROUP
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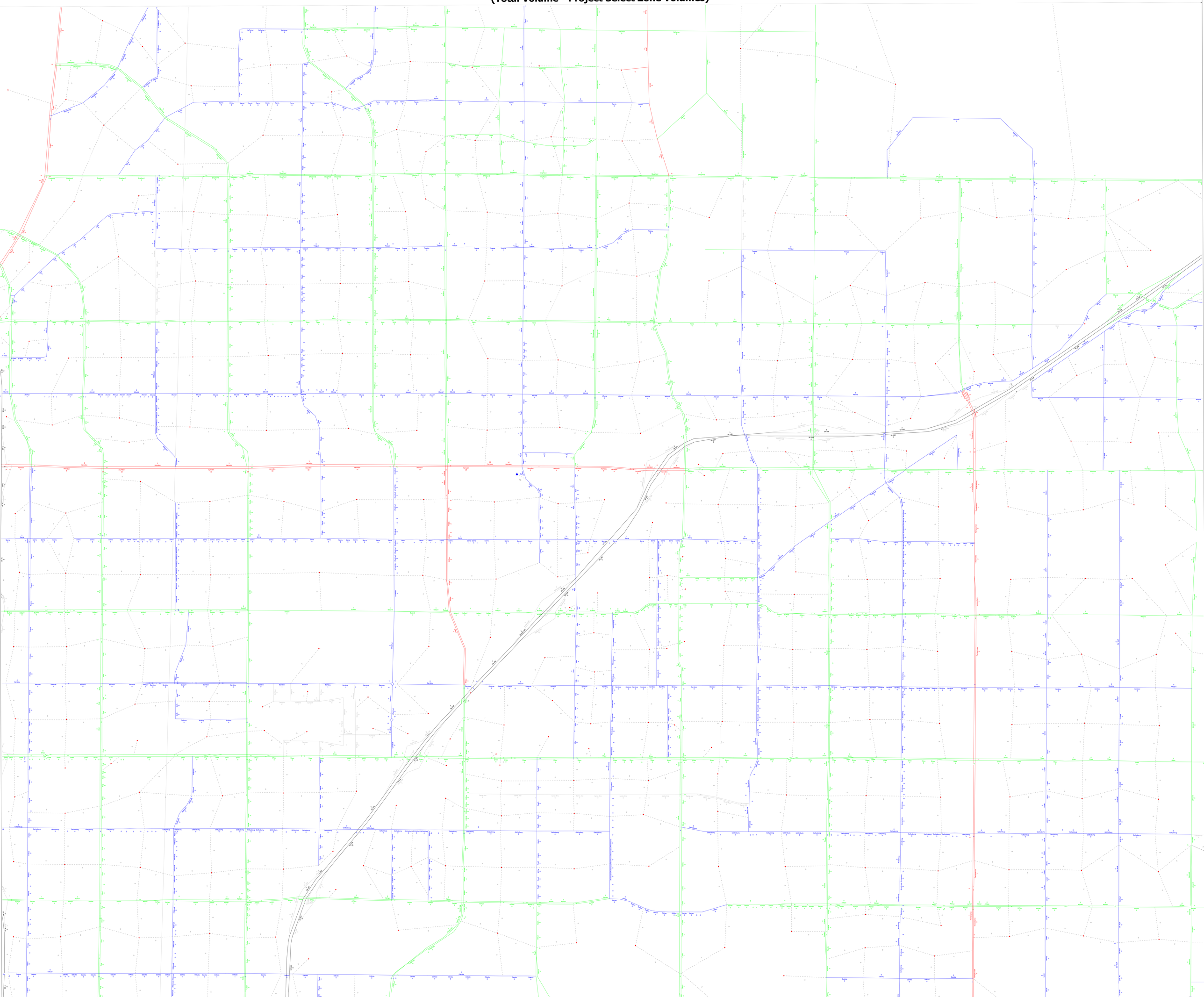
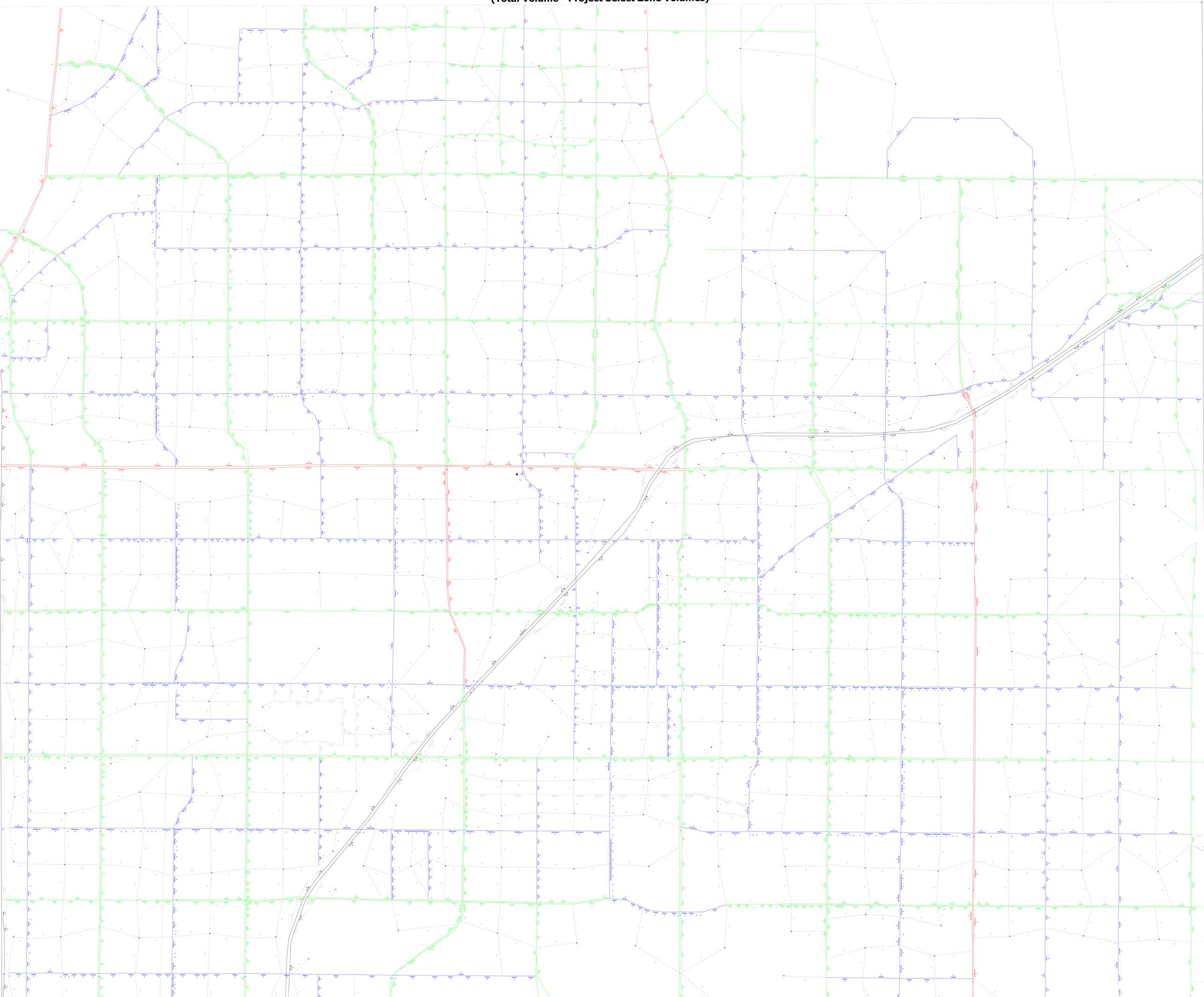
Fresno COG 2046 Travel Model - AM Peak hour Select Zone Distribution (Herndon @ Peach Hotel)
(Total Volume - Project Select Zone Volumes)



(Licensed to LSA Associates)

Fresno COG 2046 Travel Model - PM Peak hour Select Zone Distribution (Herndon @ Peach Hotel)
(Total Volume - Project Select Zone Volumes)



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Baseline and Future Model Output

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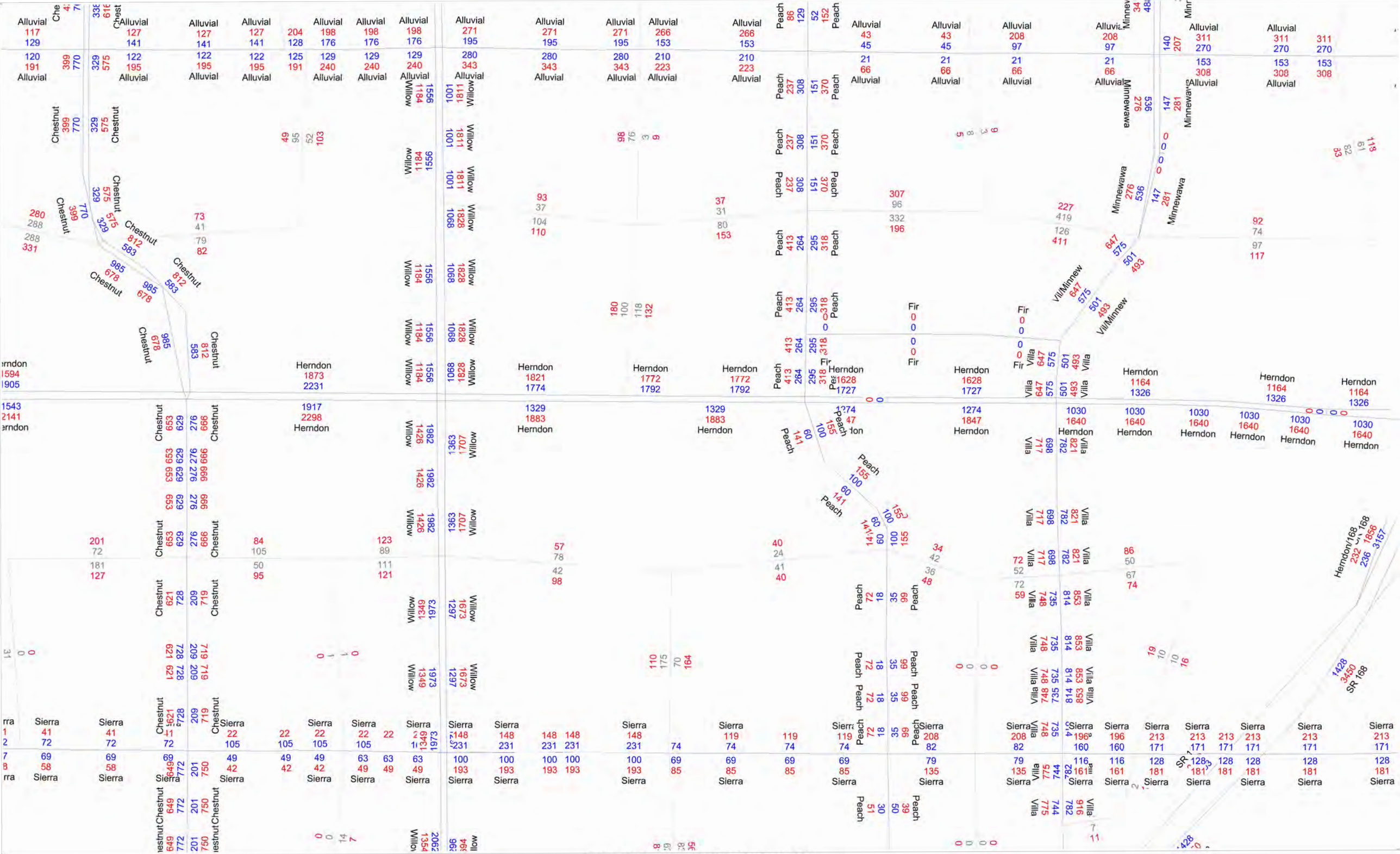


2019 Fresno County Travel Demand Model
AM and PM Peak-Hour Traffic Volumes

cube

Licensed to Peters Engineering

2035 Fresno County Travel Demand Model
AM and PM Peak-Hour Traffic Volumes

cube

Licensed to Peters Engineering

APPENDIX B

TRAFFIC COUNT DATA SHEETS

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION N Peach Ave / W Spruce Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024

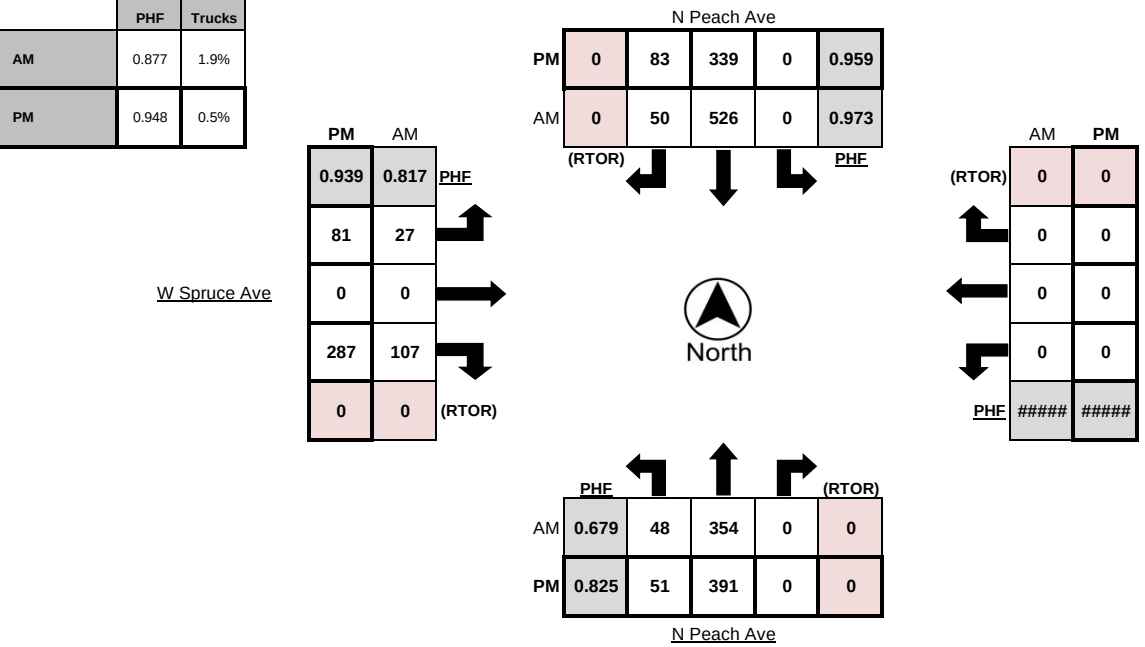
LATITUDE 36.8401
LONGITUDE -119.7202
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	0	27	0	0	0	0	67	3	0	0	1	0	18	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	3	49	0	0	2	0	96	3	0	0	1	0	17	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	6	60	0	0	1	0	102	6	0	0	2	0	20	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	10	69	0	0	2	0	133	11	0	1	10	0	23	0	1	0	0	0	0	0
8:00 AM - 8:15 AM	21	127	0	0	7	0	136	8	0	4	3	0	22	0	1	0	0	0	0	0
8:15 AM - 8:30 AM	10	102	0	0	0	0	128	12	0	0	10	0	31	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	7	56	0	0	2	0	129	19	0	2	4	0	31	0	1	0	0	0	0	0
8:45 AM - 9:00 AM	8	50	0	0	0	0	63	9	0	3	12	0	18	0	2	0	0	0	0	0
TOTAL	**65**	**540**	**0**	**0**	**14**	**0**	**854**	**71**	**0**	**10**	**43**	**0**	**180**	**0**	**5**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	14	69	0	0	1	0	71	22	0	1	12	0	76	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	9	87	0	0	1	0	58	20	0	2	18	0	57	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	21	83	0	0	0	0	59	20	0	2	13	0	59	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	11	90	0	0	0	0	80	29	0	0	19	0	72	0	1	0	0	0	0	0
5:00 PM - 5:15 PM	14	96	0	0	0	0	90	20	0	0	23	0	64	0	1	0	0	0	0	0
5:15 PM - 5:30 PM	9	125	0	0	0	0	79	20	0	2	20	0	72	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	17	80	0	0	0	0	90	14	0	1	19	0	79	0	1	0	0	0	0	0
5:45 PM - 6:00 PM	18	80	0	0	0	0	73	20	0	2	20	0	78	0	2	0	0	0	0	0
TOTAL	**113**	**710**	**0**	**0**	**2**	**0**	**600**	**165**	**0**	**10**	**144**	**0**	**557**	**0**	**5**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:45 AM - 8:45 AM	48	354	0	0	11	0	526	50	0	7	27	0	107	0	3	0	0	0	0	0
4:45 PM - 5:45 PM	51	391	0	0	0	0	339	83	0	3	81	0	287	0	3	0	0	0	0	0

	PHF	Trucks
AM	0.877	1.9%
PM	0.948	0.5%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

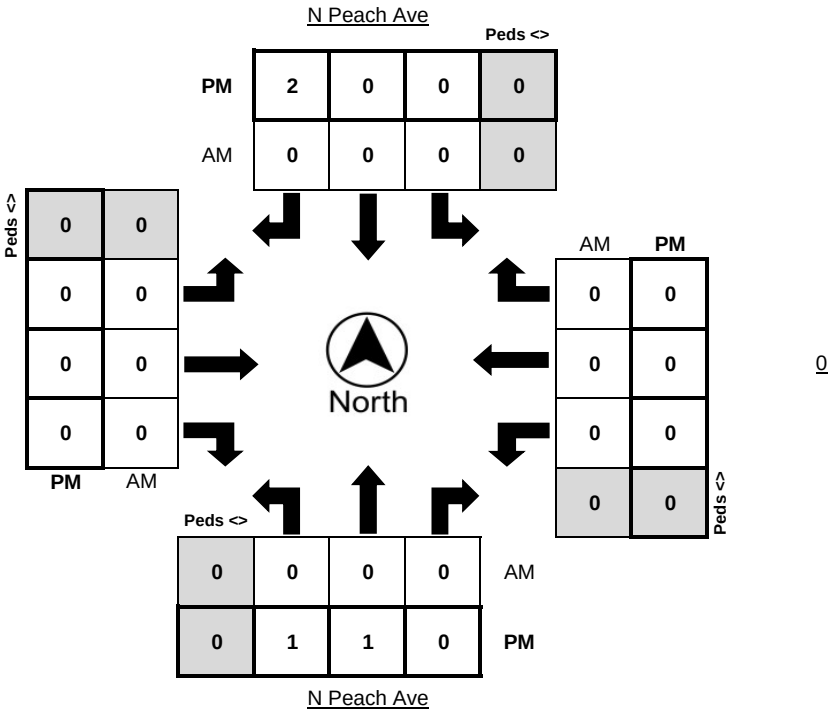
LOCATION N Peach Ave / W Spruce Ave
LATITUDE 36.8401
COUNTY Fresno
LONGITUDE -119.7202
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
7:00 AM - 7:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**1**	**1**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
7:45 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	**4**	**0**



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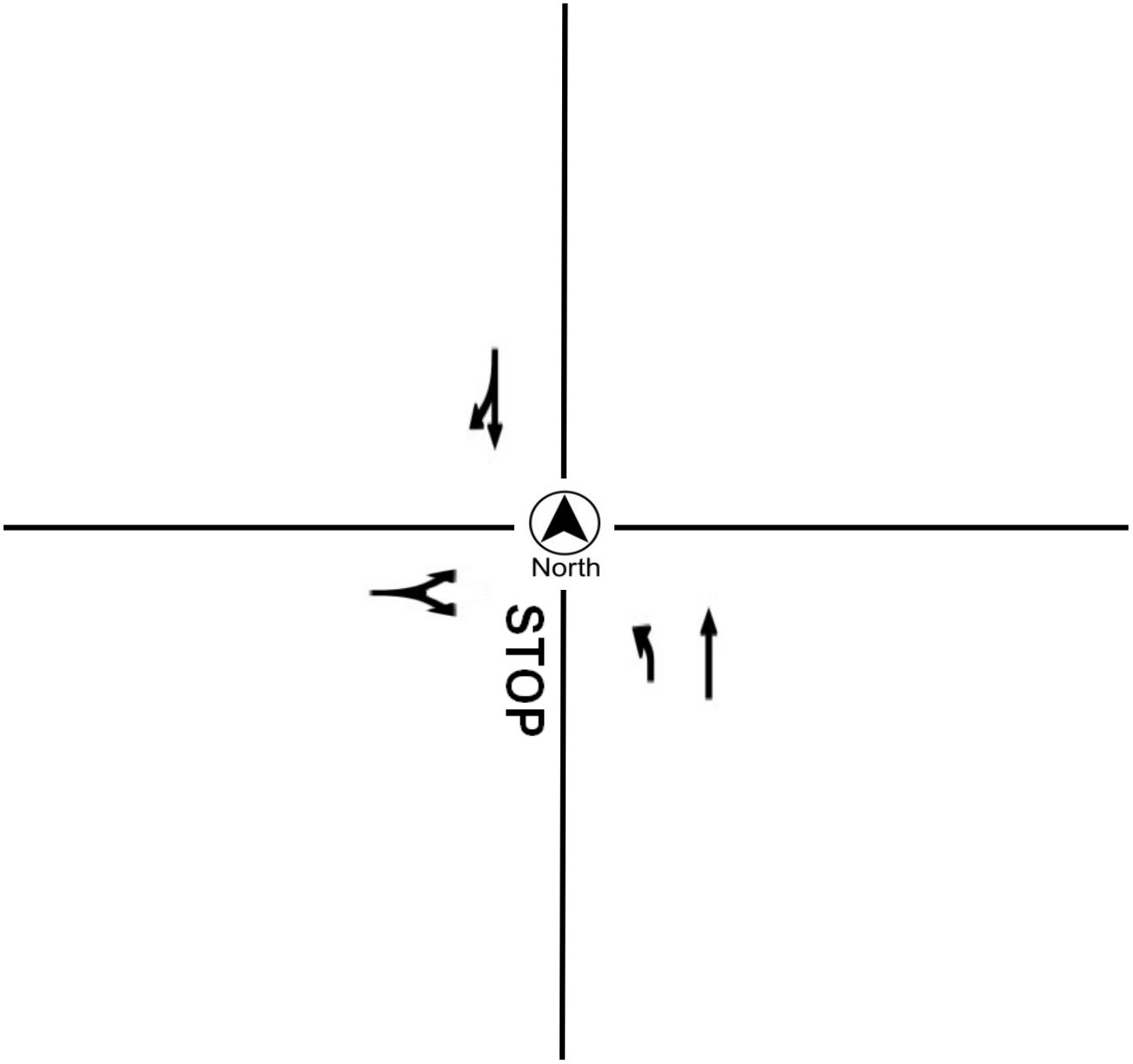
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Peach Ave / W Spruce Ave	**N/S STREET**	N Peach Ave / N Peach Ave
COUNTY	Fresno	**E/W STREET**	/ W Spruce Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	N/A	**CONTROL TYPE**	One-Way Stop

COMMENTS



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

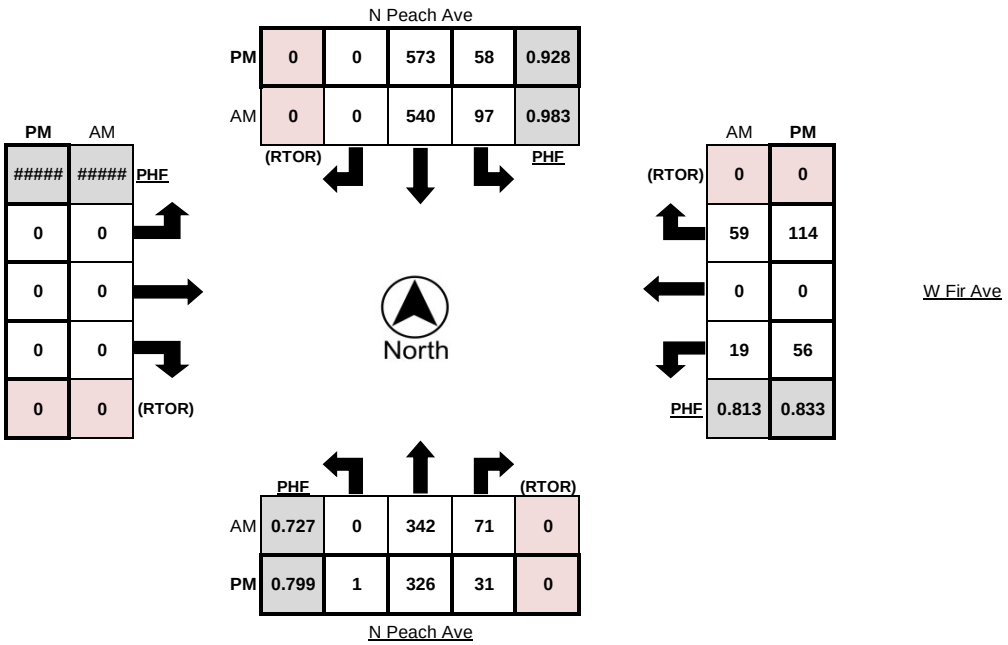
LOCATION N Peach Ave / W Fir Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024
LATITUDE 36.8390
LONGITUDE -119.7202
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	0	23	12	0	0	14	72	0	0	0	0	0	0	0	0	5	0	4	0	0
7:15 AM - 7:30 AM	0	49	12	0	2	15	100	0	0	0	0	0	0	0	0	6	0	6	0	0
7:30 AM - 7:45 AM	0	57	10	0	1	11	112	0	0	0	0	0	0	0	0	2	0	9	0	0
7:45 AM - 8:00 AM	0	71	20	0	2	24	134	0	0	2	0	0	0	0	0	4	0	12	0	0
8:00 AM - 8:15 AM	0	126	16	0	7	29	128	0	0	5	0	0	0	0	0	3	0	21	0	1
8:15 AM - 8:30 AM	0	95	19	0	0	19	143	0	0	0	0	0	0	0	0	6	0	14	0	0
8:30 AM - 8:45 AM	0	50	16	0	0	25	135	0	0	3	0	0	0	0	0	6	0	12	0	1
8:45 AM - 9:00 AM	0	38	21	0	0	18	62	0	0	5	0	0	0	0	0	2	0	19	0	0
TOTAL	**0**	**509**	**126**	**0**	**12**	**155**	**886**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**34**	**0**	**97**	**0**	**2**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	0	53	9	0	1	12	136	0	0	0	0	0	0	0	0	16	0	29	0	0
4:15 PM - 4:30 PM	0	74	7	0	0	10	104	0	0	1	0	0	0	0	0	8	0	20	0	0
4:30 PM - 4:45 PM	0	79	11	0	0	8	110	0	0	2	0	0	0	0	0	8	0	24	0	0
4:45 PM - 5:00 PM	0	74	7	0	0	16	137	0	0	0	0	0	0	0	0	9	0	30	0	0
5:00 PM - 5:15 PM	1	75	5	0	0	14	140	0	0	0	0	0	0	0	0	19	0	32	0	0
5:15 PM - 5:30 PM	0	102	10	0	1	16	138	0	0	1	0	0	0	0	0	13	0	31	0	0
5:30 PM - 5:45 PM	0	75	9	0	0	12	158	0	0	1	0	0	0	0	0	15	0	21	0	0
5:45 PM - 6:00 PM	0	76	4	0	0	15	136	0	0	2	0	0	0	0	0	7	0	19	0	0
TOTAL	**1**	**608**	**62**	**0**	**2**	**103**	**1059**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**95**	**0**	**206**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:45 AM - 8:45 AM	0	342	71	0	9	97	540	0	0	10	0	0	0	0	0	19	0	59	0	2
4:45 PM - 5:45 PM	1	326	31	0	1	58	573	0	0	2	0	0	0	0	0	56	0	114	0	0

	PHF	Trucks
AM	0.873	1.9%
PM	0.935	0.3%



Metro Traffic Data Inc.
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Hanford, CA 93230

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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

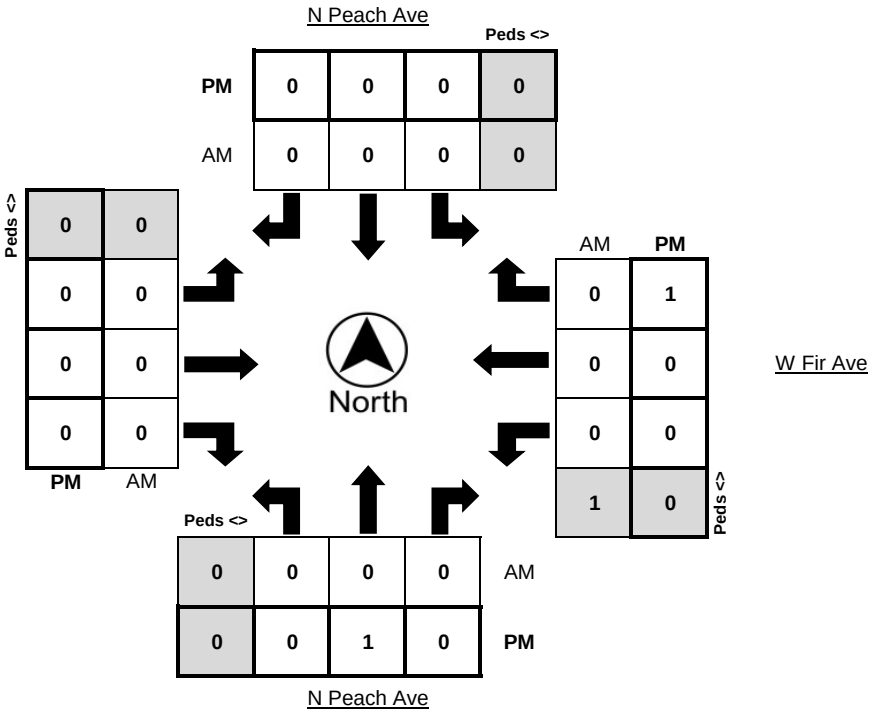
LOCATION N Peach Ave / W Fir Ave
LATITUDE 36.8390
COUNTY Fresno
LONGITUDE -119.7202
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM - 5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	**2**	**0**



Metro Traffic Data Inc.
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Hanford, CA 93230

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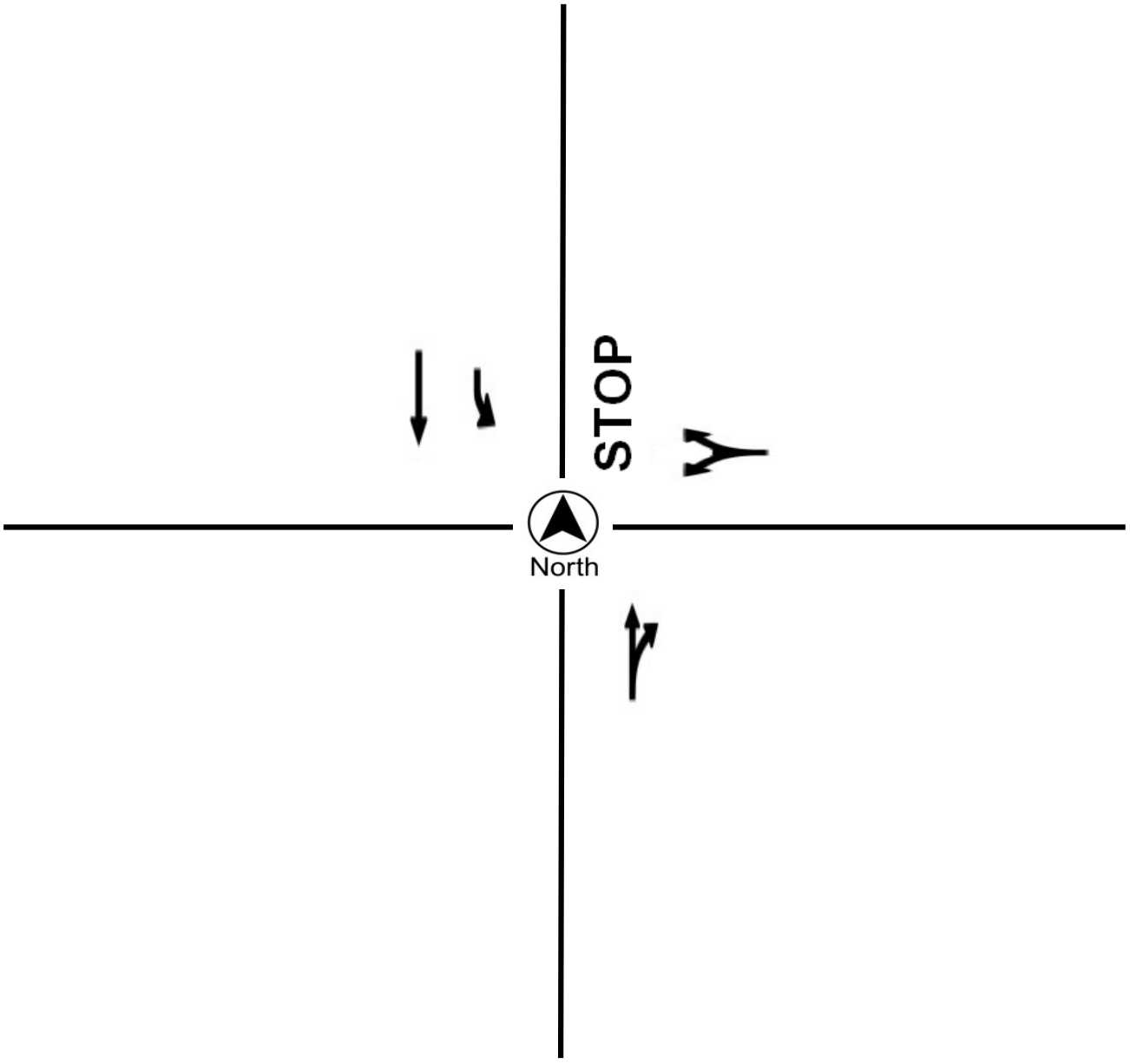
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Peach Ave / W Fir Ave	**N/S STREET**	N Peach Ave / N Peach Ave
COUNTY	Fresno	**E/W STREET**	W Fir Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	N/A	**CONTROL TYPE**	One-Way Stop

COMMENTS



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION N Willow Ave / E Herndon Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024

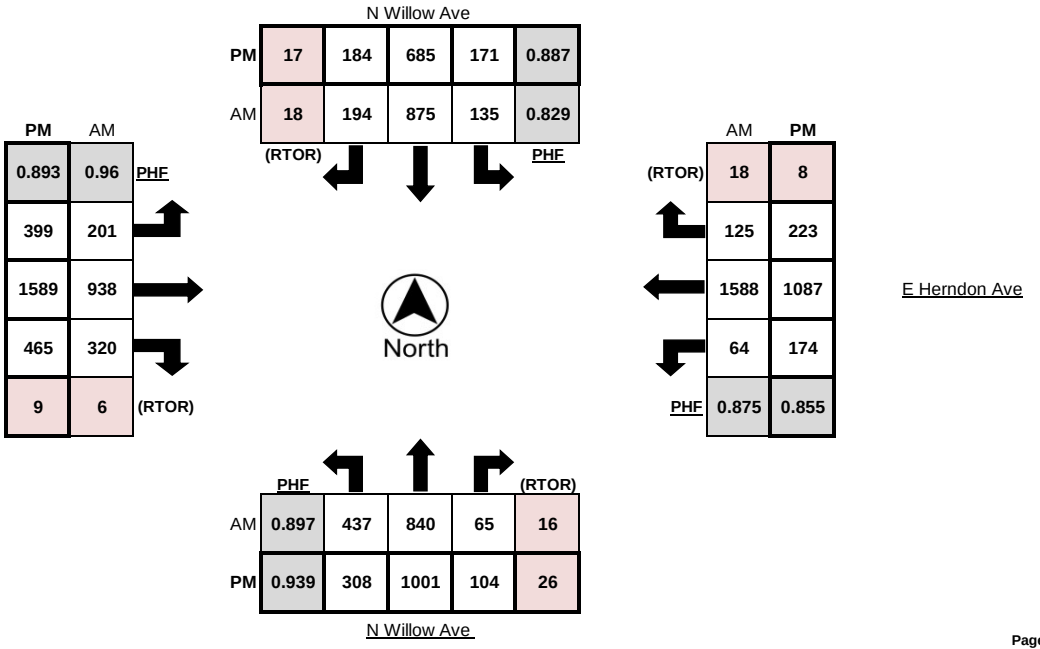
LATITUDE 36.8376
LONGITUDE -119.7296
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	51	86	5	1	4	17	148	32	5	4	18	122	38	4	3	5	256	23	8	4
7:15 AM - 7:30 AM	98	102	10	4	8	21	155	34	2	2	40	215	50	1	4	7	352	24	4	2
7:30 AM - 7:45 AM	107	182	13	3	5	34	264	65	0	2	32	240	85	0	7	11	355	21	2	1
7:45 AM - 8:00 AM	126	231	17	6	8	27	236	50	1	4	46	254	80	2	1	12	464	32	4	5
8:00 AM - 8:15 AM	118	215	20	5	6	33	177	35	8	0	63	226	91	4	4	26	353	35	8	5
8:15 AM - 8:30 AM	86	212	15	2	4	41	198	44	9	4	60	218	64	0	4	15	416	37	4	4
8:30 AM - 8:45 AM	71	148	15	5	0	42	185	54	9	3	38	160	47	3	6	29	337	49	6	5
8:45 AM - 9:00 AM	81	150	14	4	3	32	186	53	8	5	37	213	60	5	4	35	315	49	7	2
TOTAL	**738**	**1326**	**109**	**30**	**38**	**247**	**1549**	**367**	**42**	**24**	**334**	**1648**	**515**	**19**	**33**	**140**	**2848**	**270**	**43**	**28**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	72	233	31	5	1	43	202	54	6	3	80	329	107	1	3	47	254	44	2	1
4:15 PM - 4:30 PM	90	293	17	4	4	38	182	48	3	5	102	345	105	3	6	39	265	40	3	1
4:30 PM - 4:45 PM	81	266	29	9	0	39	159	46	4	1	82	375	99	0	6	55	279	60	4	2
4:45 PM - 5:00 PM	75	236	23	7	0	48	149	42	3	1	109	429	101	0	4	34	227	57	3	0
5:00 PM - 5:15 PM	78	239	33	4	0	41	204	48	7	0	107	343	121	7	1	38	252	48	0	1
5:15 PM - 5:30 PM	74	260	19	6	1	43	173	48	3	0	101	442	144	2	1	47	329	58	1	4
5:30 PM - 5:45 PM	73	330	40	9	0	38	185	45	3	0	100	321	98	3	2	39	239	55	0	0
5:45 PM - 6:00 PM	64	257	20	7	1	30	191	40	3	0	87	270	81	2	0	27	257	58	1	0
TOTAL	**607**	**2114**	**212**	**51**	**7**	**320**	**1445**	**371**	**32**	**10**	**768**	**2854**	**856**	**18**	**23**	**326**	**2102**	**420**	**14**	**9**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	437	840	65	16	23	135	875	194	18	10	201	938	320	6	16	64	1588	125	18	15
4:30 PM - 5:30 PM	308	1001	104	26	1	171	685	184	17	2	399	1589	465	9	12	174	1087	223	8	7

	PHF	Trucks
AM	0.918	1.1%
PM	0.919	0.3%



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

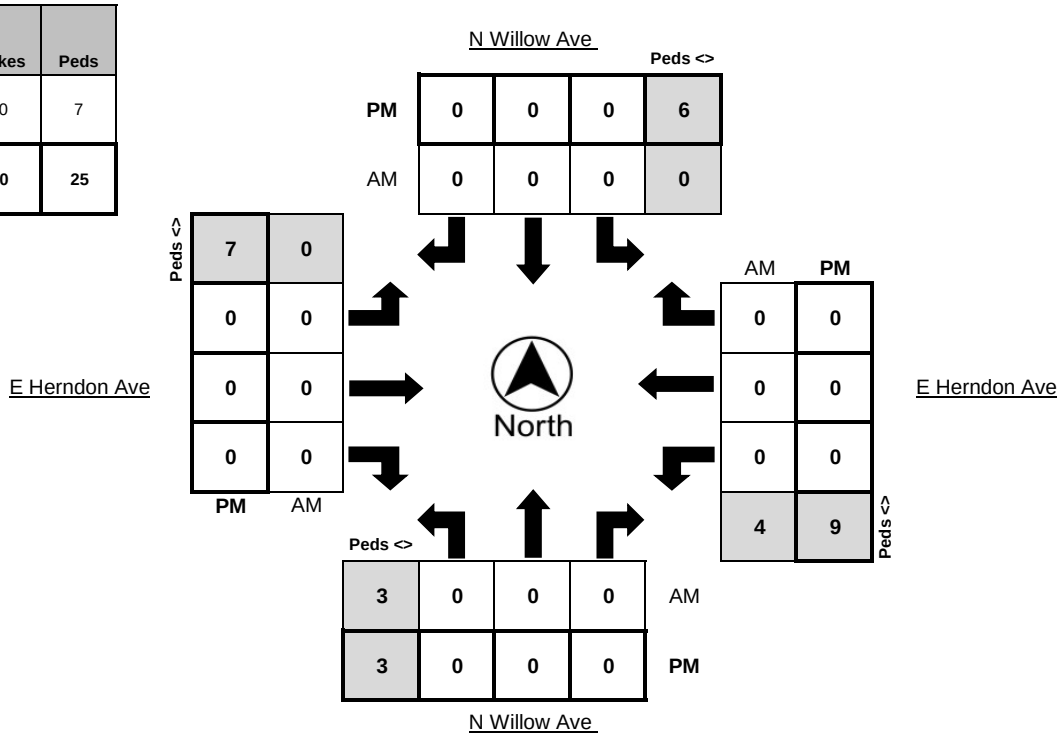
LOCATION N Willow Ave / E Herndon Ave
LATITUDE 36.8376
COUNTY Fresno
LONGITUDE -119.7296
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	4
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	5	0	0	0	1	0	0	0	6	0	0	0	4
5:00 PM - 5:15 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
TOTAL	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**15**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	6	0	0	0	3	0	0	0	9	0	0	0	7

	Bikes	Peds
AM Peak Total	0	7
PM Peak Total	**0**	**25**



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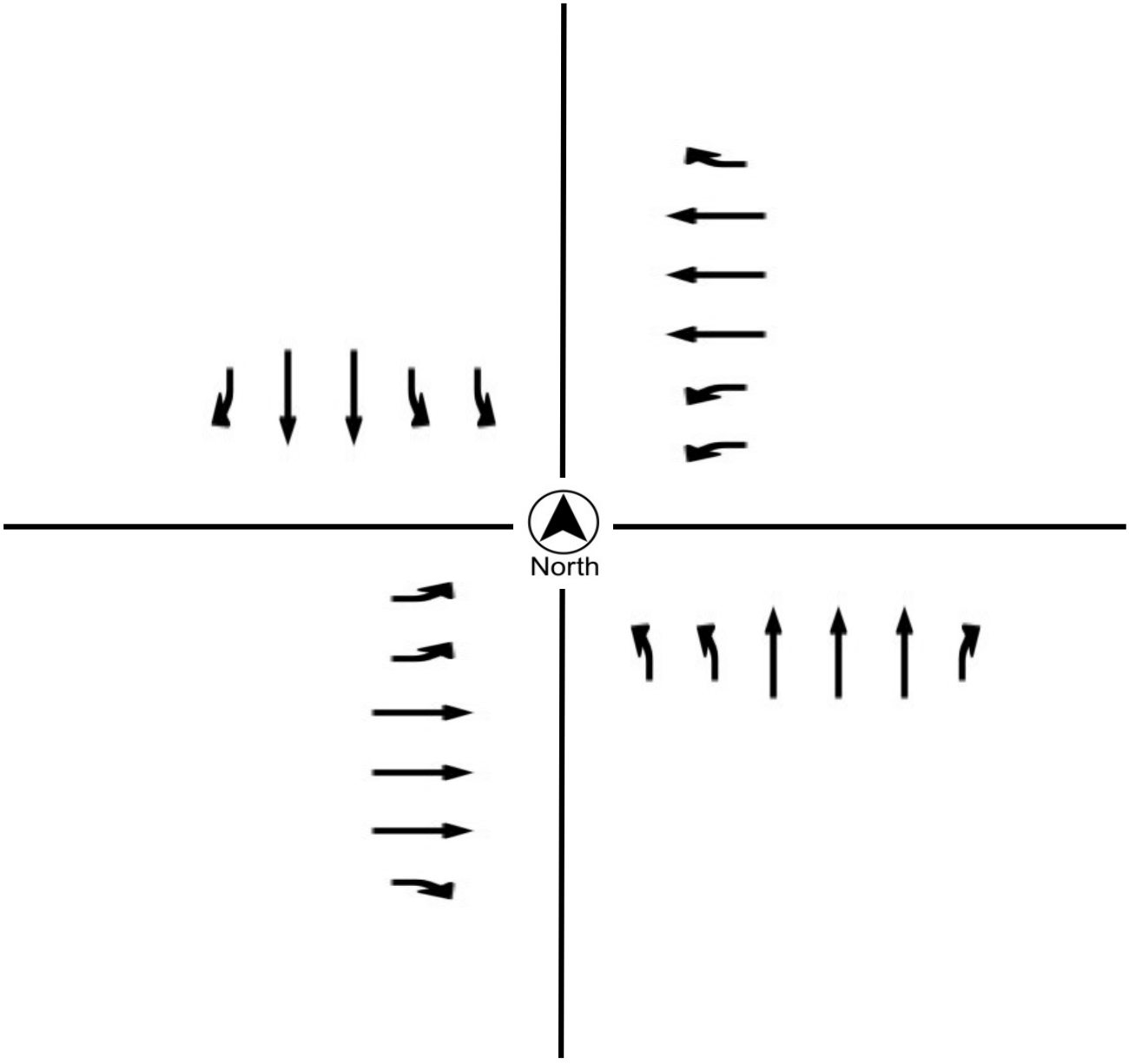
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Willow Ave / E Herndon Ave	**N/S STREET**	N Willow Ave / N Willow Ave
COUNTY	Fresno	**E/W STREET**	E Herndon Ave / E Herndon Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	120 Seconds Seconds	**CONTROL TYPE**	Signal

COMMENTS All approaches have protected left turns



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION N Helm Ave / E Herndon Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024

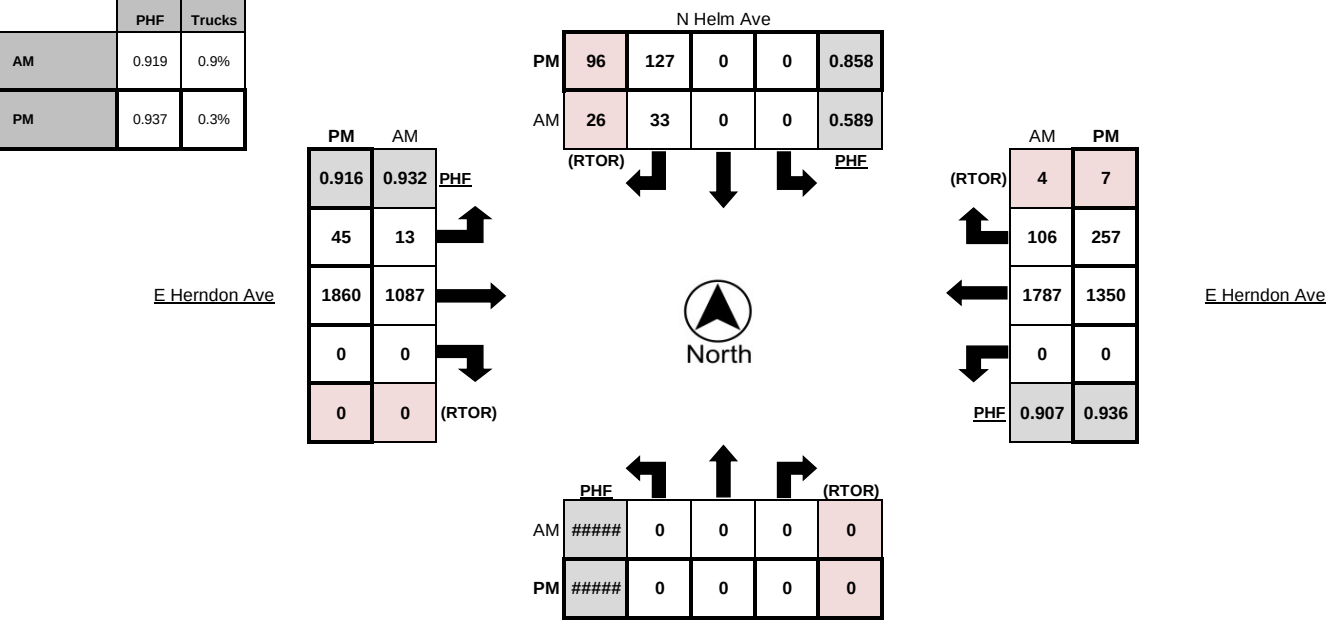
LATITUDE 36.8376
LONGITUDE -119.7249
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	5	4	0	3	142	0	0	6	0	285	12	0	3
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	8	6	0	1	228	0	0	0	0	391	13	0	4
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	6	6	0	1	276	0	0	3	0	449	23	0	1
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	6	6	0	5	290	0	0	5	0	498	24	0	7
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	7	4	0	4	254	0	0	1	0	407	29	4	5
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	14	10	0	3	267	0	0	3	0	433	30	0	3
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	9	8	0	8	232	0	0	5	0	400	31	0	7
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	12	12	0	4	259	0	0	1	0	368	41	2	2
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**67**	**56**	**0**	**29**	**1948**	**0**	**0**	**24**	**0**	**3231**	**203**	**6**	**32**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	29	18	0	9	399	0	0	1	0	311	64	10	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	27	19	0	19	421	0	0	5	0	313	67	0	3
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	33	25	1	6	409	0	0	3	0	348	58	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	31	23	0	21	499	0	0	2	0	304	66	2	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	26	16	0	8	457	0	0	1	0	340	62	5	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	37	32	0	10	495	0	0	0	0	358	71	0	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	21	14	0	15	426	0	0	1	0	288	53	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	26	21	0	14	367	0	0	1	0	303	43	1	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**230**	**168**	**1**	**102**	**3473**	**0**	**0**	**14**	**0**	**2565**	**484**	**18**	**7**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	33	26	0	13	1087	0	0	12	0	1787	106	4	16
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	127	96	1	45	1860	0	0	6	0	1350	257	7	3

	PHF	Trucks
AM	0.919	0.9%
PM	0.937	0.3%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

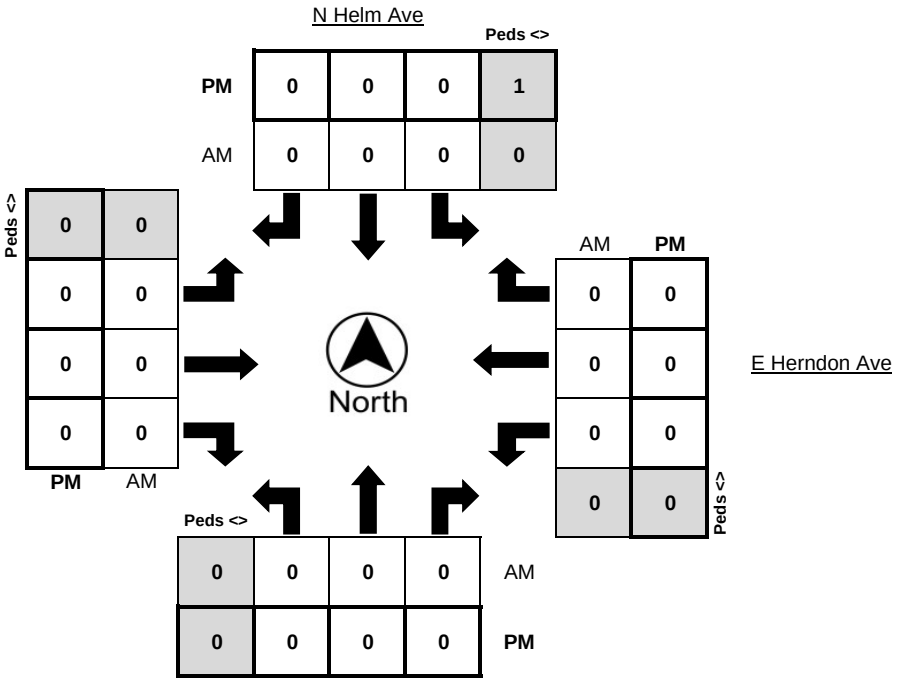
LOCATION N Helm Ave / E Herndon Ave
LATITUDE 36.8376
COUNTY Fresno
LONGITUDE -119.7249
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	**0**	**1**



Metro Traffic Data Inc.
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Hanford, CA 93230

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www.metrotrafficdata.com

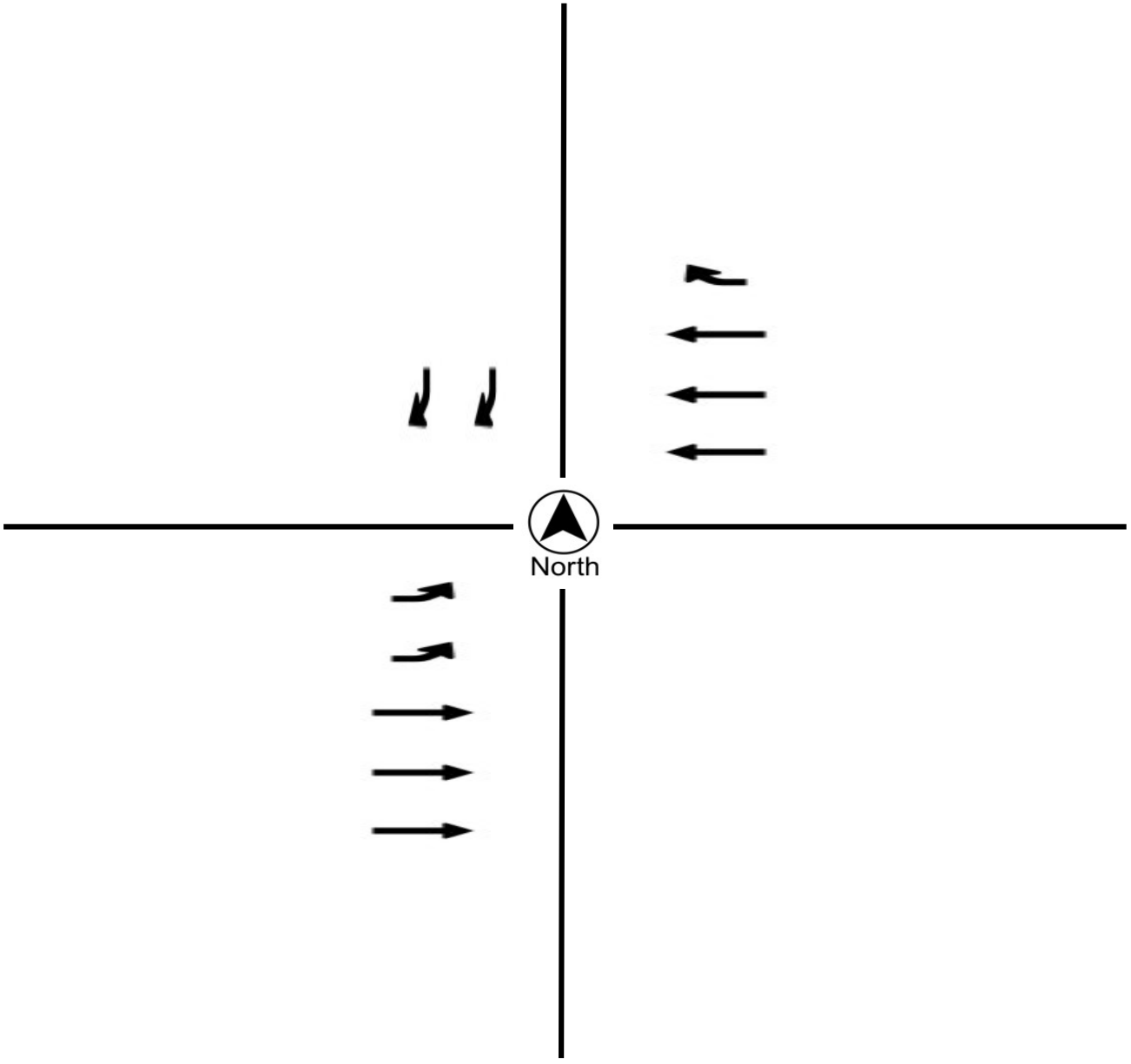
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Helm Ave / E Herndon Ave	**N/S STREET**	N Helm Ave
COUNTY	Fresno	**E/W STREET**	E Herndon Ave / E Herndon Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	132 Seconds	**CONTROL TYPE**	Signal

COMMENTS Eastbound left turns are protected



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION N Peach Ave / E Herndon Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024

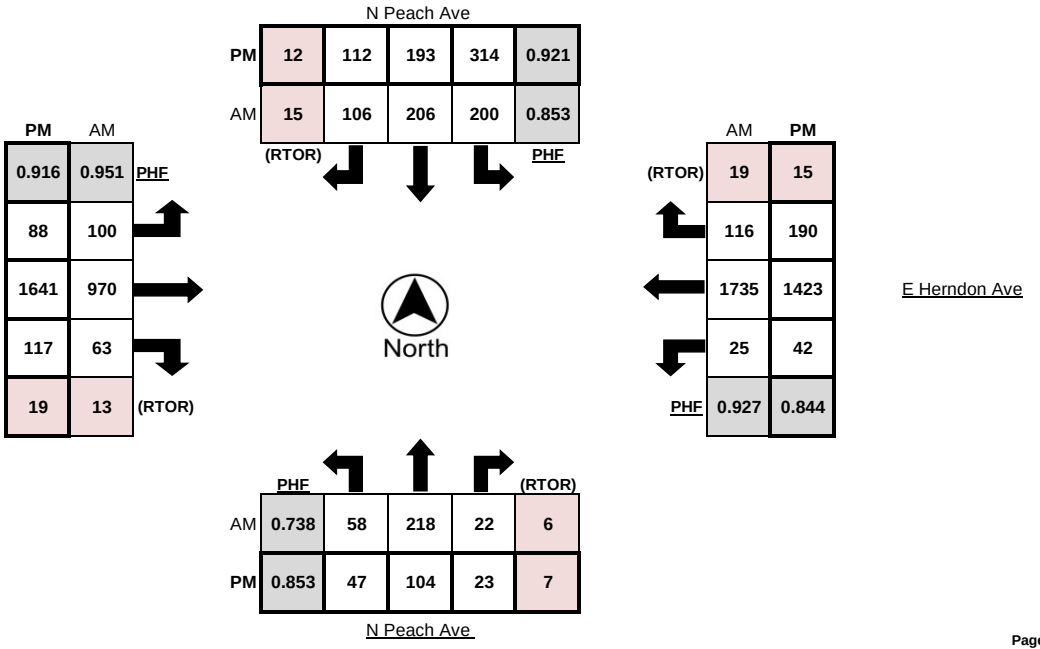
LATITUDE 36.8376
LONGITUDE -119.7202
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	11	14	5	4	0	33	24	19	6	0	14	123	5	1	7	1	247	13	2	3
7:15 AM - 7:30 AM	8	28	5	2	1	54	28	24	8	0	16	200	9	2	0	6	328	19	3	5
7:30 AM - 7:45 AM	14	30	7	2	3	43	39	25	3	0	21	246	21	3	3	13	431	17	5	1
7:45 AM - 8:00 AM	10	42	3	1	0	46	56	21	4	1	26	254	16	4	3	3	474	29	2	10
8:00 AM - 8:15 AM	12	83	6	0	4	49	53	30	4	6	25	218	8	3	2	6	391	41	6	4
8:15 AM - 8:30 AM	22	63	6	3	0	62	58	30	4	0	28	252	18	3	3	3	439	29	6	2
8:30 AM - 8:45 AM	9	18	2	0	0	59	51	29	9	3	25	204	6	1	6	1	358	38	6	6
8:45 AM - 9:00 AM	10	14	9	3	0	34	19	18	4	4	19	229	5	0	1	6	399	21	1	4
TOTAL	**96**	**292**	**43**	**15**	**8**	**380**	**328**	**196**	**42**	**14**	**174**	**1726**	**88**	**17**	**25**	**39**	**3067**	**207**	**31**	**35**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	6	15	5	2	0	77	32	28	10	0	14	377	25	4	2	3	275	25	2	2
4:15 PM - 4:30 PM	4	18	10	3	0	68	30	19	2	1	24	389	25	6	4	5	375	46	5	3
4:30 PM - 4:45 PM	11	23	3	1	0	67	29	26	2	2	25	370	16	0	3	7	319	34	3	1
4:45 PM - 5:00 PM	13	24	4	0	3	84	38	22	5	0	16	445	34	5	2	3	305	38	4	1
5:00 PM - 5:15 PM	10	24	6	1	0	75	59	34	1	0	17	374	27	3	1	11	380	52	5	0
5:15 PM - 5:30 PM	15	30	6	2	0	78	43	22	3	1	29	441	34	6	0	12	419	59	3	3
5:30 PM - 5:45 PM	9	26	7	4	0	77	53	34	3	1	26	381	22	5	1	16	319	41	3	1
5:45 PM - 6:00 PM	8	19	3	1	0	78	53	23	4	2	16	341	31	6	0	5	293	44	6	0
TOTAL	**76**	**179**	**44**	**14**	**3**	**604**	**337**	**208**	**30**	**7**	**167**	**3118**	**214**	**35**	**13**	**62**	**2685**	**339**	**31**	**11**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	58	218	22	6	7	200	206	106	15	7	100	970	63	13	11	25	1735	116	19	17
4:45 PM - 5:45 PM	47	104	23	7	3	314	193	112	12	2	88	1641	117	19	4	42	1423	190	15	5

	PHF	Trucks
AM	0.945	1.1%
PM	0.904	0.3%



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Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

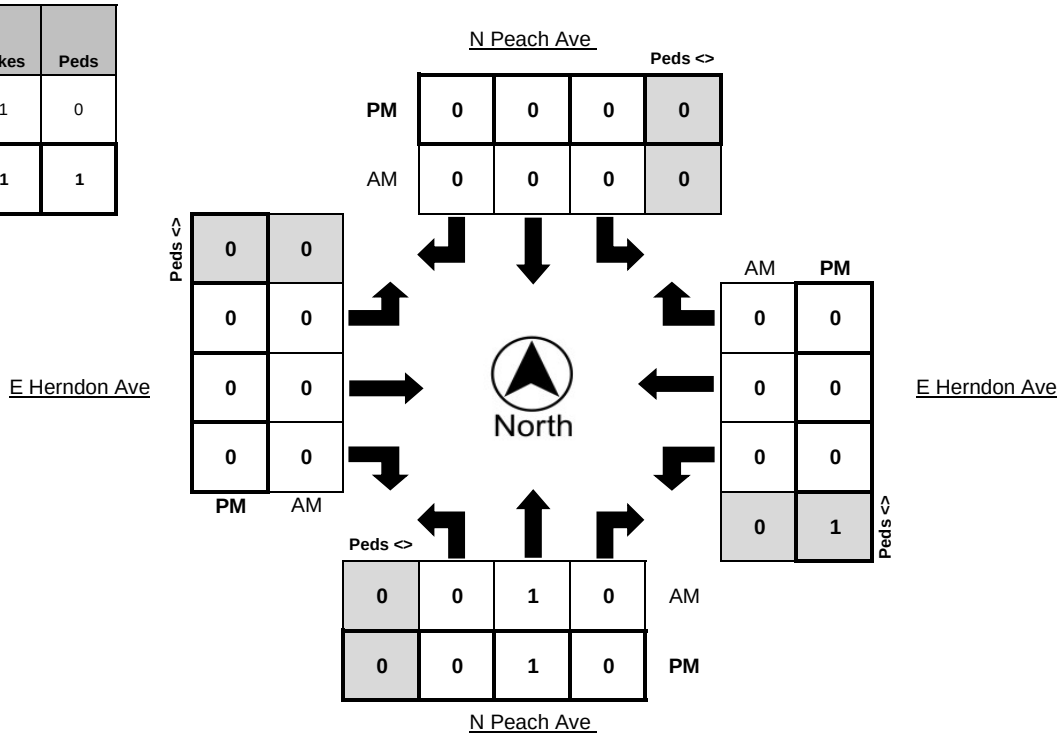
LOCATION N Peach Ave / E Herndon Ave
LATITUDE 36.8376
COUNTY Fresno
LONGITUDE -119.7202
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:00 PM - 5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:45 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0

	Bikes	Peds
AM Peak Total	1	0
PM Peak Total	**1**	**1**



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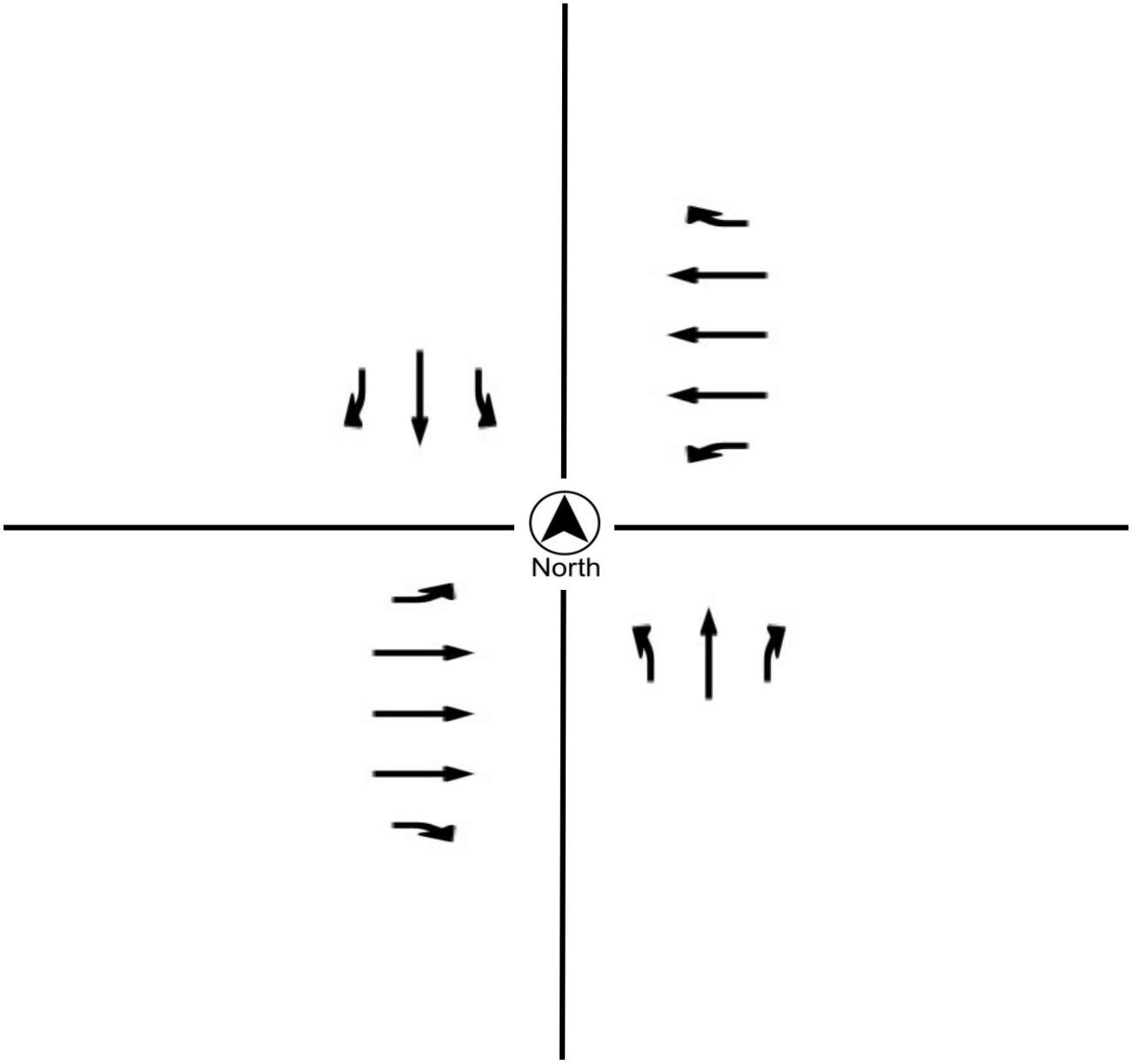
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Peach Ave / E Herndon Ave	**N/S STREET**	N Peach Ave / N Peach Ave
COUNTY	Fresno	**E/W STREET**	E Herndon Ave / E Herndon Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	181 Seconds	**CONTROL TYPE**	Signal

COMMENTS All approaches have protected left turns



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

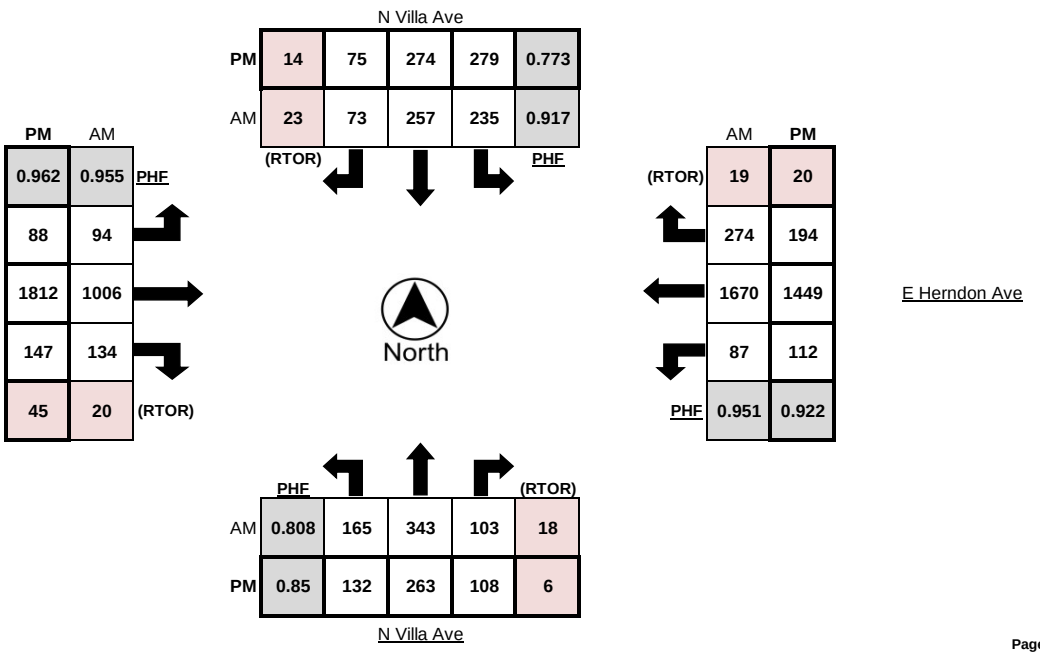
LOCATION N Villa Ave/ E Herndon Ave
LATITUDE 36.8376
COUNTY Fresno
LONGITUDE -119.7137
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	12	34	15	10	1	39	19	12	3	1	9	130	15	7	2	10	249	34	2	3
7:15 AM - 7:30 AM	23	45	12	4	3	71	27	12	1	6	17	261	19	3	0	15	341	49	2	4
7:30 AM - 7:45 AM	26	78	32	2	1	59	56	24	9	4	24	263	24	4	4	19	430	52	1	3
7:45 AM - 8:00 AM	51	77	22	7	4	49	67	19	9	3	23	267	33	10	4	23	435	76	13	8
8:00 AM - 8:15 AM	45	117	27	7	5	65	60	12	3	1	34	225	38	4	3	24	378	76	3	5
8:15 AM - 8:30 AM	43	71	22	2	4	62	74	18	2	1	13	251	39	2	3	21	427	70	2	2
8:30 AM - 8:45 AM	37	43	18	4	4	53	59	26	5	3	13	240	25	2	6	14	333	41	0	6
8:45 AM - 9:00 AM	32	36	16	3	3	42	60	15	2	3	23	219	24	3	4	14	393	50	7	3
TOTAL	**269**	**501**	**164**	**39**	**25**	**440**	**422**	**138**	**34**	**22**	**156**	**1856**	**217**	**35**	**26**	**140**	**2986**	**448**	**30**	**34**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	38	53	21	8	2	53	52	29	4	1	18	406	44	13	2	37	307	48	11	2
4:15 PM - 4:30 PM	34	60	34	3	0	57	65	12	3	0	8	382	35	5	4	29	382	45	4	4
4:30 PM - 4:45 PM	54	64	18	0	2	64	75	27	4	3	16	363	43	14	5	31	301	38	8	0
4:45 PM - 5:00 PM	25	57	32	0	0	66	64	16	1	1	16	448	39	10	2	27	373	65	6	2
5:00 PM - 5:15 PM	35	59	21	1	0	87	86	30	5	0	20	456	42	17	1	35	360	41	4	0
5:15 PM - 5:30 PM	45	76	27	3	1	58	58	12	3	0	31	463	38	8	1	28	406	42	5	2
5:30 PM - 5:45 PM	27	71	28	2	1	68	66	17	5	0	21	445	28	10	0	22	310	46	5	0
5:45 PM - 6:00 PM	40	44	27	1	0	54	54	11	5	1	23	366	30	3	1	36	317	30	6	0
TOTAL	**298**	**484**	**208**	**18**	**6**	**507**	**520**	**154**	**30**	**6**	**153**	**3329**	**299**	**80**	**16**	**245**	**2756**	**355**	**49**	**10**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	165	343	103	18	14	235	257	73	23	9	94	1006	134	20	14	87	1670	274	19	18
4:45 PM - 5:45 PM	132	263	108	6	2	279	274	75	14	1	88	1812	147	45	4	112	1449	194	20	4

	PHF	Trucks
AM	0.972	1.2%
PM	0.960	0.2%



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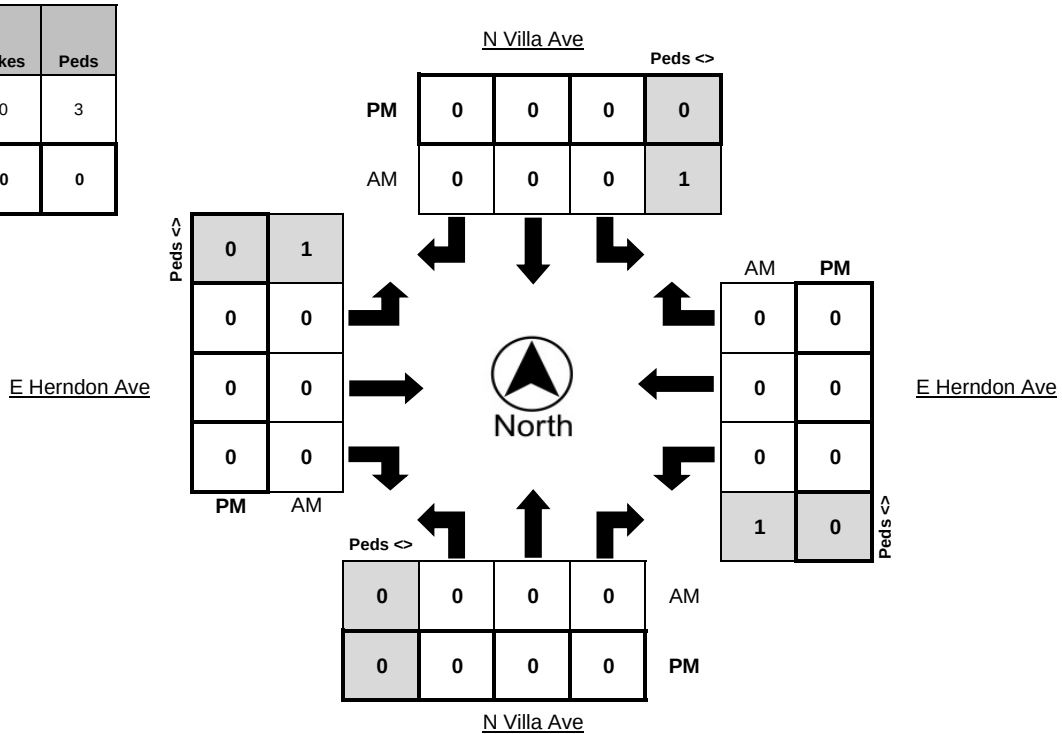
COUNTY Fresno
LONGITUDE -119.7137
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	3
PM Peak Total	0	0



Metro Traffic Data Inc.
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Hanford, CA 93230

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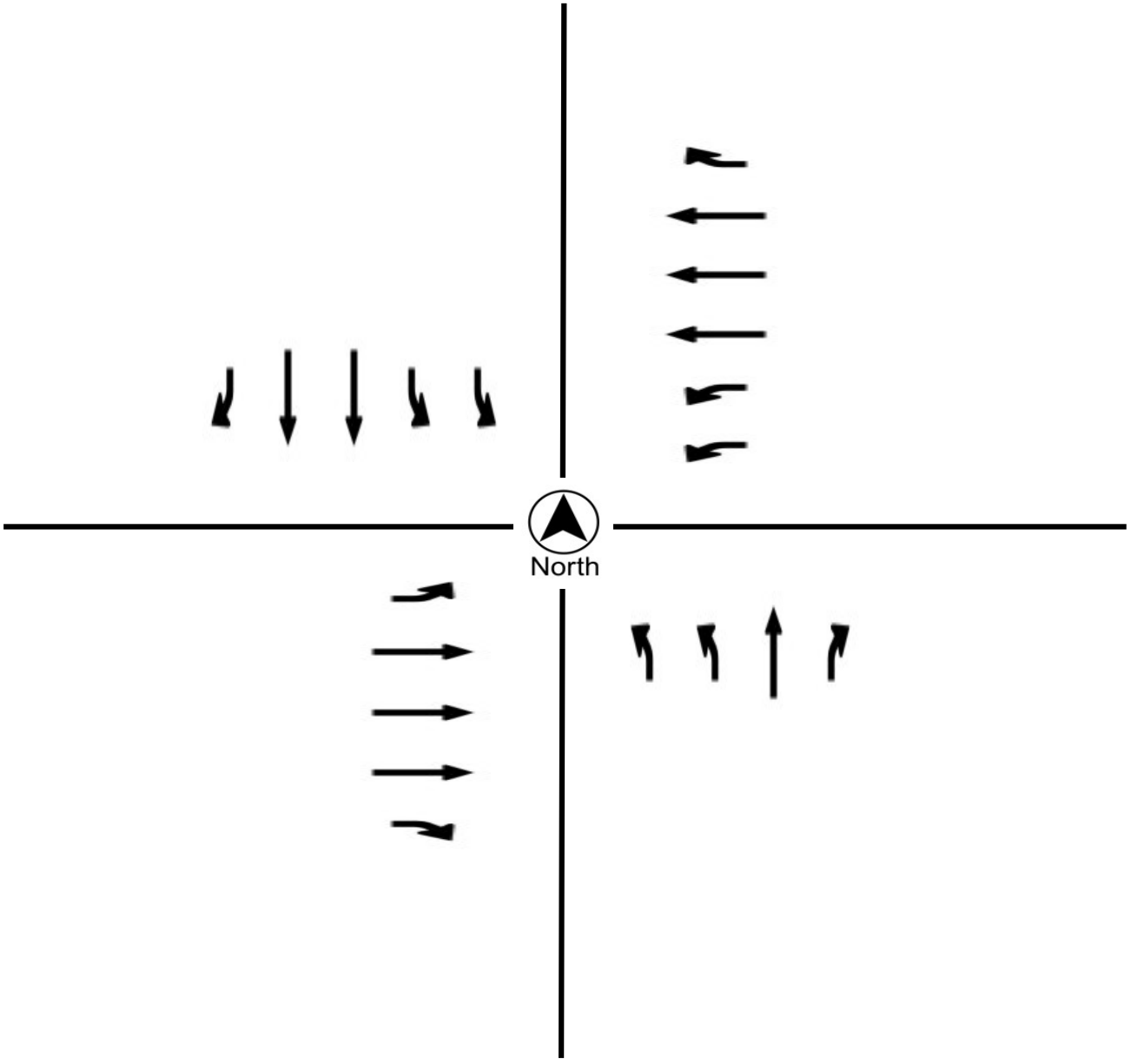
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Villa Ave/ E Herndon Ave	**N/S STREET**	N Villa Ave / N Villa Ave
COUNTY	Fresno	**E/W STREET**	E Herndon Ave / E Herndon Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	151 Seconds Seconds	**CONTROL TYPE**	Signal

COMMENTS All approaches have protected left turns



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION N Willow Ave / W Magill Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024

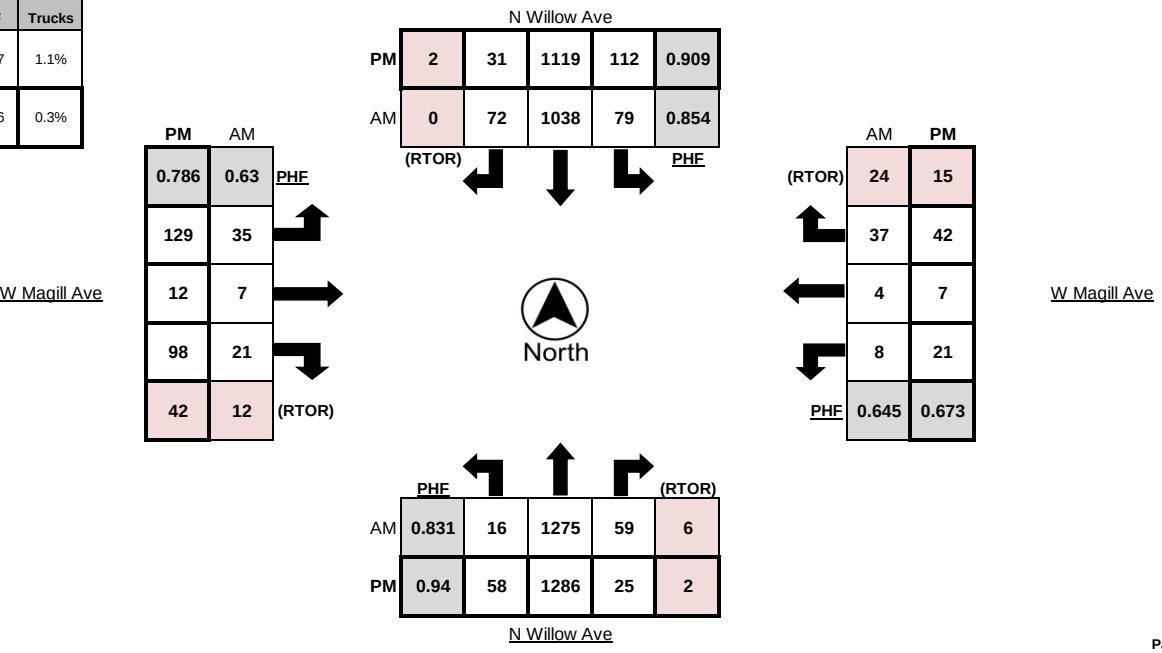
LATITUDE 36.8357
LONGITUDE -119.7295
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	2	150	7	1	6	9	160	0	0	2	3	0	9	7	0	6	0	6	5	0
7:15 AM - 7:30 AM	2	201	7	0	6	10	209	3	0	3	1	0	4	3	0	1	1	11	7	1
7:30 AM - 7:45 AM	1	288	14	1	4	15	319	14	0	2	3	1	2	2	0	1	1	5	3	0
7:45 AM - 8:00 AM	5	366	35	3	5	20	259	13	0	1	8	2	4	3	0	2	1	16	10	3
8:00 AM - 8:15 AM	5	321	6	2	7	24	236	29	0	0	17	1	7	4	0	2	1	7	5	1
8:15 AM - 8:30 AM	5	300	4	0	3	20	224	16	0	2	7	3	8	3	0	3	1	9	6	0
8:30 AM - 8:45 AM	4	225	4	0	0	9	204	17	0	2	9	4	8	5	1	1	2	4	1	0
8:45 AM - 9:00 AM	4	240	9	0	2	14	231	21	1	4	18	1	11	5	0	4	3	9	4	1
TOTAL	**28**	**2091**	**86**	**7**	**33**	**121**	**1842**	**113**	**1**	**16**	**66**	**12**	**53**	**32**	**1**	**20**	**10**	**67**	**41**	**6**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	12	256	4	1	1	31	286	9	2	0	26	3	25	9	0	5	2	7	2	0
4:15 PM - 4:30 PM	18	322	8	0	3	25	243	6	0	0	33	2	17	8	0	7	0	11	5	1
4:30 PM - 4:45 PM	20	290	9	0	0	17	278	6	0	2	51	3	15	4	1	1	4	6	3	0
4:45 PM - 5:00 PM	17	302	7	0	2	32	242	10	1	0	29	4	22	6	0	6	1	7	4	2
5:00 PM - 5:15 PM	14	340	10	1	1	22	293	9	1	0	42	2	32	14	0	3	1	9	3	0
5:15 PM - 5:30 PM	12	333	3	1	0	29	309	9	0	1	32	1	21	8	1	7	4	15	4	1
5:30 PM - 5:45 PM	15	311	5	0	0	29	275	3	0	0	26	5	23	14	1	5	1	11	4	0
5:45 PM - 6:00 PM	19	275	12	1	0	23	256	6	0	1	35	2	17	8	0	4	3	12	4	1
TOTAL	**127**	**2429**	**58**	**4**	**7**	**208**	**2182**	**58**	**4**	**4**	**274**	**22**	**172**	**71**	**3**	**38**	**16**	**78**	**29**	**5**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	16	1275	59	6	19	79	1038	72	0	5	35	7	21	12	0	8	4	37	24	4
4:45 PM - 5:45 PM	58	1286	25	2	3	112	1119	31	2	1	129	12	98	42	2	21	7	42	15	3

	PHF	Trucks
AM	0.907	1.1%
PM	0.946	0.3%



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Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

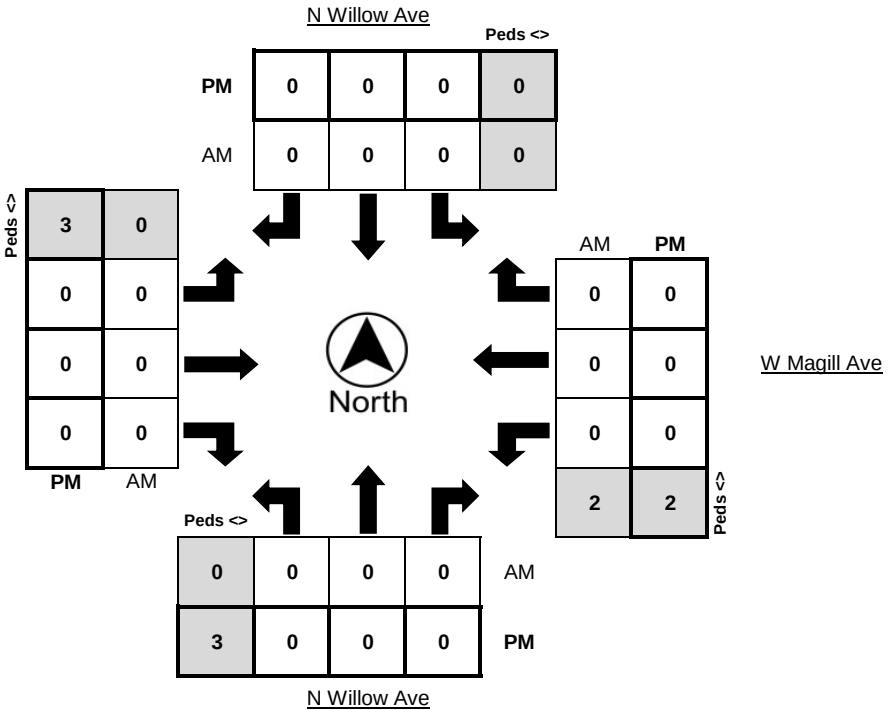
LOCATION N Willow Ave / W Magill Ave
LATITUDE 36.8357
COUNTY Fresno
LONGITUDE -119.7295
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	3

	Bikes	Peds
AM Peak Total	0	2
PM Peak Total	**0**	**8**



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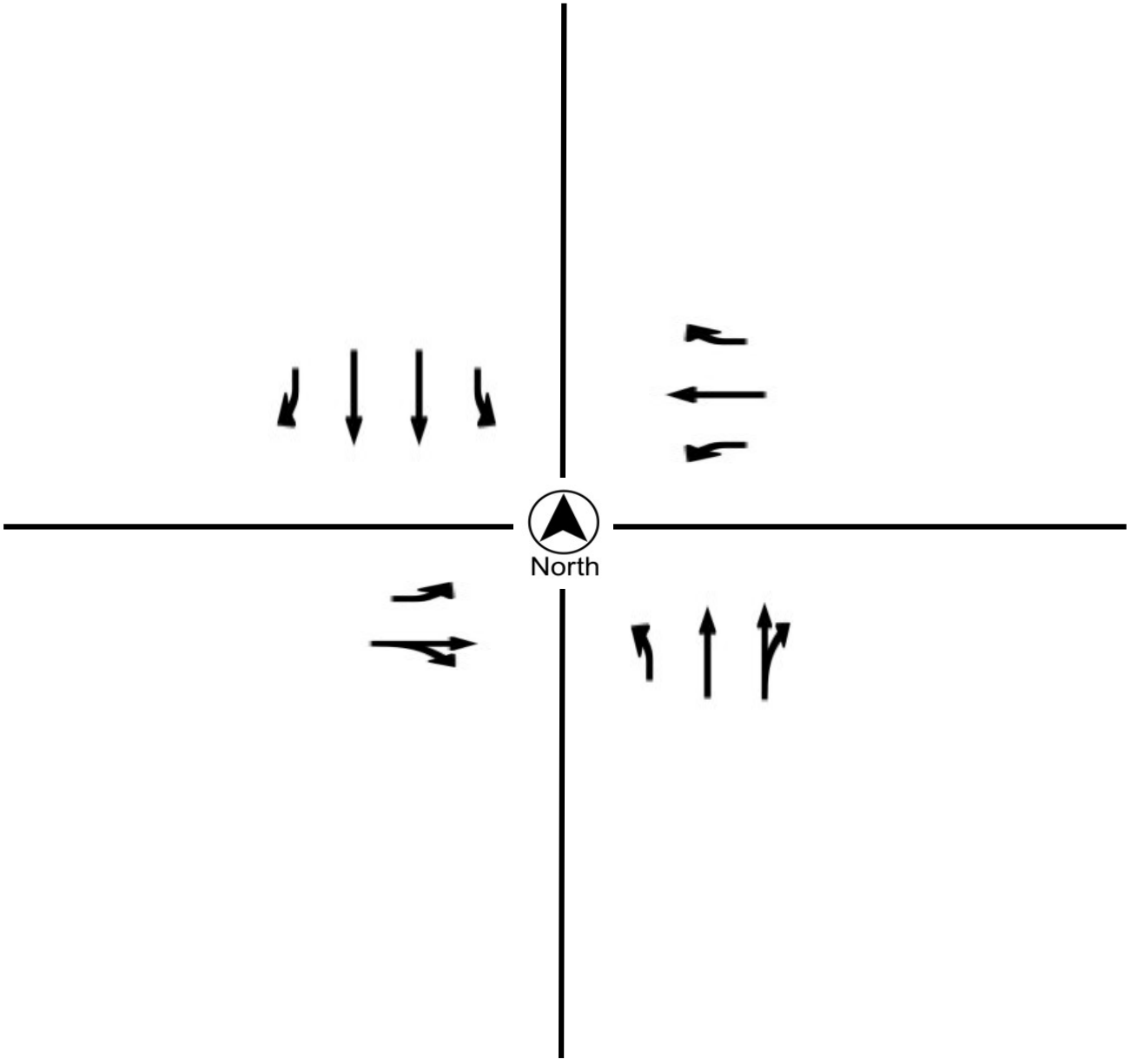
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Willow Ave / W Magill Ave	**N/S STREET**	N Willow Ave / N Willow Ave
COUNTY	Fresno	**E/W STREET**	W Magill Ave / W Magill Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	129 Seconds Seconds	**CONTROL TYPE**	Signal

COMMENTS All approaches have protected left turns



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION N Peach Ave / W Magill Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024

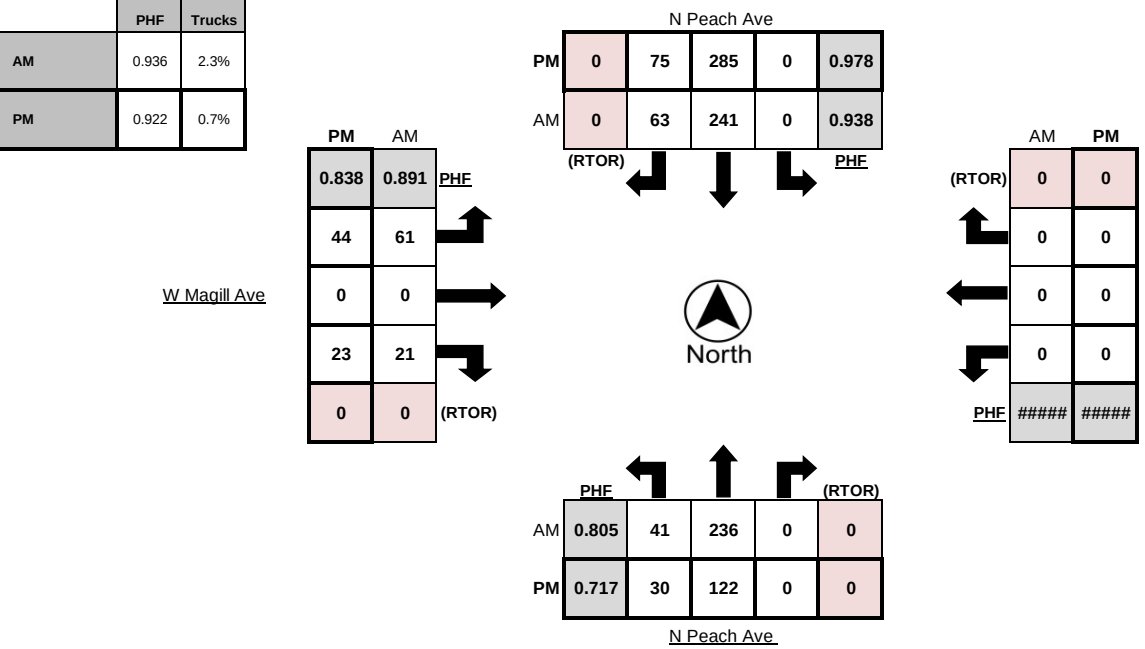
LATITUDE 36.8363
LONGITUDE -119.7197
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	5	24	0	0	0	0	28	1	0	0	6	0	5	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	5	36	0	0	1	0	30	7	0	2	7	0	2	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	13	42	0	0	2	0	59	22	0	1	11	0	10	0	1	0	0	0	0	0
7:45 AM - 8:00 AM	20	42	0	0	1	0	62	13	0	2	13	0	4	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	6	80	0	0	4	0	55	13	0	2	21	0	2	0	1	0	0	0	0	0
8:15 AM - 8:30 AM	2	72	0	0	0	0	65	15	0	1	16	0	5	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	4	26	0	0	1	0	49	6	0	0	3	0	1	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	8	21	0	0	0	0	23	7	0	3	10	0	2	0	0	0	0	0	0	0
TOTAL	**63**	**343**	**0**	**0**	**9**	**0**	**371**	**84**	**0**	**11**	**87**	**0**	**31**	**0**	**2**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	2	21	0	0	0	0	49	8	0	0	7	0	6	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	7	18	0	0	1	0	56	10	0	2	15	0	10	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	6	29	0	0	0	0	39	12	0	1	7	0	6	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	5	26	0	0	0	0	71	5	0	0	13	0	4	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	9	26	0	0	0	0	73	18	0	0	12	0	8	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	10	43	0	0	0	0	75	15	0	1	11	0	3	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	5	27	0	0	0	0	67	20	0	1	13	0	5	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	6	26	0	0	0	0	70	22	0	2	8	0	7	0	0	0	0	0	0	0
TOTAL	**50**	**216**	**0**	**0**	**1**	**0**	**500**	**110**	**0**	**7**	**86**	**0**	**49**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	41	236	0	0	7	0	241	63	0	6	61	0	21	0	2	0	0	0	0	0
5:00 PM - 6:00 PM	30	122	0	0	0	0	285	75	0	4	44	0	23	0	0	0	0	0	0	0

	PHF	Trucks
AM	0.936	2.3%
PM	0.922	0.7%



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Turning Movement Report

Prepared For:

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862 Pollasky Ave
Clovis, CA 93612

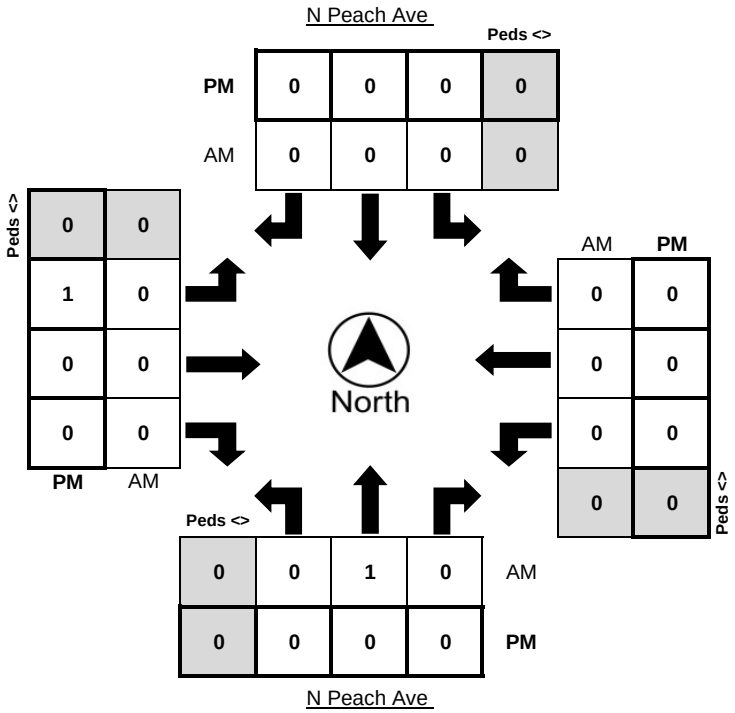
LOCATION N Peach Ave / W Magill Ave
LATITUDE 36.8363
COUNTY Fresno
LONGITUDE -119.7197
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM - 5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
7:30 AM - 8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	1	0
PM Peak Total	**1**	**0**



Metro Traffic Data Inc.
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www.metrotrafficdata.com

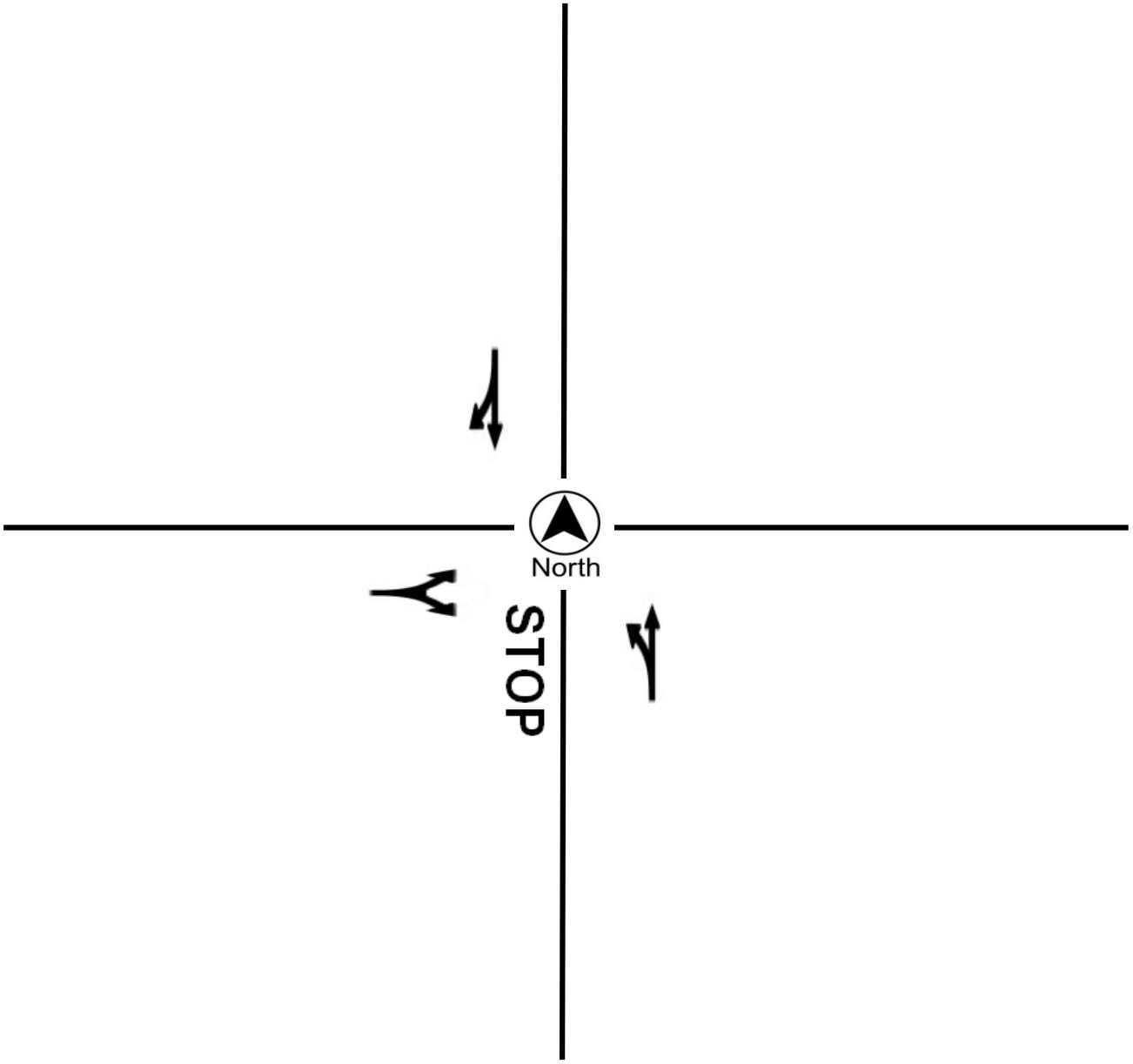
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Peach Ave / W Magill Ave	**N/S STREET**	N Peach Ave / N Peach Ave
COUNTY	Fresno	**E/W STREET**	/W Magill Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	N/A	**CONTROL TYPE**	One-Way Stop

COMMENTS



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

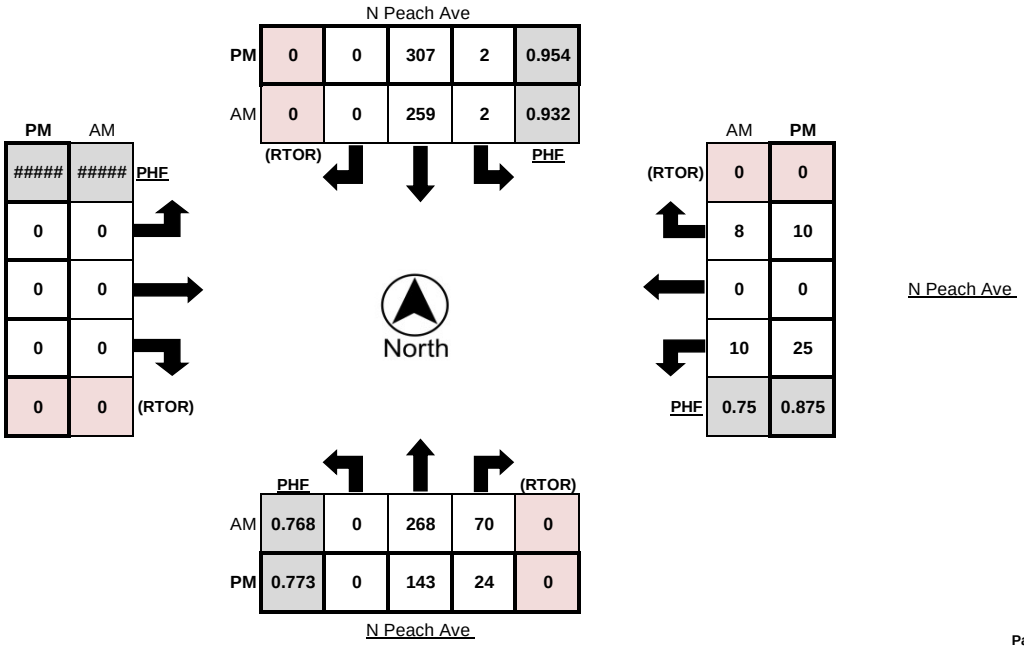
LOCATION N Peach Ave / N Peach Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024
LATITUDE 36.8352
LONGITUDE -119.7182
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	0	29	11	0	0	0	33	0	0	0	0	0	0	0	0	3	0	0	0	0
7:15 AM - 7:30 AM	0	40	13	0	1	0	32	0	0	0	0	0	0	0	0	6	0	2	0	0
7:30 AM - 7:45 AM	0	51	14	0	2	1	67	0	0	0	0	0	0	0	0	2	0	3	0	0
7:45 AM - 8:00 AM	0	64	22	0	1	1	65	0	0	1	0	0	0	0	0	3	0	2	0	0
8:00 AM - 8:15 AM	0	82	28	0	4	0	57	0	0	3	0	0	0	0	0	1	0	1	0	0
8:15 AM - 8:30 AM	0	71	6	0	0	0	70	0	0	0	0	0	0	0	0	4	0	2	0	0
8:30 AM - 8:45 AM	0	27	4	0	0	0	50	0	0	0	0	0	0	0	0	6	0	3	0	0
8:45 AM - 9:00 AM	0	29	6	0	0	0	25	0	0	2	0	0	0	0	0	7	0	1	0	0
TOTAL	**0**	**393**	**104**	**0**	**8**	**2**	**399**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**32**	**0**	**14**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	0	22	11	0	0	1	54	0	0	0	0	0	0	0	0	7	0	1	0	0
4:15 PM - 4:30 PM	0	22	5	0	1	0	65	0	0	1	0	0	0	0	0	3	0	5	0	0
4:30 PM - 4:45 PM	0	31	8	0	0	0	46	0	0	0	0	0	0	0	0	6	0	4	0	0
4:45 PM - 5:00 PM	0	27	3	0	0	0	74	0	0	0	0	0	0	0	0	4	0	3	0	0
5:00 PM - 5:15 PM	0	34	4	0	0	0	81	0	0	0	0	0	0	0	0	4	0	3	0	0
5:15 PM - 5:30 PM	0	50	4	0	0	0	80	0	0	0	0	0	0	0	0	7	0	1	0	0
5:30 PM - 5:45 PM	0	30	14	0	0	1	71	0	0	1	0	0	0	0	0	8	0	2	0	0
5:45 PM - 6:00 PM	0	29	2	0	0	1	75	0	0	0	0	0	0	0	0	6	0	4	0	0
TOTAL	**0**	**245**	**51**	**0**	**1**	**3**	**546**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**45**	**0**	**23**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	0	268	70	0	7	2	259	0	0	4	0	0	0	0	0	10	0	8	0	0
5:00 PM - 6:00 PM	0	143	24	0	0	2	307	0	0	1	0	0	0	0	0	25	0	10	0	0

	PHF	Trucks
AM	0.913	1.8%
PM	0.900	0.2%



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Clovis, CA 93612

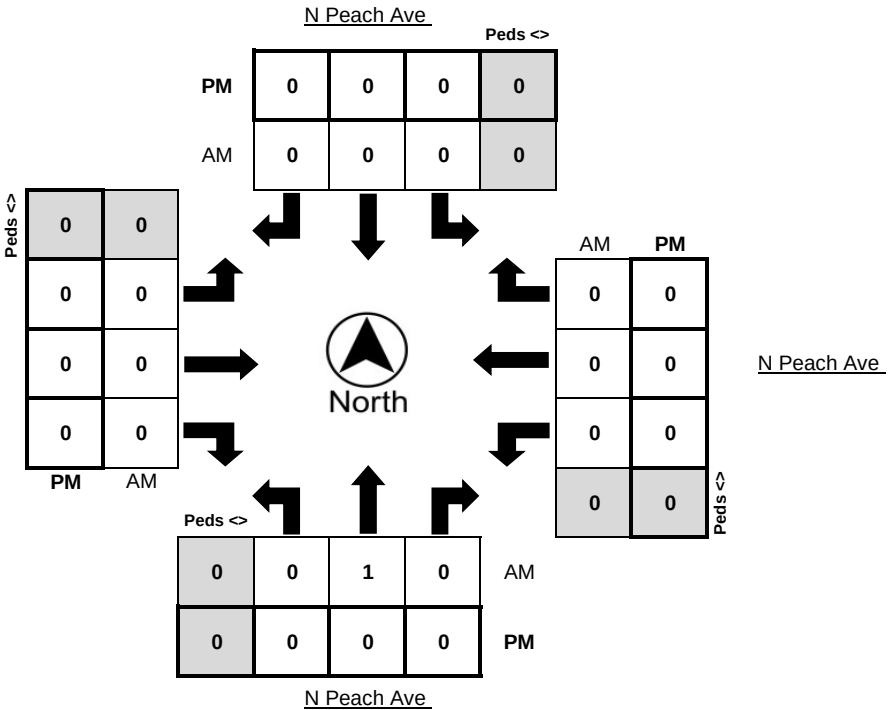
LOCATION N Peach Ave / N Peach Ave
LATITUDE 36.8352
COUNTY Fresno
LONGITUDE -119.7182
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	1	0
PM Peak Total	0	0



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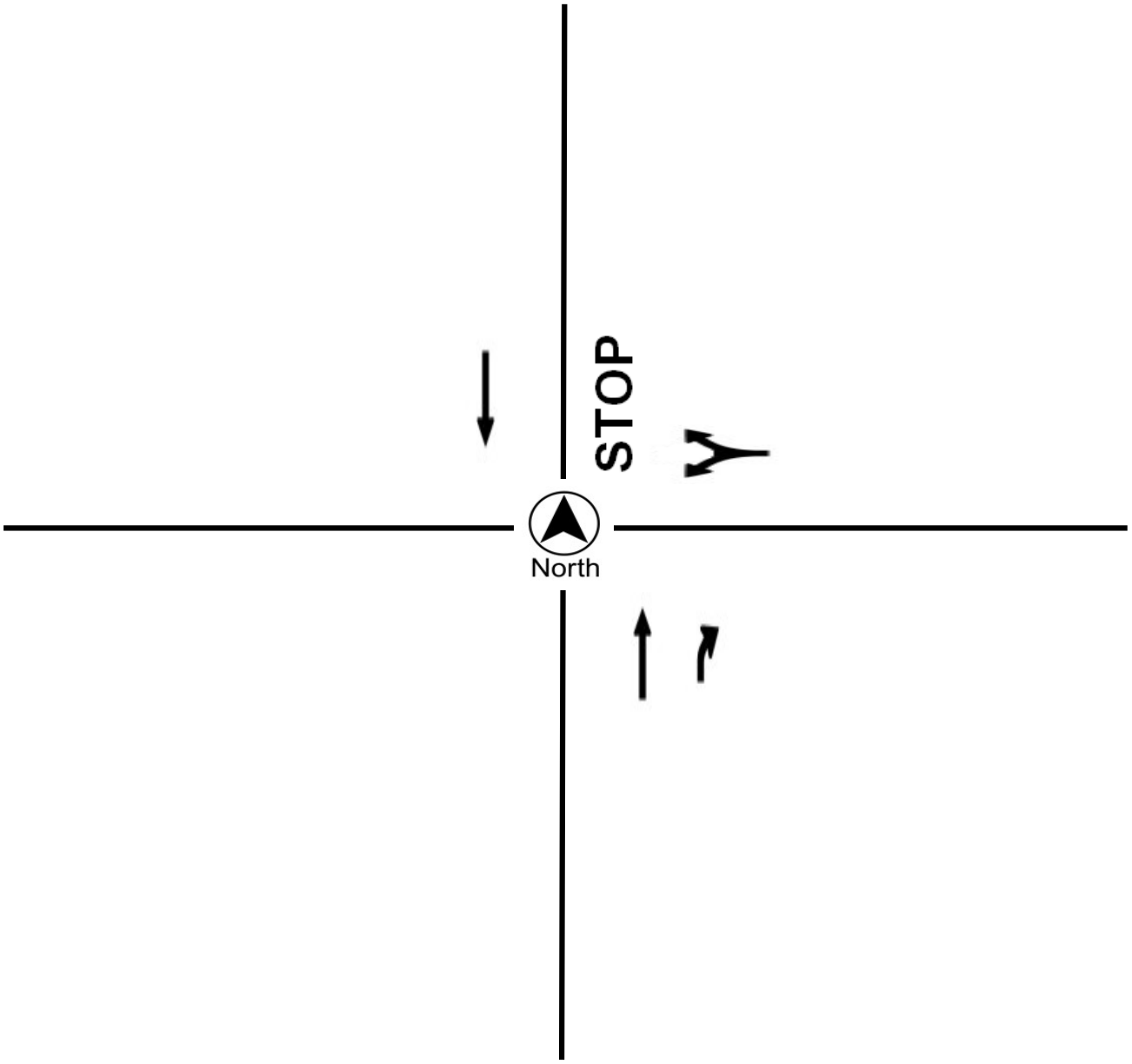
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Peach Ave / N Peach Ave	**N/S STREET**	N Peach Ave / N Peach Ave
COUNTY	Fresno	**E/W STREET**	N Peach Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	NA Seconds	**CONTROL TYPE**	Oneway Stop

COMMENTS



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Turning Movement Report

Prepared For:
Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION N Minnewawa / Alluvial Ave
COUNTY Fresno
COLLECTION DATE Thursday, February 08, 2024

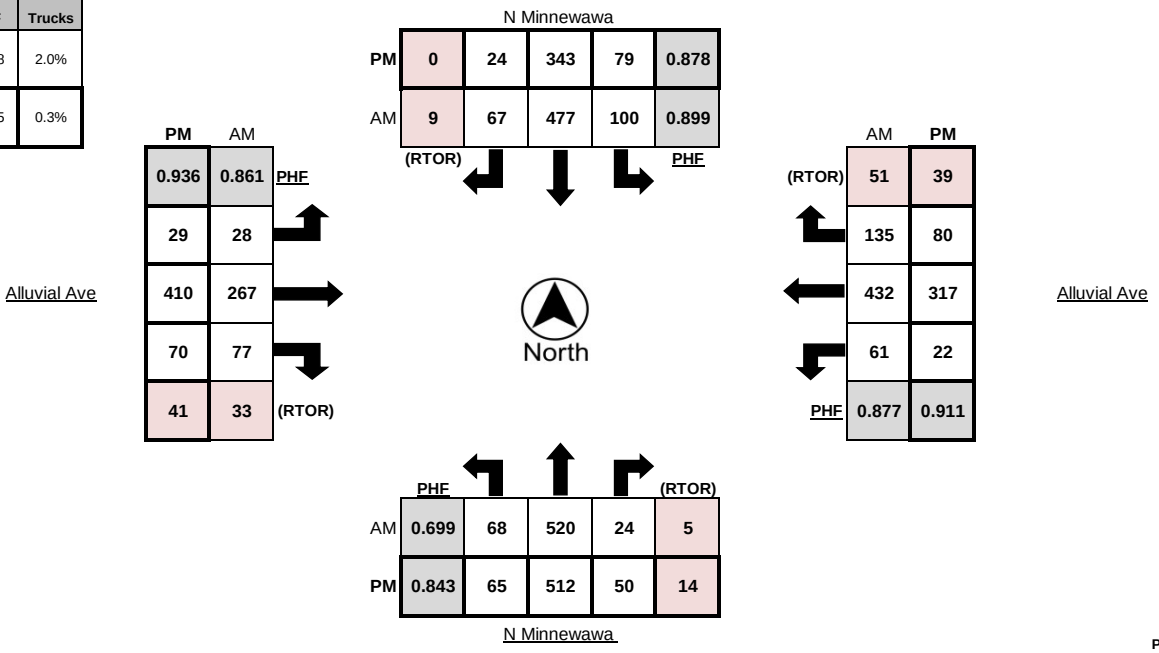
LATITUDE 36.8448
LONGITUDE -119.7112
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:00 AM - 7:15 AM	12	33	6	4	2	15	55	3	1	1	1	32	10	5	1	7	54	9	3	2
7:15 AM - 7:30 AM	10	76	10	2	2	22	95	1	0	2	2	34	12	7	0	13	69	10	3	3
7:30 AM - 7:45 AM	14	89	9	3	3	27	110	8	0	1	7	54	18	7	5	21	113	22	8	3
7:45 AM - 8:00 AM	14	98	6	1	2	19	116	17	3	5	6	83	19	12	2	24	120	35	21	3
8:00 AM - 8:15 AM	25	190	4	1	4	25	119	24	4	0	9	75	19	7	4	12	101	54	17	1
8:15 AM - 8:30 AM	15	143	5	0	4	29	132	18	2	1	6	55	21	7	7	4	98	24	5	0
8:30 AM - 8:45 AM	11	60	7	2	3	40	129	16	2	6	4	61	13	6	7	12	83	17	6	1
8:45 AM - 9:00 AM	5	46	5	1	2	17	67	2	1	4	2	55	18	9	2	9	59	6	5	1
TOTAL	**106**	**735**	**52**	**14**	**22**	**194**	**823**	**89**	**13**	**20**	**37**	**449**	**130**	**60**	**28**	**102**	**697**	**177**	**68**	**14**

	Northbound					Southbound					Eastbound					Westbound				
Time	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
4:00 PM - 4:15 PM	18	89	14	2	3	24	54	3	1	3	5	80	32	14	4	9	71	11	8	0
4:15 PM - 4:30 PM	20	121	10	5	2	17	77	7	1	2	7	107	24	8	3	8	86	19	8	0
4:30 PM - 4:45 PM	26	97	14	6	1	23	69	4	0	2	6	103	23	8	5	6	65	17	12	0
4:45 PM - 5:00 PM	20	119	12	4	1	16	77	7	0	1	8	91	20	10	0	5	96	14	4	0
5:00 PM - 5:15 PM	12	120	17	4	0	18	73	3	0	0	9	108	19	9	2	2	75	23	17	0
5:15 PM - 5:30 PM	15	154	17	4	0	22	97	8	0	0	4	97	17	18	0	7	76	21	9	0
5:30 PM - 5:45 PM	18	119	4	2	0	23	96	6	0	1	8	114	14	4	1	8	70	22	9	0
5:45 PM - 6:00 PM	10	104	8	3	0	29	80	7	3	1	6	105	22	6	0	5	72	9	6	0
TOTAL	**139**	**923**	**96**	**30**	**7**	**172**	**623**	**45**	**5**	**10**	**53**	**805**	**171**	**77**	**15**	**50**	**611**	**136**	**73**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**	**Left**	**Thru**	**Right**	**(RTOR)**	**Trucks**
7:30 AM - 8:30 AM	68	520	24	5	13	100	477	67	9	7	28	267	77	33	18	61	432	135	51	7
4:45 PM - 5:45 PM	65	512	50	14	1	79	343	24	0	2	29	410	70	41	3	22	317	80	39	0

	PHF	Trucks
AM	0.858	2.0%
PM	0.935	0.3%



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Prepared For:

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Clovis, CA 93612

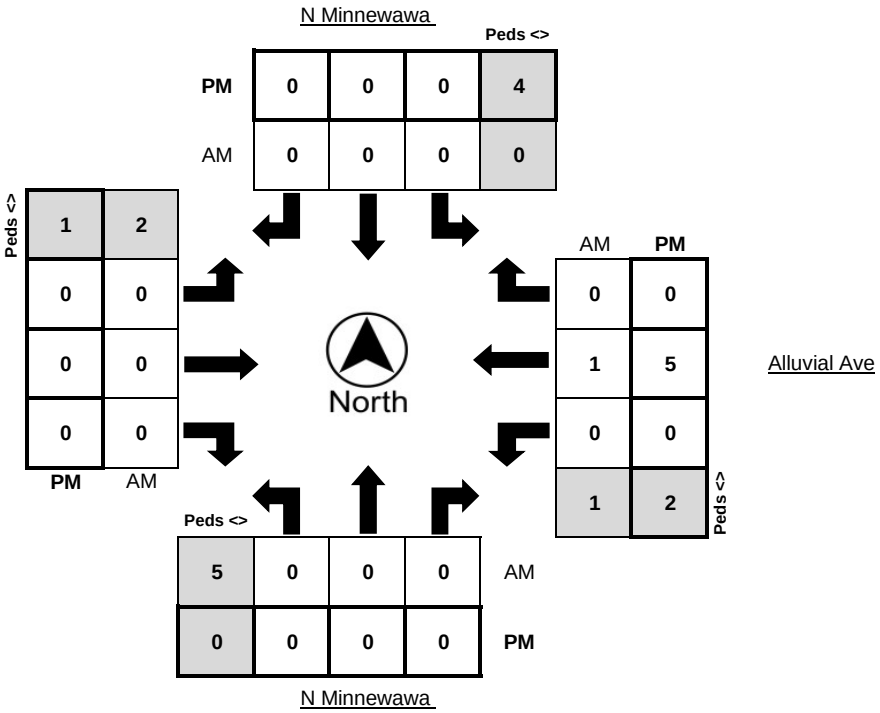
LOCATION N Minnewawa / Alluvial Ave
LATITUDE 36.8448
COUNTY Fresno
LONGITUDE -119.7112
COLLECTION DATE Thursday, February 08, 2024
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**2**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
5:30 PM - 5:45 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	3	0	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**7**	**0**	**2**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	5	0	0	0	1	0	1	0	2
4:45 PM - 5:45 PM	0	0	0	4	0	0	0	0	0	0	0	2	0	5	0	1

	Bikes	Peds
AM Peak Total	1	8
PM Peak Total	5	7



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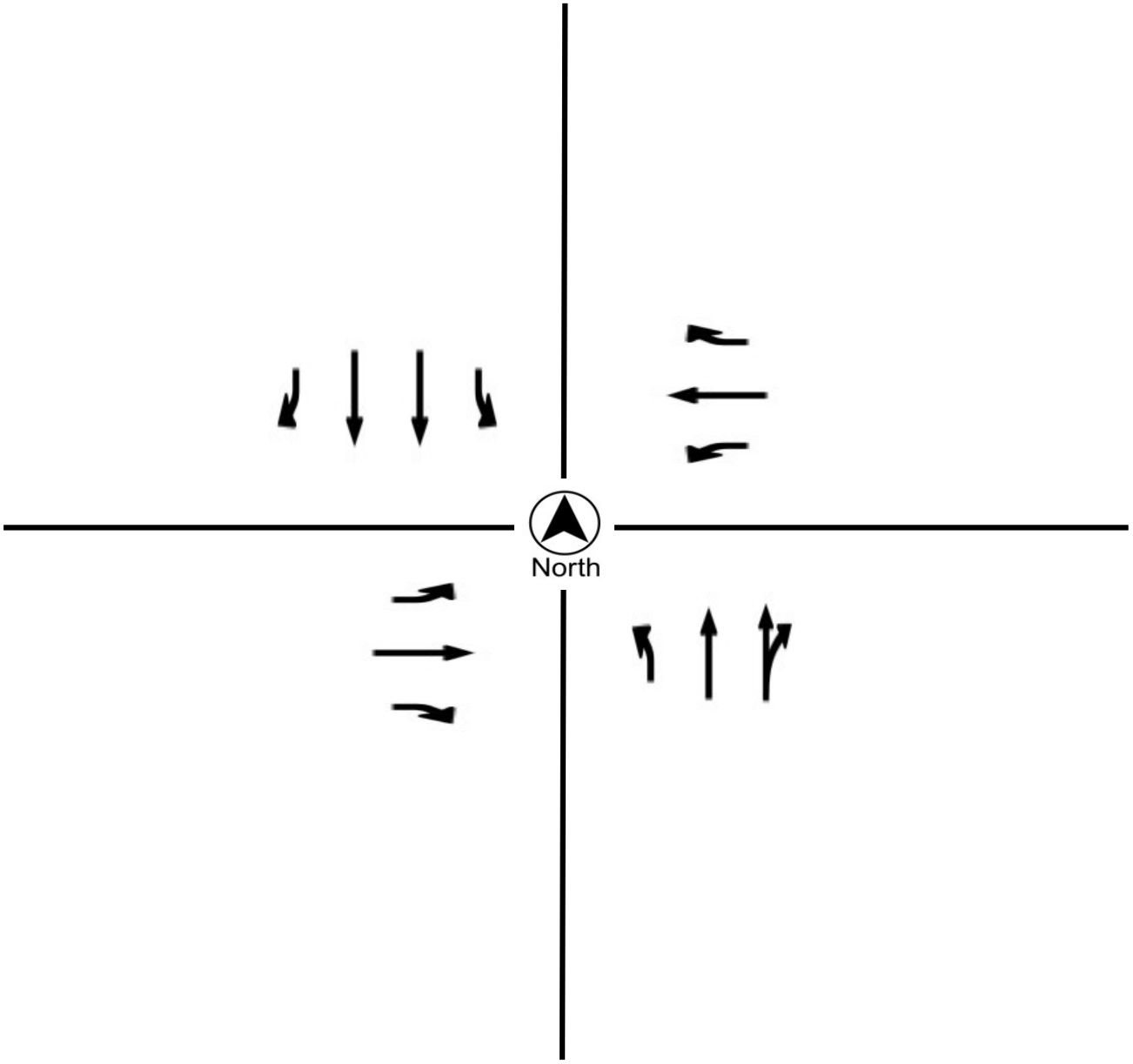
Turning Movement Report

Prepared For:

Peters Engineering Group
862 Pollasky Ave
Clovis, CA 93612

LOCATION	N Minnewawa / Alluvial Ave	**N/S STREET**	N Minnewawa / N Minnewawa
COUNTY	Fresno	**E/W STREET**	Alluvial Ave / Alluvial Ave
COLLECTION DATE	Thursday, February 08, 2024	**WEATHER**	Clear
CYCLE TIME	97 Seconds Seconds	**CONTROL TYPE**	Signal

COMMENTS All approaches have protected left turns



APPENDIX C

INTERSECTION ANALYSES

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	107	48	354	526	50
Future Vol, veh/h	27	107	48	354	526	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	122	55	402	598	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1139	627	655	0	-	0
Stage 1	627	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	223	484	932	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	210	484	932	-	-	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	501	-	-	-	-	-
Stage 2	602	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	932	-	447	-	-
HCM Lane V/C Ratio	0.059	-	0.341	-	-
HCM Control Delay (s)	9.1	-	17.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

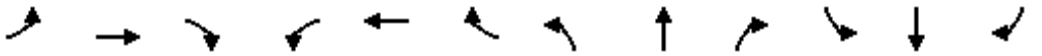
Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	59	342	71	97	540
Future Vol, veh/h	19	59	342	71	97	540
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	68	393	82	111	621

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1279	436	0	0	476	0
Stage 1	435	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	183	620	-	-	1086	-
Stage 1	653	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	164	619	-	-	1085	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	482	1085	-
HCM Lane V/C Ratio	-	-	0.186	0.103	-
HCM Control Delay (s)	-	-	14.2	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

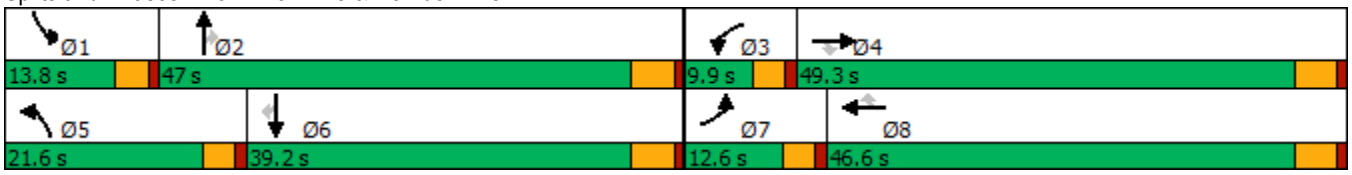


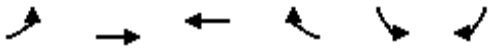
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	938	320	64	1588	125	437	840	65	135	875	194
Future Volume (vph)	201	938	320	64	1588	125	437	840	65	135	875	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.97	1.00		0.97	1.00		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3429	5085	1542	3414	5085	1542	3420	5085	1542	3420	3539	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			301			126			90			126
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	7		7	7		7	7		7	7		7
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	1020	348	70	1726	136	475	913	71	147	951	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	1020	348	70	1726	136	475	913	71	147	951	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	12.6	49.3	49.3	9.9	46.6	46.6	21.6	47.0	47.0	13.8	39.2	39.2
Total Split (%)	10.5%	41.1%	41.1%	8.3%	38.8%	38.8%	18.0%	39.2%	39.2%	11.5%	32.7%	32.7%
Maximum Green (s)	8.6	44.4	44.4	5.9	41.7	41.7	17.6	42.1	42.1	9.8	34.3	34.3
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	8.6	46.4	46.4	5.9	41.7	41.7	17.6	42.4	42.4	9.2	34.1	34.1
Actuated g/C Ratio	0.07	0.39	0.39	0.05	0.35	0.35	0.15	0.35	0.35	0.08	0.28	0.28
v/c Ratio	0.89	0.52	0.45	0.42	0.98	0.22	0.94	0.51	0.12	0.56	0.95	0.40
Control Delay	89.3	29.8	6.9	63.2	55.0	6.6	79.0	31.7	3.7	61.6	60.1	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	29.8	6.9	63.2	55.0	6.6	79.0	31.7	3.7	61.6	60.1	16.4
LOS	F	C	A	E	E	A	E	C	A	E	E	B
Approach Delay		32.9			51.9			45.8			53.2	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	87	226	23	27	480	5	190	203	0	57	378	50
Queue Length 95th (ft)	#160	271	95	52	#594	49	#292	246	22	91	#508	119
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	246	1969	781	168	1770	619	504	1801	604	280	1013	531
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.52	0.45	0.42	0.98	0.22	0.94	0.51	0.12	0.53	0.94	0.40

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.8			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 46.0		Intersection LOS: D	
Intersection Capacity Utilization 87.9%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Willow Ave & Herndon Ave



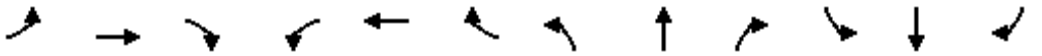


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	1087	1787	106	0	33
Future Volume (vph)	13	1087	1787	106	0	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	0	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950					
Satd. Flow (prot)	3433	5085	5085	1583	0	2787
Flt Permitted	0.950					
Satd. Flow (perm)	3433	5085	5085	1583	0	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				115		193
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	1182	1942	115	0	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	1182	1942	115	0	36
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm		Perm
Protected Phases	7	4	8			
Permitted Phases				8		6
Detector Phase	7	4	8	8		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	9.9	22.9	22.9	22.9		22.9
Total Split (s)	12.0	106.0	94.0	94.0		26.0
Total Split (%)	9.1%	80.3%	71.2%	71.2%		19.7%
Maximum Green (s)	8.0	101.1	89.1	89.1		21.1
Yellow Time (s)	3.0	3.9	3.9	3.9		3.9
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9		4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	None		Min
Walk Time (s)		7.0	7.0	7.0		7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0	0	0		0
Act Effct Green (s)	6.1	38.0	36.5	36.5		5.9
Actuated g/C Ratio	0.11	0.70	0.67	0.67		0.11
v/c Ratio	0.04	0.33	0.57	0.10		0.08
Control Delay	28.9	3.1	5.4	1.1		0.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	28.9	3.1	5.4	1.1		0.3
LOS	C	A	A	A		A
Approach Delay		3.4	5.2		0.3	
Approach LOS		A	A		A	
Queue Length 50th (ft)	2	36	74	0		0
Queue Length 95th (ft)	12	46	193	14		0
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	540	5085	5085	1583		1269
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.03	0.23	0.38	0.07		0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 54.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 4.5		Intersection LOS: A	
Intersection Capacity Utilization 46.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave



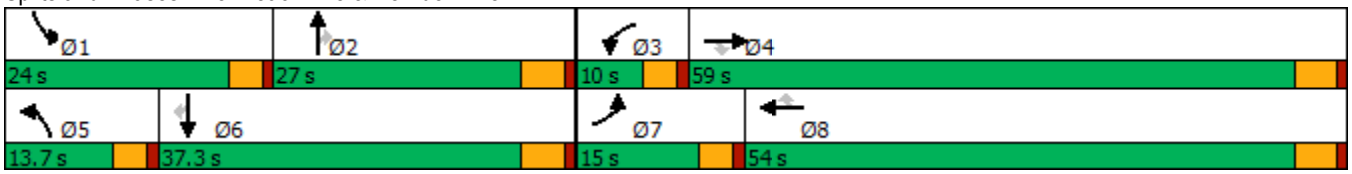
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	970	63	25	1735	116	58	218	22	200	206	106
Future Volume (vph)	100	970	63	25	1735	116	58	218	22	200	206	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.98			0.99			0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1550	1770	5085	1550	1770	1863	1562	1770	1863	1563
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			163			163			126
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	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)	105	1021	66	26	1826	122	61	229	23	211	217	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	1021	66	26	1826	122	61	229	23	211	217	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	15.0	59.0	59.0	10.0	54.0	54.0	13.7	27.0	27.0	24.0	37.3	37.3
Total Split (%)	12.5%	49.2%	49.2%	8.3%	45.0%	45.0%	11.4%	22.5%	22.5%	20.0%	31.1%	31.1%
Maximum Green (s)	11.0	54.1	54.1	6.0	49.1	49.1	9.7	22.1	22.1	20.0	32.4	32.4
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

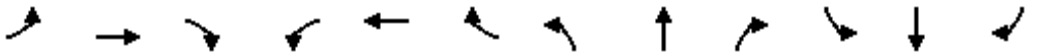
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.1	55.3	55.3	6.0	46.7	46.7	8.4	18.0	18.0	17.2	29.3	29.3
Actuated g/C Ratio	0.09	0.50	0.50	0.05	0.42	0.42	0.08	0.16	0.16	0.16	0.27	0.27
v/c Ratio	0.65	0.40	0.08	0.27	0.85	0.16	0.45	0.75	0.06	0.76	0.44	0.22
Control Delay	70.2	19.2	0.2	61.7	34.0	1.8	63.1	61.2	0.3	64.8	38.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	19.2	0.2	61.7	34.0	1.8	63.1	61.2	0.3	64.8	38.8	5.6
LOS	E	B	A	E	C	A	E	E	A	E	D	A
Approach Delay		22.7			32.4			57.1			42.0	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	77	183	0	19	446	0	44	166	0	152	139	0
Queue Length 95th (ft)	#155	233	0	51	539	17	92	255	0	#259	215	35
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	179	2627	861	98	2306	792	158	380	448	327	557	555
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.39	0.08	0.27	0.79	0.15	0.39	0.60	0.05	0.65	0.39	0.20

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 110.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 32.7 Intersection LOS: C
Intersection Capacity Utilization 76.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Peach Ave & Herndon Ave





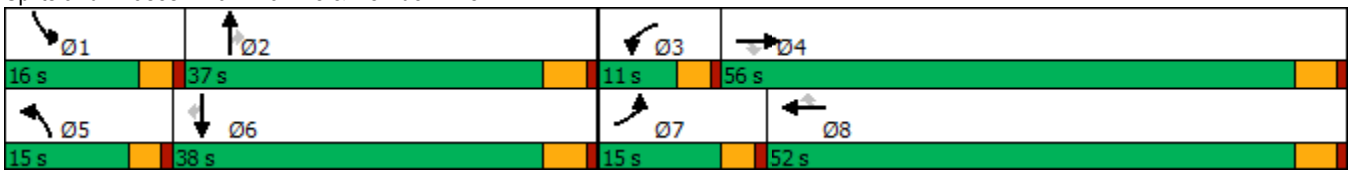
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	1006	134	87	1670	274	165	343	103	235	257	73
Future Volume (vph)	94	1006	134	87	1670	274	165	343	103	235	257	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1768	5085	1555	3425	5085	1536	3419	1863	1555	3420	3539	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102			168			106			90
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	3		3	3		3	3		3	3		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	97	1037	138	90	1722	282	170	354	106	242	265	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	1037	138	90	1722	282	170	354	106	242	265	75
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	15.0	56.0	56.0	11.0	52.0	52.0	15.0	37.0	37.0	16.0	38.0	38.0
Total Split (%)	12.5%	46.7%	46.7%	9.2%	43.3%	43.3%	12.5%	30.8%	30.8%	13.3%	31.7%	31.7%
Maximum Green (s)	11.0	51.1	51.1	7.0	47.1	47.1	11.0	32.1	32.1	12.0	33.1	33.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

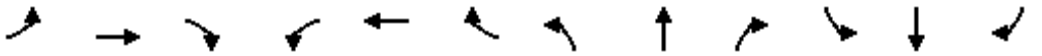
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	9.9	50.4	50.4	6.9	44.8	44.8	10.0	25.6	25.6	11.4	26.9	26.9
Actuated g/C Ratio	0.09	0.46	0.46	0.06	0.41	0.41	0.09	0.23	0.23	0.10	0.25	0.25
v/c Ratio	0.61	0.44	0.18	0.42	0.83	0.39	0.54	0.82	0.24	0.68	0.31	0.17
Control Delay	67.7	22.3	7.4	59.1	34.1	11.6	56.7	56.3	7.9	59.8	35.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	22.3	7.4	59.1	34.1	11.6	56.7	56.3	7.9	59.8	35.2	5.8
LOS	E	C	A	E	C	B	E	E	A	E	D	A
Approach Delay		24.1			32.2			48.3			41.7	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	70	190	15	33	407	53	62	249	0	90	84	0
Queue Length 95th (ft)	#138	249	56	63	510	129	103	360	44	#140	122	28
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	180	2405	789	222	2216	764	349	553	536	381	1084	539
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.43	0.17	0.41	0.78	0.37	0.49	0.64	0.20	0.64	0.24	0.14

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 109.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 33.4 Intersection LOS: C
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	7	21	8	4	37	16	1275	59	79	1038	72
Future Volume (vph)	35	7	21	8	4	37	16	1275	59	79	1038	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.99		1.00		0.98	1.00	1.00		1.00		0.97
Frt		0.889				0.850		0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1636	0	1770	1863	1583	1770	3510	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1763	1636	0	1763	1863	1558	1767	3510	0	1768	3539	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				126		6				141
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.25
Adj. Flow (vph)	38	8	23	9	4	41	18	1401	65	87	1141	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	31	0	9	4	41	18	1466	0	87	1141	288
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	11.0	24.0		10.0	23.0	23.0	10.0	69.2		16.8	76.0	76.0
Total Split (%)	9.2%	20.0%		8.3%	19.2%	19.2%	8.3%	57.7%		14.0%	63.3%	63.3%
Maximum Green (s)	7.0	19.1		6.0	18.1	18.1	6.0	64.3		12.8	71.1	71.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	7.6	10.8		6.9	7.0	7.0	7.0	48.2		10.4	57.6	57.6
Actuated g/C Ratio	0.10	0.15		0.09	0.10	0.10	0.10	0.66		0.14	0.79	0.79
v/c Ratio	0.21	0.12		0.05	0.02	0.16	0.11	0.63		0.35	0.41	0.23
Control Delay	45.1	22.0		45.1	44.0	1.3	45.8	14.2		41.7	7.1	4.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	45.1	22.0		45.1	44.0	1.3	45.8	14.2		41.7	7.1	4.0
LOS	D	C		D	D	A	D	B		D	A	A
Approach Delay		34.7			11.7			14.6			8.5	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)	19	3		5	2	0	9	313		43	125	23
Queue Length 95th (ft)	60	35		23	14	0	35	443		106	248	0
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	204	532		175	557	554	175	2844		374	3020	1335
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.19	0.06		0.05	0.01	0.07	0.10	0.52		0.23	0.38	0.22

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 73.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 62.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	61	21	41	236	241	63
Future Vol, veh/h	61	21	41	236	241	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	22	44	251	256	67

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	629	290	323	0	-	0
Stage 1	290	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	446	749	1237	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	428	749	1237	-	-	-
Mov Cap-2 Maneuver	428	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1237	-	481	-	-
HCM Lane V/C Ratio	0.035	-	0.181	-	-
HCM Control Delay (s)	8	0	14.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

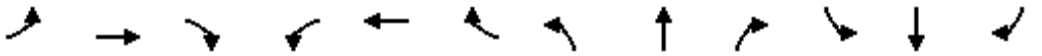
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	268	70	2	259
Future Vol, veh/h	10	8	268	70	2	259
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	11	9	291	76	2	282

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	615	329	0	0	367	0
Stage 1	329	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	455	712	-	-	1192	-
Stage 1	729	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	454	712	-	-	1192	-
Mov Cap-2 Maneuver	454	-	-	-	-	-
Stage 1	729	-	-	-	-	-
Stage 2	761	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	541	1192	-
HCM Lane V/C Ratio	-	-	0.036	0.002	-
HCM Control Delay (s)	-	-	11.9	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

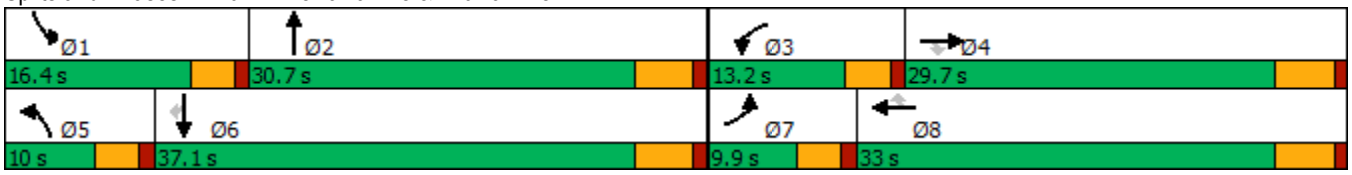


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	267	77	61	432	135	68	520	24	100	477	67
Future Volume (vph)	28	267	77	61	432	135	68	520	24	100	477	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96	0.99		0.98	0.99	1.00		0.99		0.96
Frt			0.850			0.850		0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3508	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1759	1863	1519	1747	1863	1545	1753	3508	0	1755	1863	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168			168		5				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	33	310	90	71	502	157	79	605	28	116	555	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	310	90	71	502	157	79	633	0	116	555	78
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	29.7	29.7	13.2	33.0	33.0	10.0	30.7		16.4	37.1	37.1
Total Split (%)	11.0%	33.0%	33.0%	14.7%	36.7%	36.7%	11.1%	34.1%		18.2%	41.2%	41.2%
Maximum Green (s)	5.9	24.8	24.8	9.2	28.1	28.1	6.0	25.8		12.4	32.2	32.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	6.4	21.4	21.4	8.3	25.5	25.5	6.7	23.6		10.4	27.2	27.2
Actuated g/C Ratio	0.08	0.28	0.28	0.11	0.34	0.34	0.09	0.31		0.14	0.36	0.36
v/c Ratio	0.22	0.59	0.16	0.37	0.80	0.25	0.51	0.58		0.48	0.83	0.13
Control Delay	43.4	32.3	0.6	42.9	37.8	4.7	53.2	27.0		42.6	37.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	43.4	32.3	0.6	42.9	37.8	4.7	53.2	27.0		42.6	37.0	1.9
LOS	D	C	A	D	D	A	D	C		D	D	A
Approach Delay		26.6			31.2			29.9			34.2	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	18	152	0	39	267	0	45	159		63	285	0
Queue Length 95th (ft)	45	226	0	77	#408	32	#105	208		110	#424	10
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	153	679	660	238	768	735	156	1341		321	880	781
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.22	0.46	0.14	0.30	0.65	0.21	0.51	0.47		0.36	0.63	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 75.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 31.0		Intersection LOS: C	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	287	51	391	339	83
Future Vol, veh/h	81	287	51	391	339	83
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	302	54	412	357	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	923	403	445	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	299	647	1115	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	284	646	1114	-	-	-
Mov Cap-2 Maneuver	411	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	595	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.3	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1114	-	574	-	-
HCM Lane V/C Ratio	0.048	-	0.675	-	-
HCM Control Delay (s)	8.4	-	23.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	5.1	-	-

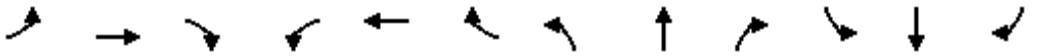
Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	114	326	31	58	573
Future Vol, veh/h	56	114	326	31	58	573
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	121	347	33	62	610

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1100	366	0	0	381	0
Stage 1	365	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	235	679	-	-	1177	-
Stage 1	702	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	678	-	-	1176	-
Mov Cap-2 Maneuver	343	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	448	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	513	1176	-
HCM Lane V/C Ratio	-	-	0.353	0.052	-
HCM Control Delay (s)	-	-	15.8	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.2	-

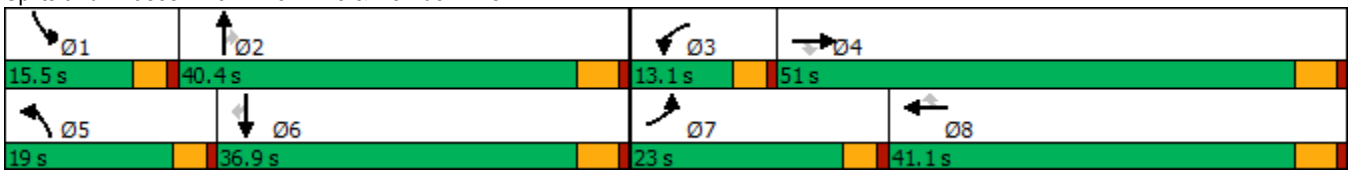


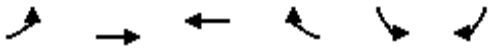
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	399	1589	465	174	1087	223	308	1001	104	171	685	184
Future Volume (vph)	399	1589	465	174	1087	223	308	1001	104	171	685	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.94	0.99		0.94	0.98		0.94	0.99		0.94
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5085	1486	3407	5085	1486	3372	5085	1486	3395	3539	1486
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			256			158			126			188
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	1727	505	189	1182	242	335	1088	113	186	745	200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	434	1727	505	189	1182	242	335	1088	113	186	745	200
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	23.0	51.0	51.0	13.1	41.1	41.1	19.0	40.4	40.4	15.5	36.9	36.9
Total Split (%)	19.2%	42.5%	42.5%	10.9%	34.3%	34.3%	15.8%	33.7%	33.7%	12.9%	30.8%	30.8%
Maximum Green (s)	19.0	46.1	46.1	9.1	36.2	36.2	15.0	35.5	35.5	11.5	32.0	32.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.9	45.4	45.4	9.0	36.5	36.5	14.4	33.2	33.2	10.6	29.3	29.3
Actuated g/C Ratio	0.15	0.39	0.39	0.08	0.31	0.31	0.12	0.29	0.29	0.09	0.25	0.25
v/c Ratio	0.82	0.87	0.69	0.71	0.74	0.42	0.79	0.75	0.22	0.60	0.83	0.39
Control Delay	61.6	38.7	19.7	68.6	39.5	14.3	63.9	41.5	5.4	59.9	50.4	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	38.7	19.7	68.6	39.5	14.3	63.9	41.5	5.4	59.9	50.4	8.3
LOS	E	D	B	E	D	B	E	D	A	E	D	A
Approach Delay		38.8			39.1			43.7			44.5	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	169	452	162	75	304	48	131	276	0	72	282	7
Queue Length 95th (ft)	#239	520	295	#126	361	122	#195	330	35	110	357	65
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	563	2027	746	270	1601	576	445	1561	543	341	979	547
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.85	0.68	0.70	0.74	0.42	0.75	0.70	0.21	0.55	0.76	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 116			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 40.9		Intersection LOS: D	
Intersection Capacity Utilization 78.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Willow Ave & Herndon Ave



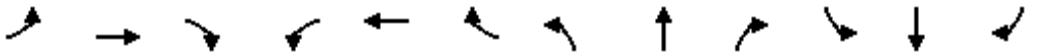


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	1860	1350	257	0	127
Future Volume (vph)	45	1860	1350	257	0	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	0	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950					
Satd. Flow (prot)	3433	5085	5085	1583	0	2787
Flt Permitted	0.950					
Satd. Flow (perm)	3433	5085	5085	1583	0	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				273		288
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	1979	1436	273	0	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	1979	1436	273	0	135
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm		Perm
Protected Phases	7	4	8			
Permitted Phases				8		6
Detector Phase	7	4	8	8		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	9.9	22.9	22.9	22.9		22.9
Total Split (s)	14.0	103.0	89.0	89.0		29.0
Total Split (%)	10.6%	78.0%	67.4%	67.4%		22.0%
Maximum Green (s)	10.0	98.1	84.1	84.1		24.1
Yellow Time (s)	3.0	3.9	3.9	3.9		3.9
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9		4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	None		Min
Walk Time (s)		7.0	7.0	7.0		7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0	0	0		0
Act Effct Green (s)	6.5	35.4	29.6	29.6		5.7
Actuated g/C Ratio	0.13	0.69	0.58	0.58		0.11
v/c Ratio	0.11	0.56	0.49	0.26		0.24
Control Delay	23.9	4.4	7.6	1.7		1.0
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	23.9	4.4	7.6	1.7		1.0
LOS	C	A	A	A		A
Approach Delay		4.9	6.7		1.0	
Approach LOS		A	A		A	
Queue Length 50th (ft)	7	76	100	0		0
Queue Length 95th (ft)	22	97	136	25		0
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	692	5085	5085	1583		1502
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.07	0.39	0.28	0.17		0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 51.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 40.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave

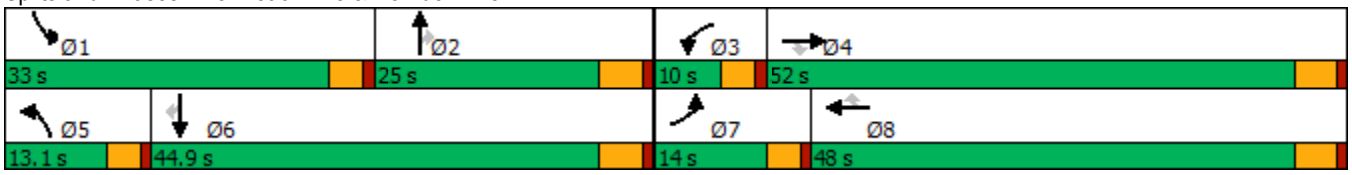


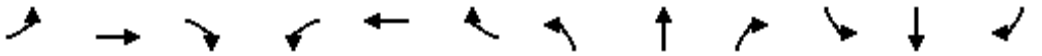
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1641	117	42	1423	190	47	104	23	314	193	112
Future Volume (vph)	88	1641	117	42	1423	190	47	104	23	314	193	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1545	1769	5085	1545	1767	1863	1559	1767	1863	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			126			126			123
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	97	1803	129	46	1564	209	52	114	25	345	212	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	1803	129	46	1564	209	52	114	25	345	212	123
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	14.0	52.0	52.0	10.0	48.0	48.0	13.1	25.0	25.0	33.0	44.9	44.9
Total Split (%)	11.7%	43.3%	43.3%	8.3%	40.0%	40.0%	10.9%	20.8%	20.8%	27.5%	37.4%	37.4%
Maximum Green (s)	10.0	47.1	47.1	6.0	43.1	43.1	9.1	20.1	20.1	29.0	40.0	40.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	9.4	46.5	46.5	6.0	40.6	40.6	7.9	11.9	11.9	24.7	31.3	31.3
Actuated g/C Ratio	0.09	0.44	0.44	0.06	0.39	0.39	0.08	0.11	0.11	0.24	0.30	0.30
v/c Ratio	0.61	0.80	0.17	0.46	0.79	0.31	0.39	0.54	0.09	0.83	0.38	0.22
Control Delay	66.4	30.2	4.7	66.9	32.9	11.5	58.8	55.8	0.6	56.6	33.3	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	30.2	4.7	66.9	32.9	11.5	58.8	55.8	0.6	56.6	33.3	6.3
LOS	E	C	A	E	C	B	E	E	A	E	C	A
Approach Delay		30.3			31.3			49.4			40.3	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	67	405	1	32	351	37	36	78	0	229	122	0
Queue Length 95th (ft)	#145	523	39	#81	453	100	80	138	0	#383	192	43
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	172	2332	776	103	2136	722	156	364	406	499	725	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.77	0.17	0.45	0.73	0.29	0.33	0.31	0.06	0.69	0.29	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 104.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 32.9		Intersection LOS: C	
Intersection Capacity Utilization 73.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Peach Ave & Herndon Ave





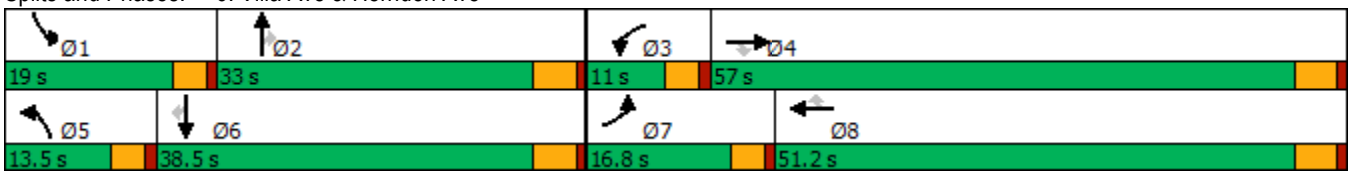
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1812	147	112	1449	194	132	263	108	279	274	75
Future Volume (vph)	88	1812	147	112	1449	194	132	263	108	279	274	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1561	3432	5085	1546	3428	1863	1561	3428	3539	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			163			163			126
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	1888	153	117	1509	202	138	274	113	291	285	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1888	153	117	1509	202	138	274	113	291	285	78
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	16.8	57.0	57.0	11.0	51.2	51.2	13.5	33.0	33.0	19.0	38.5	38.5
Total Split (%)	14.0%	47.5%	47.5%	9.2%	42.7%	42.7%	11.3%	27.5%	27.5%	15.8%	32.1%	32.1%
Maximum Green (s)	12.8	52.1	52.1	7.0	46.3	46.3	9.5	28.1	28.1	15.0	33.6	33.6
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

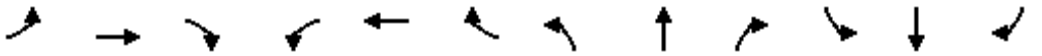
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.5	48.9	48.9	7.0	48.2	48.2	8.8	21.0	21.0	13.5	25.7	25.7
Actuated g/C Ratio	0.10	0.45	0.45	0.06	0.44	0.44	0.08	0.19	0.19	0.12	0.24	0.24
v/c Ratio	0.54	0.82	0.20	0.53	0.67	0.26	0.49	0.76	0.26	0.68	0.34	0.17
Control Delay	61.4	30.4	6.0	61.3	27.8	6.9	56.6	56.4	3.1	55.8	35.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	30.4	6.0	61.3	27.8	6.9	56.6	56.4	3.1	55.8	35.8	1.9
LOS	E	C	A	E	C	A	E	E	A	E	D	A
Approach Delay		30.0			27.7			45.0			40.6	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	65	422	11	43	324	17	50	191	0	105	91	0
Queue Length 95th (ft)	124	541	52	78	429	70	88	286	15	160	130	9
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	211	2478	825	224	2258	777	305	489	530	481	1112	576
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.76	0.19	0.52	0.67	0.26	0.45	0.56	0.21	0.60	0.26	0.14

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 108.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 32.1 Intersection LOS: C
Intersection Capacity Utilization 75.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	12	98	21	7	42	58	1286	25	112	1119	31
Future Volume (vph)	129	12	98	21	7	42	58	1286	25	112	1119	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98		0.99		0.97	0.99	1.00		1.00		0.95
Frt		0.867				0.850		0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1575	0	1770	1863	1583	1770	3526	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1742	1575	0	1746	1863	1540	1760	3526	0	1763	3539	1510
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		103				126		2				126
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Peak Hour Factor	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)	136	13	103	22	7	44	61	1354	26	118	1178	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	116	0	22	7	44	61	1380	0	118	1178	33
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	19.0	32.0		10.0	23.0	23.0	13.8	61.0		17.0	64.2	64.2
Total Split (%)	15.8%	26.7%		8.3%	19.2%	19.2%	11.5%	50.8%		14.2%	53.5%	53.5%
Maximum Green (s)	15.0	27.1		6.0	18.1	18.1	9.8	56.1		13.0	59.3	59.3
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	12.3	13.8		6.3	6.3	6.3	8.5	43.2		11.2	49.1	49.1
Actuated g/C Ratio	0.14	0.16		0.07	0.07	0.07	0.10	0.50		0.13	0.57	0.57
v/c Ratio	0.54	0.34		0.17	0.05	0.19	0.35	0.78		0.52	0.59	0.04
Control Delay	48.2	14.0		49.9	47.6	1.9	49.1	22.3		49.6	15.6	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.2	14.0		49.9	47.6	1.9	49.1	22.3		49.6	15.6	0.1
LOS	D	B		D	D	A	D	C		D	B	A
Approach Delay		32.5			20.7			23.4			18.2	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	77	6		13	4	0	35	356		67	257	0
Queue Length 95th (ft)	154	60		41	20	0	85	476		140	348	0
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	332	601		132	421	446	216	2419		287	2525	1113
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.41	0.19		0.17	0.02	0.10	0.28	0.57		0.41	0.47	0.03

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 86.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 21.9 Intersection LOS: C
Intersection Capacity Utilization 68.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	23	30	122	285	75
Future Vol, veh/h	44	23	30	122	285	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	48	25	33	133	310	82

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	550	351	392	0	-	0
Stage 1	351	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	496	692	1167	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	481	692	1167	-	-	-
Mov Cap-2 Maneuver	481	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	835	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1167	-	537	-	-
HCM Lane V/C Ratio	0.028	-	0.136	-	-
HCM Control Delay (s)	8.2	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

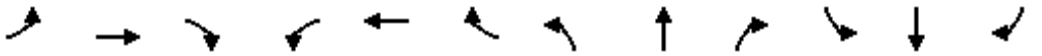
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	10	143	24	2	307
Future Vol, veh/h	25	10	143	24	2	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	11	159	27	2	341

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	518	173	0	0	186	0
Stage 1	173	-	-	-	-	-
Stage 2	345	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	518	871	-	-	1388	-
Stage 1	857	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	517	871	-	-	1388	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	716	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	585	1388	-
HCM Lane V/C Ratio	-	-	0.066	0.002	-
HCM Control Delay (s)	-	-	11.6	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

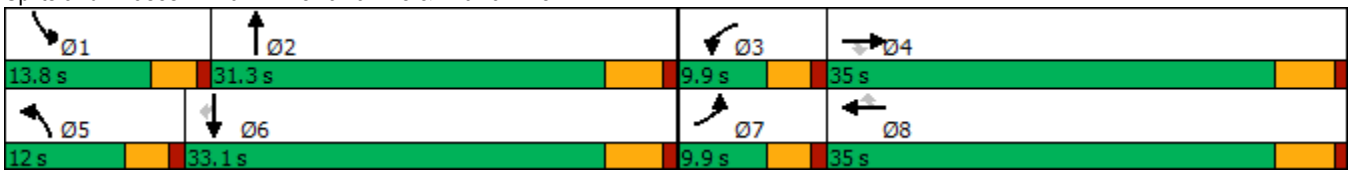


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	410	70	22	317	80	65	512	50	79	343	24
Future Volume (vph)	29	410	70	22	317	80	65	512	50	79	343	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96	0.99		0.98	0.99	1.00		0.99		0.96
Frt			0.850			0.850		0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3481	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1761	1863	1520	1758	1863	1545	1756	3481	0	1760	1863	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120		11				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			7			7			7			7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	436	74	23	337	85	69	545	53	84	365	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	436	74	23	337	85	69	598	0	84	365	26
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	35.0	35.0	9.9	35.0	35.0	12.0	31.3		13.8	33.1	33.1
Total Split (%)	11.0%	38.9%	38.9%	11.0%	38.9%	38.9%	13.3%	34.8%		15.3%	36.8%	36.8%
Maximum Green (s)	5.9	30.1	30.1	5.9	30.1	30.1	8.0	26.4		9.8	28.2	28.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	6.8	20.6	20.6	6.8	20.6	20.6	8.1	18.0		8.9	21.5	21.5
Actuated g/C Ratio	0.11	0.33	0.33	0.11	0.33	0.33	0.13	0.29		0.14	0.34	0.34
v/c Ratio	0.16	0.71	0.13	0.12	0.55	0.14	0.30	0.59		0.33	0.57	0.04
Control Delay	37.9	28.4	1.8	37.7	23.8	2.5	37.1	24.0		36.0	25.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	37.9	28.4	1.8	37.7	23.8	2.5	37.1	24.0		36.0	25.0	0.1
LOS	D	C	A	D	C	A	D	C		D	C	A
Approach Delay		25.3			20.5			25.4			25.5	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	11	136	0	8	98	0	23	92		28	111	0
Queue Length 95th (ft)	45	322	10	37	239	17	80	203		91	271	0
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	197	1042	903	197	1042	917	268	1746		328	994	867
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.16	0.42	0.08	0.12	0.32	0.09	0.26	0.34		0.26	0.37	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 62.5			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 24.4		Intersection LOS: C	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	108	49	357	529	50
Future Vol, veh/h	27	108	49	357	529	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	123	56	406	601	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1148	630	658	0	-	0
Stage 1	630	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	220	482	930	-	-	-
Stage 1	531	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	207	482	930	-	-	-
Mov Cap-2 Maneuver	342	-	-	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	598	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	930	-	446	-	-
HCM Lane V/C Ratio	0.06	-	0.344	-	-
HCM Control Delay (s)	9.1	-	17.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

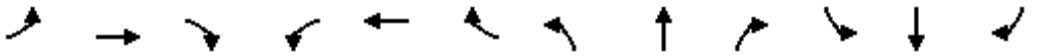
Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	59	346	71	97	544
Future Vol, veh/h	19	59	346	71	97	544
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	68	398	82	111	625

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1288	441	0	0	481	0
Stage 1	440	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	181	616	-	-	1082	-
Stage 1	649	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	615	-	-	1081	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	376	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	478	1081	-
HCM Lane V/C Ratio	-	-	0.188	0.103	-
HCM Control Delay (s)	-	-	14.3	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

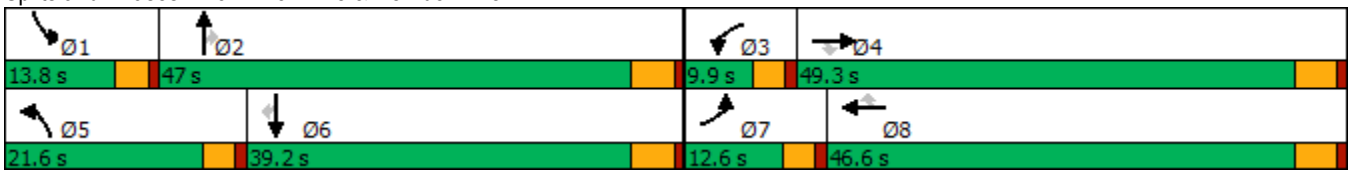


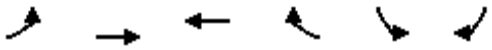
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	961	324	68	1606	129	441	840	69	139	875	194
Future Volume (vph)	201	961	324	68	1606	129	441	840	69	139	875	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.97	1.00		0.97	1.00		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3429	5085	1542	3414	5085	1542	3420	5085	1542	3420	3539	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			299			126			90			126
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	7		7	7		7	7		7	7		7
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	1045	352	74	1746	140	479	913	75	151	951	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	1045	352	74	1746	140	479	913	75	151	951	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	12.6	49.3	49.3	9.9	46.6	46.6	21.6	47.0	47.0	13.8	39.2	39.2
Total Split (%)	10.5%	41.1%	41.1%	8.3%	38.8%	38.8%	18.0%	39.2%	39.2%	11.5%	32.7%	32.7%
Maximum Green (s)	8.6	44.4	44.4	5.9	41.7	41.7	17.6	42.1	42.1	9.8	34.3	34.3
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	8.6	46.4	46.4	5.9	41.7	41.7	17.6	42.4	42.4	9.3	34.1	34.1
Actuated g/C Ratio	0.07	0.39	0.39	0.05	0.35	0.35	0.15	0.35	0.35	0.08	0.28	0.28
v/c Ratio	0.89	0.53	0.45	0.44	0.99	0.23	0.95	0.51	0.12	0.57	0.95	0.40
Control Delay	89.3	30.0	7.2	63.9	57.4	7.0	80.5	31.8	4.3	62.1	60.1	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	30.0	7.2	63.9	57.4	7.0	80.5	31.8	4.3	62.1	60.1	16.4
LOS	F	C	A	E	E	A	F	C	A	E	E	B
Approach Delay		33.1			54.0			46.3			53.3	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	87	232	27	29	489	7	192	203	0	58	378	50
Queue Length 95th (ft)	#160	279	100	55	#606	51	#295	246	25	94	#508	119
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	246	1969	780	168	1770	619	504	1799	604	280	1013	531
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.53	0.45	0.44	0.99	0.23	0.95	0.51	0.12	0.54	0.94	0.40

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.8			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 46.8		Intersection LOS: D	
Intersection Capacity Utilization 88.4%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Willow Ave & Herndon Ave





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	1118	1813	106	0	33
Future Volume (vph)	13	1118	1813	106	0	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	0	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950					
Satd. Flow (prot)	3433	5085	5085	1583	0	2787
Flt Permitted	0.950					
Satd. Flow (perm)	3433	5085	5085	1583	0	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				115		191
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	1215	1971	115	0	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	1215	1971	115	0	36
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm		Perm
Protected Phases	7	4	8			
Permitted Phases				8		6
Detector Phase	7	4	8	8		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	9.9	22.9	22.9	22.9		22.9
Total Split (s)	12.0	106.0	94.0	94.0		26.0
Total Split (%)	9.1%	80.3%	71.2%	71.2%		19.7%
Maximum Green (s)	8.0	101.1	89.1	89.1		21.1
Yellow Time (s)	3.0	3.9	3.9	3.9		3.9
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9		4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	None		Min
Walk Time (s)		7.0	7.0	7.0		7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0	0	0		0
Act Effct Green (s)	6.1	39.1	37.6	37.6		5.9
Actuated g/C Ratio	0.11	0.71	0.68	0.68		0.11
v/c Ratio	0.04	0.34	0.57	0.10		0.08
Control Delay	29.7	3.1	5.4	1.1		0.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	29.7	3.1	5.4	1.1		0.3
LOS	C	A	A	A		A
Approach Delay		3.4	5.1		0.3	
Approach LOS		A	A		A	
Queue Length 50th (ft)	2	37	75	0		0
Queue Length 95th (ft)	12	47	197	14		0
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	529	5085	5085	1583		1247
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.03	0.24	0.39	0.07		0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 55.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 4.4		Intersection LOS: A	
Intersection Capacity Utilization 47.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave

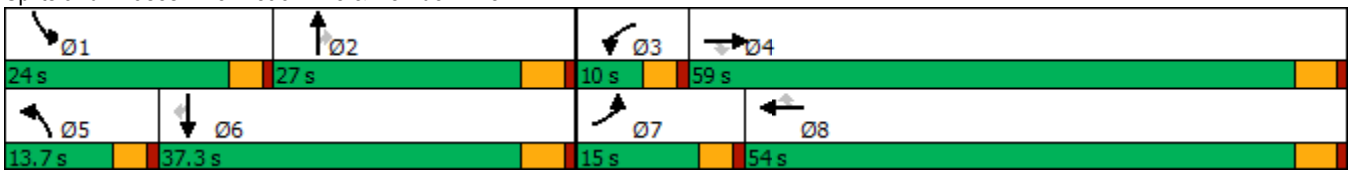
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	970	94	61	1735	116	84	222	50	200	210	106
Future Volume (vph)	100	970	94	61	1735	116	84	222	50	200	210	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.98			0.99			0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1550	1770	5085	1550	1770	1863	1562	1770	1863	1563
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			163			163			126
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	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)	105	1021	99	64	1826	122	88	234	53	211	221	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	1021	99	64	1826	122	88	234	53	211	221	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	15.0	59.0	59.0	10.0	54.0	54.0	13.7	27.0	27.0	24.0	37.3	37.3
Total Split (%)	12.5%	49.2%	49.2%	8.3%	45.0%	45.0%	11.4%	22.5%	22.5%	20.0%	31.1%	31.1%
Maximum Green (s)	11.0	54.1	54.1	6.0	49.1	49.1	9.7	22.1	22.1	20.0	32.4	32.4
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.1	53.3	53.3	6.1	46.7	46.7	9.1	18.2	18.2	17.2	29.1	29.1
Actuated g/C Ratio	0.09	0.48	0.48	0.06	0.42	0.42	0.08	0.17	0.17	0.16	0.26	0.26
v/c Ratio	0.65	0.42	0.12	0.66	0.85	0.16	0.61	0.76	0.13	0.76	0.45	0.22
Control Delay	70.2	20.4	2.1	85.8	34.1	1.8	70.3	61.9	0.7	64.9	39.2	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	20.4	2.1	85.8	34.1	1.8	70.3	61.9	0.7	64.9	39.2	5.6
LOS	E	C	A	F	C	A	E	E	A	E	D	A
Approach Delay		23.2			33.8			55.3			42.3	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	78	185	0	48	449	0	65	170	0	153	142	0
Queue Length 95th (ft)	#155	233	19	#125	539	17	#136	261	0	#259	219	35
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	179	2536	835	97	2301	790	158	379	448	326	556	554
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.40	0.12	0.66	0.79	0.15	0.56	0.62	0.12	0.65	0.40	0.20

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 110.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 33.7 Intersection LOS: C
Intersection Capacity Utilization 76.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Peach Ave & Herndon Ave



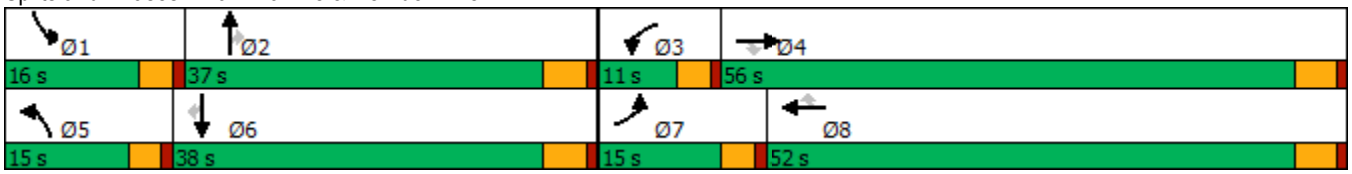
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	1026	138	87	1698	274	169	343	103	235	257	77
Future Volume (vph)	98	1026	138	87	1698	274	169	343	103	235	257	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1768	5085	1555	3425	5085	1536	3419	1863	1555	3420	3539	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			103			165			106			90
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	3		3	3		3	3		3	3		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	101	1058	142	90	1751	282	174	354	106	242	265	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	1058	142	90	1751	282	174	354	106	242	265	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	15.0	56.0	56.0	11.0	52.0	52.0	15.0	37.0	37.0	16.0	38.0	38.0
Total Split (%)	12.5%	46.7%	46.7%	9.2%	43.3%	43.3%	12.5%	30.8%	30.8%	13.3%	31.7%	31.7%
Maximum Green (s)	11.0	51.1	51.1	7.0	47.1	47.1	11.0	32.1	32.1	12.0	33.1	33.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

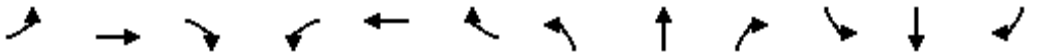
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.0	50.9	50.9	6.9	45.2	45.2	10.1	25.7	25.7	11.4	27.0	27.0
Actuated g/C Ratio	0.09	0.46	0.46	0.06	0.41	0.41	0.09	0.23	0.23	0.10	0.24	0.24
v/c Ratio	0.63	0.45	0.18	0.42	0.84	0.39	0.56	0.82	0.24	0.68	0.31	0.18
Control Delay	69.0	22.4	7.6	59.3	34.7	11.8	57.2	56.5	7.9	60.1	35.4	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	22.4	7.6	59.3	34.7	11.8	57.2	56.5	7.9	60.1	35.4	6.4
LOS	E	C	A	E	C	B	E	E	A	E	D	A
Approach Delay		24.4			32.7			48.6			41.7	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	73	195	16	33	417	54	63	249	0	90	84	0
Queue Length 95th (ft)	#148	255	57	63	523	131	105	360	44	#140	122	31
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	178	2386	784	220	2199	758	346	549	532	378	1075	535
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.44	0.18	0.41	0.80	0.37	0.50	0.64	0.20	0.64	0.25	0.15

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 110.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 33.7 Intersection LOS: C
Intersection Capacity Utilization 77.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	7	21	15	4	41	16	1279	68	83	1042	72
Future Volume (vph)	35	7	21	15	4	41	16	1279	68	83	1042	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.99		1.00		0.98	1.00	1.00		1.00		0.97
Frt		0.889				0.850		0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1636	0	1770	1863	1583	1770	3506	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1763	1636	0	1763	1863	1558	1767	3506	0	1768	3539	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				126		7				141
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.25
Adj. Flow (vph)	38	8	23	16	4	45	18	1405	75	91	1145	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	31	0	16	4	45	18	1480	0	91	1145	288
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	11.0	24.0		10.0	23.0	23.0	10.0	69.2		16.8	76.0	76.0
Total Split (%)	9.2%	20.0%		8.3%	19.2%	19.2%	8.3%	57.7%		14.0%	63.3%	63.3%
Maximum Green (s)	7.0	19.1		6.0	18.1	18.1	6.0	64.3		12.8	71.1	71.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	7.3	9.0		6.6	6.8	6.8	6.7	50.8		10.4	60.2	60.2
Actuated g/C Ratio	0.10	0.12		0.09	0.09	0.09	0.09	0.67		0.14	0.79	0.79
v/c Ratio	0.22	0.14		0.10	0.02	0.18	0.12	0.63		0.38	0.41	0.23
Control Delay	46.3	24.2		46.5	44.8	1.5	46.8	14.1		43.1	7.0	3.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	46.3	24.2		46.5	44.8	1.5	46.8	14.1		43.1	7.0	3.9
LOS	D	C		D	D	A	D	B		D	A	A
Approach Delay		36.4			15.3			14.5			8.6	
Approach LOS		D			B			B			A	
Queue Length 50th (ft)	20	4		8	2	0	9	323		46	126	23
Queue Length 95th (ft)	60	36		34	14	0	36	449		113	249	0
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	188	490		161	512	519	161	2822		344	2998	1327
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.20	0.06		0.10	0.01	0.09	0.11	0.52		0.26	0.38	0.22

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 76.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 12.2 Intersection LOS: B
Intersection Capacity Utilization 62.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	119	25	45	236	241	134
Future Vol, veh/h	119	25	45	236	241	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	127	27	48	251	256	143

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	675	328	399	0	-	0
Stage 1	328	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	419	713	1160	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	399	713	1160	-	-	-
Mov Cap-2 Maneuver	399	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	716	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.8	1.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1160	-	432	-	-
HCM Lane V/C Ratio	0.041	-	0.355	-	-
HCM Control Delay (s)	8.2	0	17.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.6	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	272	70	2	263
Future Vol, veh/h	10	8	272	70	2	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	11	9	296	76	2	286

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	624	334	0	0	372	0
Stage 1	334	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	449	708	-	-	1186	-
Stage 1	725	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	448	708	-	-	1186	-
Mov Cap-2 Maneuver	448	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.1
HCM LOS	B		

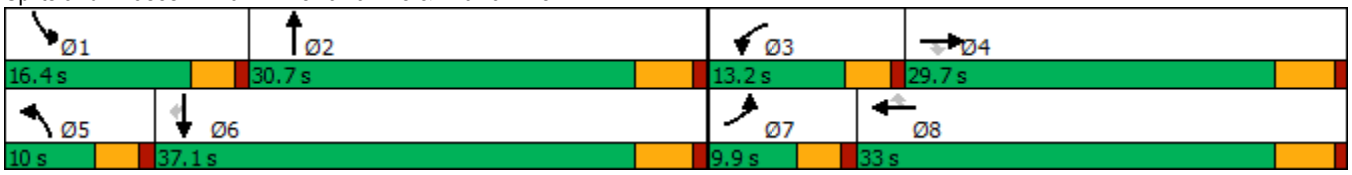
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	535	1186	-
HCM Lane V/C Ratio	-	-	0.037	0.002	-
HCM Control Delay (s)	-	-	12	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	267	77	62	432	135	68	523	25	100	480	67
Future Volume (vph)	28	267	77	62	432	135	68	523	25	100	480	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96	0.99		0.98	0.99	1.00		0.99		0.96
Frt			0.850			0.850		0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3508	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1759	1863	1519	1747	1863	1545	1753	3508	0	1755	1863	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168			168		5				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	33	310	90	72	502	157	79	608	29	116	558	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	310	90	72	502	157	79	637	0	116	558	78
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	29.7	29.7	13.2	33.0	33.0	10.0	30.7		16.4	37.1	37.1
Total Split (%)	11.0%	33.0%	33.0%	14.7%	36.7%	36.7%	11.1%	34.1%		18.2%	41.2%	41.2%
Maximum Green (s)	5.9	24.8	24.8	9.2	28.1	28.1	6.0	25.8		12.4	32.2	32.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	6.4	21.4	21.4	8.3	25.5	25.5	6.7	23.7		10.4	27.3	27.3
Actuated g/C Ratio	0.08	0.28	0.28	0.11	0.34	0.34	0.09	0.31		0.14	0.36	0.36
v/c Ratio	0.22	0.59	0.16	0.37	0.80	0.25	0.51	0.58		0.48	0.83	0.13
Control Delay	43.4	32.3	0.6	43.0	37.9	4.7	53.2	27.0		42.6	37.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	43.4	32.3	0.6	43.0	37.9	4.7	53.2	27.0		42.6	37.3	1.9
LOS	D	C	A	D	D	A	D	C		D	D	A
Approach Delay		26.6			31.3			29.9			34.5	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	18	152	0	39	267	0	45	161		63	287	0
Queue Length 95th (ft)	45	226	0	78	#408	32	#105	209		110	#428	10
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	153	677	659	238	766	734	155	1337		321	878	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.22	0.46	0.14	0.30	0.66	0.21	0.51	0.48		0.36	0.64	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 75.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 31.0		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	288	52	395	343	83
Future Vol, veh/h	81	288	52	395	343	83
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	303	55	416	361	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	933	407	449	0	-	0
Stage 1	406	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	295	644	1111	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	280	643	1110	-	-	-
Mov Cap-2 Maneuver	408	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.7	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1110	-	571	-	-
HCM Lane V/C Ratio	0.049	-	0.68	-	-
HCM Control Delay (s)	8.4	-	23.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	5.2	-	-

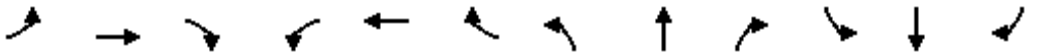
Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	114	331	31	58	578
Future Vol, veh/h	56	114	331	31	58	578
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	121	352	33	62	615

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1110	371	0	0	386	0
Stage 1	370	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	232	675	-	-	1172	-
Stage 1	699	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	674	-	-	1171	-
Mov Cap-2 Maneuver	341	-	-	-	-	-
Stage 1	698	-	-	-	-	-
Stage 2	447	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	510	1171	-
HCM Lane V/C Ratio	-	-	0.355	0.053	-
HCM Control Delay (s)	-	-	15.9	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.2	-

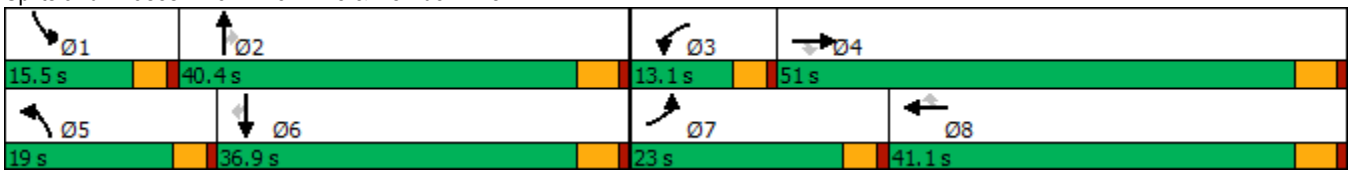


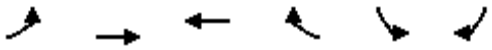
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	399	1615	470	179	1112	228	313	1001	109	176	685	184
Future Volume (vph)	399	1615	470	179	1112	228	313	1001	109	176	685	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.94	0.99		0.94	0.98		0.94	0.99		0.94
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5085	1486	3408	5085	1486	3372	5085	1486	3395	3539	1486
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			256			159			126			188
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	1755	511	195	1209	248	340	1088	118	191	745	200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	434	1755	511	195	1209	248	340	1088	118	191	745	200
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	23.0	51.0	51.0	13.1	41.1	41.1	19.0	40.4	40.4	15.5	36.9	36.9
Total Split (%)	19.2%	42.5%	42.5%	10.9%	34.3%	34.3%	15.8%	33.7%	33.7%	12.9%	30.8%	30.8%
Maximum Green (s)	19.0	46.1	46.1	9.1	36.2	36.2	15.0	35.5	35.5	11.5	32.0	32.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.9	45.9	45.9	9.0	37.0	37.0	14.4	33.2	33.2	10.6	29.3	29.3
Actuated g/C Ratio	0.15	0.39	0.39	0.08	0.32	0.32	0.12	0.28	0.28	0.09	0.25	0.25
v/c Ratio	0.82	0.88	0.69	0.73	0.75	0.43	0.80	0.75	0.23	0.61	0.84	0.39
Control Delay	62.1	39.3	20.1	70.2	39.9	14.7	65.0	41.8	5.9	60.5	50.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	39.3	20.1	70.2	39.9	14.7	65.0	41.8	5.9	60.5	50.7	8.3
LOS	E	D	C	E	D	B	E	D	A	E	D	A
Approach Delay		39.3			39.7			44.1			44.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	169	463	167	77	314	51	133	276	0	74	282	7
Queue Length 95th (ft)	#239	532	305	#131	371	127	#200	330	39	113	357	65
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	560	2016	743	268	1614	580	443	1552	541	339	973	545
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.87	0.69	0.73	0.75	0.43	0.77	0.70	0.22	0.56	0.77	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 116.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 41.4		Intersection LOS: D	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Willow Ave & Herndon Ave



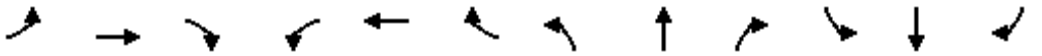


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	1896	1385	257	0	127
Future Volume (vph)	45	1896	1385	257	0	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	0	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950					
Satd. Flow (prot)	3433	5085	5085	1583	0	2787
Flt Permitted	0.950					
Satd. Flow (perm)	3433	5085	5085	1583	0	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				273		281
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	2017	1473	273	0	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	2017	1473	273	0	135
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm		Perm
Protected Phases	7	4	8			
Permitted Phases				8		6
Detector Phase	7	4	8	8		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	9.9	22.9	22.9	22.9		22.9
Total Split (s)	14.0	103.0	89.0	89.0		29.0
Total Split (%)	10.6%	78.0%	67.4%	67.4%		22.0%
Maximum Green (s)	10.0	98.1	84.1	84.1		24.1
Yellow Time (s)	3.0	3.9	3.9	3.9		3.9
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9		4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	None		Min
Walk Time (s)		7.0	7.0	7.0		7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0	0	0		0
Act Effct Green (s)	6.5	36.6	30.8	30.8		5.7
Actuated g/C Ratio	0.12	0.70	0.59	0.59		0.11
v/c Ratio	0.11	0.57	0.49	0.26		0.24
Control Delay	24.6	4.4	7.6	1.7		1.0
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	24.6	4.4	7.6	1.7		1.0
LOS	C	A	A	A		A
Approach Delay		4.8	6.6		1.0	
Approach LOS		A	A		A	
Queue Length 50th (ft)	7	79	103	0		0
Queue Length 95th (ft)	23	100	141	25		0
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	677	5085	5085	1583		1472
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.07	0.40	0.29	0.17		0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 52.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 40.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave

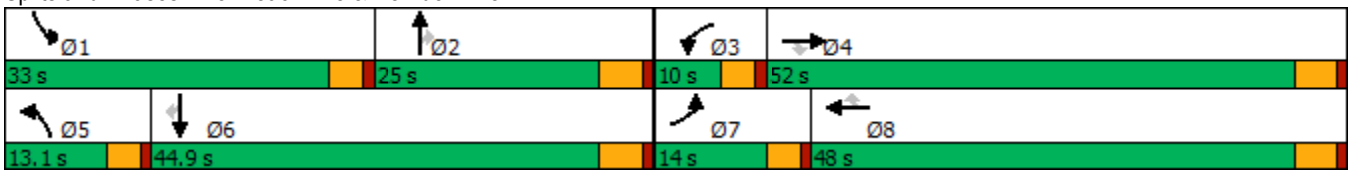


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1641	153	84	1423	190	82	109	63	314	198	112
Future Volume (vph)	88	1641	153	84	1423	190	82	109	63	314	198	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1545	1769	5085	1545	1767	1863	1559	1767	1863	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			126			126			123
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	97	1803	168	92	1564	209	90	120	69	345	218	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	1803	168	92	1564	209	90	120	69	345	218	123
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	14.0	52.0	52.0	10.0	48.0	48.0	13.1	25.0	25.0	33.0	44.9	44.9
Total Split (%)	11.7%	43.3%	43.3%	8.3%	40.0%	40.0%	10.9%	20.8%	20.8%	27.5%	37.4%	37.4%
Maximum Green (s)	10.0	47.1	47.1	6.0	43.1	43.1	9.1	20.1	20.1	29.0	40.0	40.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	9.4	45.1	45.1	6.1	41.8	41.8	8.7	12.3	12.3	25.0	28.5	28.5
Actuated g/C Ratio	0.09	0.42	0.42	0.06	0.39	0.39	0.08	0.12	0.12	0.23	0.27	0.27
v/c Ratio	0.62	0.84	0.23	0.92	0.78	0.31	0.62	0.56	0.24	0.83	0.44	0.24
Control Delay	67.6	32.6	7.6	123.7	32.8	11.5	69.6	56.3	2.2	57.7	35.3	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	32.6	7.6	123.7	32.8	11.5	69.6	56.3	2.2	57.7	35.3	6.5
LOS	E	C	A	F	C	B	E	E	A	E	D	A
Approach Delay		32.2			34.9			47.2			41.4	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	68	409	17	67	354	38	63	82	0	230	127	0
Queue Length 95th (ft)	#146	527	64	#183	457	101	#141	144	3	#386	197	43
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	168	2277	761	100	2085	708	153	356	400	487	708	669
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.79	0.22	0.92	0.75	0.30	0.59	0.34	0.17	0.71	0.31	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 106.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 35.4		Intersection LOS: D	
Intersection Capacity Utilization 74.6%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Peach Ave & Herndon Ave



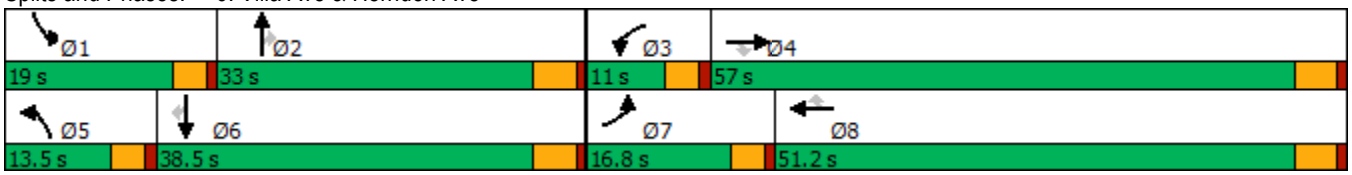
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	1842	152	112	1481	194	137	263	108	279	274	80
Future Volume (vph)	93	1842	152	112	1481	194	137	263	108	279	274	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1561	3432	5085	1546	3428	1863	1561	3428	3539	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			163			163			126
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	97	1919	158	117	1543	202	143	274	113	291	285	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	1919	158	117	1543	202	143	274	113	291	285	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	16.8	57.0	57.0	11.0	51.2	51.2	13.5	33.0	33.0	19.0	38.5	38.5
Total Split (%)	14.0%	47.5%	47.5%	9.2%	42.7%	42.7%	11.3%	27.5%	27.5%	15.8%	32.1%	32.1%
Maximum Green (s)	12.8	52.1	52.1	7.0	46.3	46.3	9.5	28.1	28.1	15.0	33.6	33.6
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

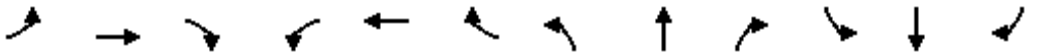
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.6	49.7	49.7	7.0	46.1	46.1	8.9	21.1	21.1	13.5	25.7	25.7
Actuated g/C Ratio	0.10	0.45	0.45	0.06	0.42	0.42	0.08	0.19	0.19	0.12	0.24	0.24
v/c Ratio	0.57	0.83	0.20	0.53	0.72	0.27	0.51	0.76	0.26	0.69	0.34	0.18
Control Delay	62.6	30.7	6.2	61.8	29.7	7.0	57.3	57.0	3.1	56.3	36.1	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.6	30.7	6.2	61.8	29.7	7.0	57.3	57.0	3.1	56.3	36.1	2.5
LOS	E	C	A	E	C	A	E	E	A	E	D	A
Approach Delay		30.3			29.3			45.6			40.8	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	68	433	13	43	336	17	52	191	0	105	91	0
Queue Length 95th (ft)	130	556	55	78	442	70	90	286	15	160	130	13
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	209	2454	818	222	2222	767	302	485	526	477	1101	572
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.78	0.19	0.53	0.69	0.26	0.47	0.56	0.21	0.61	0.26	0.15

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 109.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 32.8 Intersection LOS: C
Intersection Capacity Utilization 76.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	12	98	31	7	47	58	1291	36	117	1124	31
Future Volume (vph)	129	12	98	31	7	47	58	1291	36	117	1124	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98		0.99		0.97	0.99	1.00		1.00		0.95
Frt		0.867				0.850		0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1575	0	1770	1863	1583	1770	3521	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1742	1575	0	1746	1863	1540	1760	3521	0	1763	3539	1510
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		103				126		3				126
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Peak Hour Factor	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)	136	13	103	33	7	49	61	1359	38	123	1183	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	116	0	33	7	49	61	1397	0	123	1183	33
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	19.0	32.0		10.0	23.0	23.0	13.8	61.0		17.0	64.2	64.2
Total Split (%)	15.8%	26.7%		8.3%	19.2%	19.2%	11.5%	50.8%		14.2%	53.5%	53.5%
Maximum Green (s)	15.0	27.1		6.0	18.1	18.1	9.8	56.1		13.0	59.3	59.3
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	12.3	14.2		6.3	6.3	6.3	8.5	43.8		11.4	50.0	50.0
Actuated g/C Ratio	0.14	0.16		0.07	0.07	0.07	0.10	0.49		0.13	0.56	0.56
v/c Ratio	0.56	0.34		0.27	0.05	0.22	0.36	0.81		0.55	0.60	0.04
Control Delay	50.2	14.2		52.6	47.9	2.2	50.6	24.3		51.8	16.5	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	50.2	14.2		52.6	47.9	2.2	50.6	24.3		51.8	16.5	0.1
LOS	D	B		D	D	A	D	C		D	B	A
Approach Delay		33.7			24.5			25.4			19.4	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	79	7		20	4	0	36	369		71	259	0
Queue Length 95th (ft)	154	60		55	20	0	85	486		145	350	0
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	318	581		127	404	432	207	2326		275	2430	1076
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.43	0.20		0.26	0.02	0.11	0.29	0.60		0.45	0.49	0.03

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 89.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 23.5 Intersection LOS: C
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	124	28	35	122	285	158
Future Vol, veh/h	124	28	35	122	285	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	135	30	38	133	310	172

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	605	396	482	0	-	0
Stage 1	396	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	461	653	1081	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	443	653	1081	-	-	-
Mov Cap-2 Maneuver	443	-	-	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	826	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1081	-	471	-	-
HCM Lane V/C Ratio	0.035	-	0.351	-	-
HCM Control Delay (s)	8.5	0	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.6	-	-

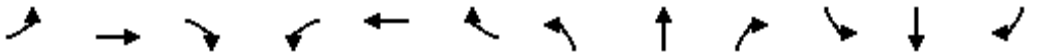
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	10	148	24	2	312
Future Vol, veh/h	25	10	148	24	2	312
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	11	164	27	2	347

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	529	178	0	0	191	0
Stage 1	178	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	510	865	-	-	1383	-
Stage 1	853	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	509	865	-	-	1383	-
Mov Cap-2 Maneuver	509	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	577	1383	-
HCM Lane V/C Ratio	-	-	0.067	0.002	-
HCM Control Delay (s)	-	-	11.7	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

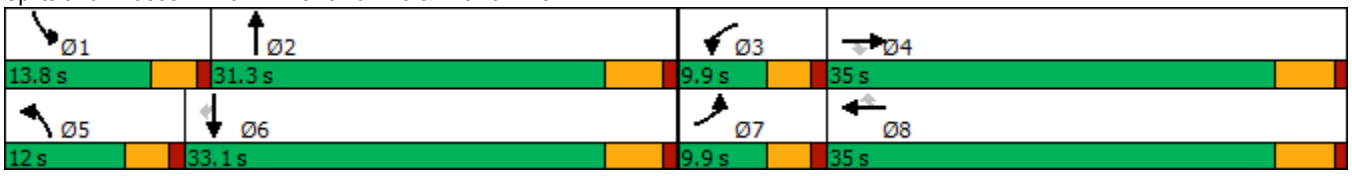


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	410	70	23	317	80	65	516	51	79	347	24
Future Volume (vph)	29	410	70	23	317	80	65	516	51	79	347	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96	0.99		0.98	0.99	1.00		0.99		0.96
Frt			0.850			0.850		0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3480	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1761	1863	1520	1758	1863	1545	1756	3480	0	1760	1863	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120		12				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			7			7			7			7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	436	74	24	337	85	69	549	54	84	369	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	436	74	24	337	85	69	603	0	84	369	26
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	35.0	35.0	9.9	35.0	35.0	12.0	31.3		13.8	33.1	33.1
Total Split (%)	11.0%	38.9%	38.9%	11.0%	38.9%	38.9%	13.3%	34.8%		15.3%	36.8%	36.8%
Maximum Green (s)	5.9	30.1	30.1	5.9	30.1	30.1	8.0	26.4		9.8	28.2	28.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	6.8	20.7	20.7	6.8	20.7	20.7	8.1	18.1		8.9	21.6	21.6
Actuated g/C Ratio	0.11	0.33	0.33	0.11	0.33	0.33	0.13	0.29		0.14	0.34	0.34
v/c Ratio	0.16	0.71	0.13	0.13	0.55	0.14	0.30	0.59		0.33	0.58	0.04
Control Delay	37.9	28.4	1.8	37.8	23.9	2.5	37.2	24.0		36.1	25.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	37.9	28.4	1.8	37.8	23.9	2.5	37.2	24.0		36.1	25.1	0.1
LOS	D	C	A	D	C	A	D	C		D	C	A
Approach Delay		25.3			20.6			25.4			25.6	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	11	136	0	8	98	0	23	93		28	113	0
Queue Length 95th (ft)	45	322	10	38	239	17	80	205		91	274	0
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	197	1041	902	197	1041	916	267	1741		327	992	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.16	0.42	0.08	0.12	0.32	0.09	0.26	0.35		0.26	0.37	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 62.7			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 24.4		Intersection LOS: C	
Intersection Capacity Utilization 58.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	108	49	363	550	50
Future Vol, veh/h	27	108	49	363	550	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	123	56	413	625	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1179	654	682	0	-	0
Stage 1	654	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	211	467	911	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	198	467	911	-	-	-
Mov Cap-2 Maneuver	332	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.9	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	911	-	432	-	-
HCM Lane V/C Ratio	0.061	-	0.355	-	-
HCM Control Delay (s)	9.2	-	17.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.6	-	-

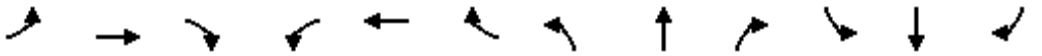
Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	59	352	71	97	565
Future Vol, veh/h	19	59	352	71	97	565
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	68	405	82	111	649

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1319	448	0	0	488	0
Stage 1	447	-	-	-	-	-
Stage 2	872	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	173	611	-	-	1075	-
Stage 1	644	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	610	-	-	1074	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	366	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	471	1074	-
HCM Lane V/C Ratio	-	-	0.19	0.104	-
HCM Control Delay (s)	-	-	14.4	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

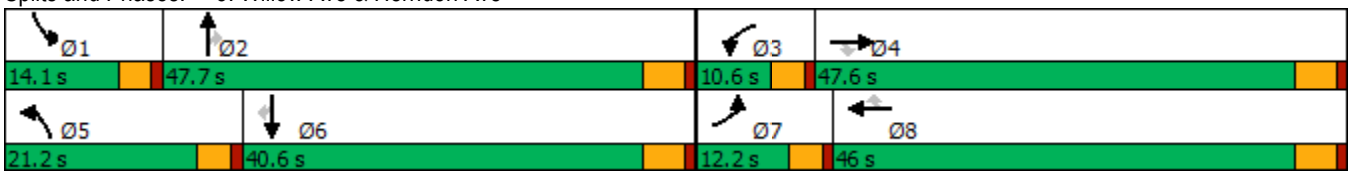


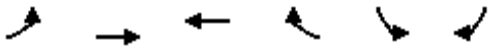
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	969	359	72	1608	130	450	845	69	143	892	194
Future Volume (vph)	201	969	359	72	1608	130	450	845	69	143	892	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.97	1.00		0.97	1.00		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3429	5085	1542	3414	5085	1542	3421	5085	1542	3420	3539	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			287			126			90			126
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	7		7	7		7	7		7	7		7
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	1053	390	78	1748	141	489	918	75	155	970	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	1053	390	78	1748	141	489	918	75	155	970	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	12.2	47.6	47.6	10.6	46.0	46.0	21.2	47.7	47.7	14.1	40.6	40.6
Total Split (%)	10.2%	39.7%	39.7%	8.8%	38.3%	38.3%	17.7%	39.8%	39.8%	11.8%	33.8%	33.8%
Maximum Green (s)	8.2	42.7	42.7	6.6	41.1	41.1	17.2	42.8	42.8	10.1	35.7	35.7
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	8.2	44.8	44.8	6.5	41.1	41.1	17.2	42.8	42.8	9.5	35.1	35.1
Actuated g/C Ratio	0.07	0.38	0.38	0.05	0.34	0.34	0.14	0.36	0.36	0.08	0.29	0.29
v/c Ratio	0.93	0.55	0.51	0.42	1.00	0.23	0.99	0.50	0.12	0.57	0.93	0.39
Control Delay	98.1	31.4	10.7	62.0	60.7	7.2	89.3	31.2	4.2	61.6	57.1	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.1	31.4	10.7	62.0	60.7	7.2	89.3	31.2	4.2	61.6	57.1	15.9
LOS	F	C	B	E	E	A	F	C	A	E	E	B
Approach Delay		35.3			56.9			49.0			51.1	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	88	241	55	30	~497	8	197	202	0	60	382	49
Queue Length 95th (ft)	#164	288	148	56	#615	52	#309	246	25	95	#508	117
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	235	1910	758	189	1749	612	494	1827	611	289	1057	548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.55	0.51	0.41	1.00	0.23	0.99	0.50	0.12	0.54	0.92	0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.4			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 48.3		Intersection LOS: D	
Intersection Capacity Utilization 89.1%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Willow Ave & Herndon Ave



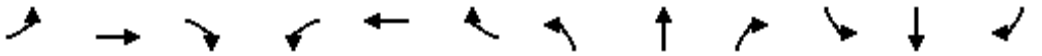


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	1130	1820	106	0	33
Future Volume (vph)	13	1130	1820	106	0	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	0	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950					
Satd. Flow (prot)	3433	5085	5085	1583	0	2787
Flt Permitted	0.950					
Satd. Flow (perm)	3433	5085	5085	1583	0	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				115		191
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	1228	1978	115	0	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	1228	1978	115	0	36
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm		Perm
Protected Phases	7	4	8			
Permitted Phases				8		6
Detector Phase	7	4	8	8		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	9.9	22.9	22.9	22.9		22.9
Total Split (s)	12.0	106.0	94.0	94.0		26.0
Total Split (%)	9.1%	80.3%	71.2%	71.2%		19.7%
Maximum Green (s)	8.0	101.1	89.1	89.1		21.1
Yellow Time (s)	3.0	3.9	3.9	3.9		3.9
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9		4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	None		Min
Walk Time (s)		7.0	7.0	7.0		7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0	0	0		0
Act Effct Green (s)	6.1	39.1	37.7	37.7		5.9
Actuated g/C Ratio	0.11	0.70	0.68	0.68		0.11
v/c Ratio	0.04	0.34	0.57	0.10		0.08
Control Delay	29.8	3.1	5.4	1.1		0.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	29.8	3.1	5.4	1.1		0.3
LOS	C	A	A	A		A
Approach Delay		3.4	5.1		0.3	
Approach LOS		A	A		A	
Queue Length 50th (ft)	2	38	76	0		0
Queue Length 95th (ft)	12	47	198	14		0
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	528	5085	5085	1583		1245
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.03	0.24	0.39	0.07		0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 55.5			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 4.4		Intersection LOS: A	
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave



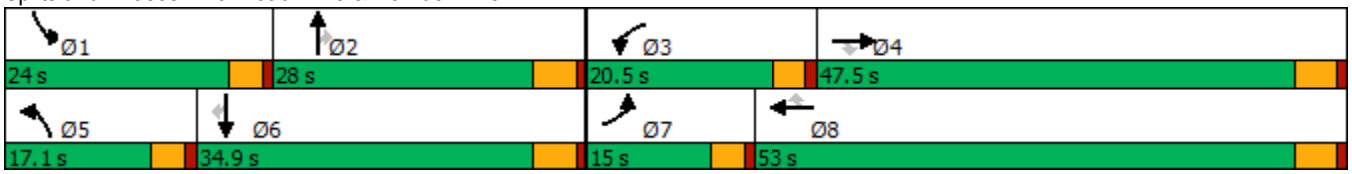
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	970	106	126	1735	116	91	228	67	200	231	106
Future Volume (vph)	100	970	106	126	1735	116	91	228	67	200	231	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.98			0.99			0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1550	1770	5085	1550	1770	1863	1563	1770	1863	1563
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			126			163			126
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	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)	105	1021	112	133	1826	122	96	240	71	211	243	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	1021	112	133	1826	122	96	240	71	211	243	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	15.0	47.5	47.5	20.5	53.0	53.0	17.1	28.0	28.0	24.0	34.9	34.9
Total Split (%)	12.5%	39.6%	39.6%	17.1%	44.2%	44.2%	14.3%	23.3%	23.3%	20.0%	29.1%	29.1%
Maximum Green (s)	11.0	42.6	42.6	16.5	48.1	48.1	13.1	23.1	23.1	20.0	30.0	30.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.1	43.1	43.1	13.1	46.1	46.1	10.7	18.7	18.7	17.2	28.0	28.0
Actuated g/C Ratio	0.09	0.39	0.39	0.12	0.42	0.42	0.10	0.17	0.17	0.16	0.25	0.25
v/c Ratio	0.65	0.51	0.16	0.63	0.86	0.17	0.56	0.76	0.18	0.77	0.51	0.23
Control Delay	69.9	28.0	1.6	62.0	35.1	4.4	62.7	60.8	1.0	64.8	42.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	28.0	1.6	62.0	35.1	4.4	62.7	60.8	1.0	64.8	42.0	6.0
LOS	E	C	A	E	D	A	E	E	A	E	D	A
Approach Delay		29.2			35.0			50.8			43.4	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	77	211	0	96	451	0	70	173	0	151	160	0
Queue Length 95th (ft)	#155	278	12	164	547	36	128	265	0	#259	247	36
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	179	2059	724	269	2255	757	213	396	461	326	515	523
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.50	0.15	0.49	0.81	0.16	0.45	0.61	0.15	0.65	0.47	0.21

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 110.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 35.9 Intersection LOS: D
Intersection Capacity Utilization 77.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Peach Ave & Herndon Ave



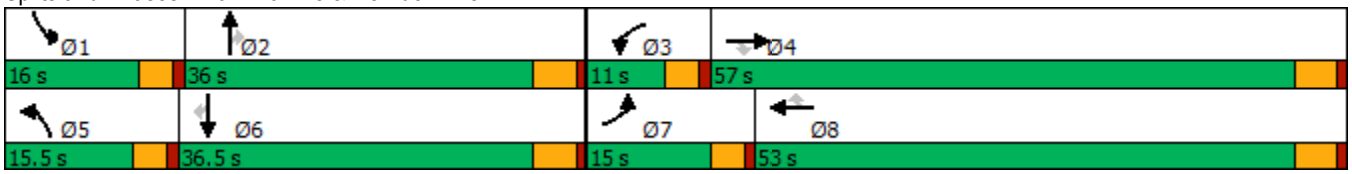
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	1034	141	87	1732	274	179	343	103	235	257	98
Future Volume (vph)	104	1034	141	87	1732	274	179	343	103	235	257	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1768	5085	1555	3425	5085	1536	3419	1863	1555	3420	3539	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			164			106			101
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	3		3	3		3	3		3	3		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	107	1066	145	90	1786	282	185	354	106	242	265	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	1066	145	90	1786	282	185	354	106	242	265	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	15.0	57.0	57.0	11.0	53.0	53.0	15.5	36.0	36.0	16.0	36.5	36.5
Total Split (%)	12.5%	47.5%	47.5%	9.2%	44.2%	44.2%	12.9%	30.0%	30.0%	13.3%	30.4%	30.4%
Maximum Green (s)	11.0	52.1	52.1	7.0	48.1	48.1	11.5	31.1	31.1	12.0	31.6	31.6
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

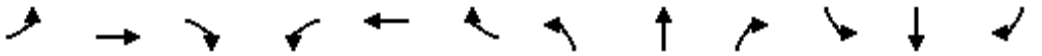
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.2	52.0	52.0	6.9	46.2	46.2	10.5	25.5	25.5	11.4	26.5	26.5
Actuated g/C Ratio	0.09	0.47	0.47	0.06	0.42	0.42	0.09	0.23	0.23	0.10	0.24	0.24
v/c Ratio	0.66	0.45	0.19	0.43	0.85	0.38	0.57	0.83	0.24	0.69	0.32	0.23
Control Delay	71.3	22.1	7.3	59.7	34.8	11.6	57.6	58.5	8.1	60.8	36.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.3	22.1	7.3	59.7	34.8	11.6	57.6	58.5	8.1	60.8	36.4	8.1
LOS	E	C	A	E	C	B	E	E	A	E	D	A
Approach Delay		24.4			32.9			49.9			41.4	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	78	198	16	34	433	55	69	252	0	91	86	0
Queue Length 95th (ft)	#159	253	57	63	530	130	110	364	44	#140	124	43
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	177	2407	792	218	2223	763	358	526	515	374	1016	518
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.44	0.18	0.41	0.80	0.37	0.52	0.67	0.21	0.65	0.26	0.19

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 111.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 33.9 Intersection LOS: C
Intersection Capacity Utilization 78.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	7	21	26	4	55	16	1279	111	135	1042	72
Future Volume (vph)	35	7	21	26	4	55	16	1279	111	135	1042	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.99		1.00		0.98	1.00	1.00		1.00		0.97
Frt		0.889				0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1636	0	1770	1863	1583	1770	3489	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1763	1636	0	1763	1863	1558	1767	3489	0	1768	3539	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				126		11				144
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.25
Adj. Flow (vph)	38	8	23	29	4	60	18	1405	122	148	1145	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	31	0	29	4	60	18	1527	0	148	1145	288
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	10.0	23.0		10.0	23.0	23.0	10.0	67.0		20.0	77.0	77.0
Total Split (%)	8.3%	19.2%		8.3%	19.2%	19.2%	8.3%	55.8%		16.7%	64.2%	64.2%
Maximum Green (s)	6.0	18.1		6.0	18.1	18.1	6.0	62.1		16.0	72.1	72.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	6.3	6.8		6.3	6.8	6.8	6.3	49.2		12.9	64.8	64.8
Actuated g/C Ratio	0.07	0.08		0.07	0.08	0.08	0.07	0.58		0.15	0.76	0.76
v/c Ratio	0.29	0.21		0.22	0.03	0.25	0.14	0.76		0.55	0.43	0.24
Control Delay	52.5	27.2		51.0	46.5	2.5	50.0	18.7		47.3	7.0	3.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	52.5	27.2		51.0	46.5	2.5	50.0	18.7		47.3	7.0	3.7
LOS	D	C		D	D	A	D	B		D	A	A
Approach Delay		41.1			19.5			19.0			10.2	
Approach LOS		D			B			B			B	
Queue Length 50th (ft)	22	5		17	2	0	10	371		83	122	22
Queue Length 95th (ft)	62	36		51	14	0	37	513		167	248	0
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	134	392		134	426	454	134	2639		358	2909	1292
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.28	0.08		0.22	0.01	0.13	0.13	0.58		0.41	0.39	0.22

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 85.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 15.2 Intersection LOS: B
Intersection Capacity Utilization 66.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	31	66	236	241	232
Future Vol, veh/h	149	31	66	236	241	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	159	33	70	251	256	247

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	771	380	503	0	-	0
Stage 1	380	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	368	667	1061	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	340	667	1061	-	-	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.6	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1061	-	371	-	-
HCM Lane V/C Ratio	0.066	-	0.516	-	-
HCM Control Delay (s)	8.6	0	24.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.8	-	-

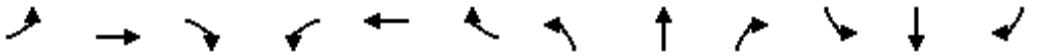
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	8	293	70	2	269
Future Vol, veh/h	10	8	293	70	2	269
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	11	9	318	76	2	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	652	356	0	0	394	0
Stage 1	356	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	433	688	-	-	1165	-
Stage 1	709	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	432	688	-	-	1165	-
Mov Cap-2 Maneuver	432	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	518	1165	-
HCM Lane V/C Ratio	-	-	0.038	0.002	-
HCM Control Delay (s)	-	-	12.2	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

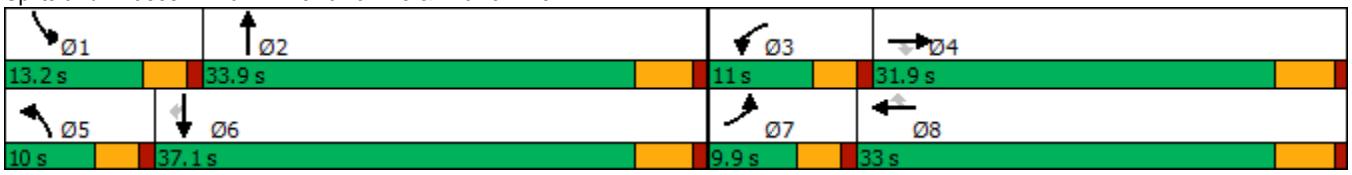


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	267	77	72	432	135	68	526	28	100	491	67
Future Volume (vph)	28	267	77	72	432	135	68	526	28	100	491	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96	0.99		0.98	0.99	1.00		0.99		0.96
Frt			0.850			0.850		0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3504	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1759	1863	1519	1747	1863	1545	1754	3504	0	1755	1863	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120		6				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	33	310	90	84	502	157	79	612	33	116	571	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	310	90	84	502	157	79	645	0	116	571	78
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	31.9	31.9	11.0	33.0	33.0	10.0	33.9		13.2	37.1	37.1
Total Split (%)	11.0%	35.4%	35.4%	12.2%	36.7%	36.7%	11.1%	37.7%		14.7%	41.2%	41.2%
Maximum Green (s)	5.9	27.0	27.0	7.0	28.1	28.1	6.0	29.0		9.2	32.2	32.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	6.3	22.7	22.7	7.3	25.6	25.6	6.6	25.3		9.1	27.6	27.6
Actuated g/C Ratio	0.08	0.30	0.30	0.10	0.34	0.34	0.09	0.33		0.12	0.36	0.36
v/c Ratio	0.22	0.56	0.17	0.50	0.80	0.26	0.52	0.55		0.55	0.85	0.12
Control Delay	43.5	30.2	3.2	50.6	38.0	9.1	53.8	24.9		48.9	38.4	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	43.5	30.2	3.2	50.6	38.0	9.1	53.8	24.9		48.9	38.4	1.9
LOS	D	C	A	D	D	A	D	C		D	D	A
Approach Delay		25.6			33.3			28.1			36.3	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	18	147	0	47	267	15	45	157		65	296	0
Queue Length 95th (ft)	45	217	18	#102	#408	54	#105	200		#126	#444	10
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	150	724	664	178	754	696	153	1468		234	864	769
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.22	0.43	0.14	0.47	0.67	0.23	0.52	0.44		0.50	0.66	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 76.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 31.5		Intersection LOS: C	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	288	52	419	354	83
Future Vol, veh/h	81	288	52	419	354	83
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	303	55	441	373	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	970	419	461	0	-	0
Stage 1	418	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	281	634	1100	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	266	633	1099	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	576	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.8	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1099	-	559	-	-
HCM Lane V/C Ratio	0.05	-	0.695	-	-
HCM Control Delay (s)	8.4	-	24.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	5.4	-	-

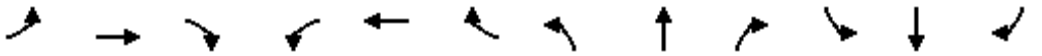
Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	114	355	31	58	589
Future Vol, veh/h	56	114	355	31	58	589
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	121	378	33	62	627

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1148	397	0	0	412	0
Stage 1	396	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	220	652	-	-	1147	-
Stage 1	680	-	-	-	-	-
Stage 2	466	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	208	651	-	-	1146	-
Mov Cap-2 Maneuver	332	-	-	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	440	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	494	1146	-
HCM Lane V/C Ratio	-	-	0.366	0.054	-
HCM Control Delay (s)	-	-	16.4	8.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

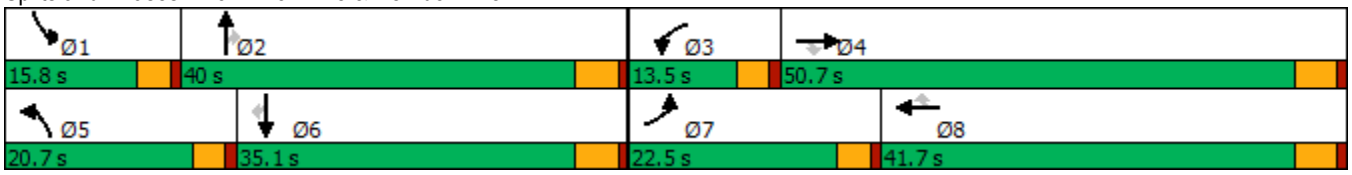


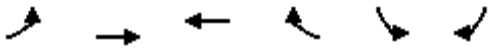
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	399	1619	487	181	1122	233	352	1020	109	178	694	184
Future Volume (vph)	399	1619	487	181	1122	233	352	1020	109	178	694	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.94	0.99		0.94	0.98		0.94	0.99		0.94
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3402	5085	1486	3408	5085	1486	3373	5085	1486	3396	3539	1485
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			279			163			126			182
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	1760	529	197	1220	253	383	1109	118	193	754	200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	434	1760	529	197	1220	253	383	1109	118	193	754	200
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	22.5	50.7	50.7	13.5	41.7	41.7	20.7	40.0	40.0	15.8	35.1	35.1
Total Split (%)	18.8%	42.3%	42.3%	11.3%	34.8%	34.8%	17.3%	33.3%	33.3%	13.2%	29.3%	29.3%
Maximum Green (s)	18.5	45.8	45.8	9.5	36.8	36.8	16.7	35.1	35.1	11.8	30.2	30.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.7	45.8	45.8	9.3	37.4	37.4	16.0	33.9	33.9	10.9	28.8	28.8
Actuated g/C Ratio	0.15	0.39	0.39	0.08	0.32	0.32	0.14	0.29	0.29	0.09	0.24	0.24
v/c Ratio	0.84	0.89	0.71	0.73	0.75	0.43	0.82	0.76	0.23	0.61	0.87	0.40
Control Delay	64.3	40.8	20.0	69.5	40.2	14.5	65.0	42.2	5.9	60.5	55.0	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	40.8	20.0	69.5	40.2	14.5	65.0	42.2	5.9	60.5	55.0	9.4
LOS	E	D	B	E	D	B	E	D	A	E	D	A
Approach Delay		40.5			39.8			44.9			48.0	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	169	467	166	78	315	51	150	284	0	74	293	11
Queue Length 95th (ft)	#245	536	306	#128	372	127	#219	339	39	114	#376	72
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	539	1978	748	276	1616	583	487	1522	533	344	908	516
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.89	0.71	0.71	0.75	0.43	0.79	0.73	0.22	0.56	0.83	0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 117.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 42.5		Intersection LOS: D	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Willow Ave & Herndon Ave



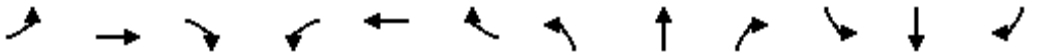


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	1902	1402	257	0	127
Future Volume (vph)	45	1902	1402	257	0	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	0	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950					
Satd. Flow (prot)	3433	5085	5085	1583	0	2787
Flt Permitted	0.950					
Satd. Flow (perm)	3433	5085	5085	1583	0	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				273		278
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	2023	1491	273	0	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	2023	1491	273	0	135
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm		Perm
Protected Phases	7	4	8			
Permitted Phases				8		6
Detector Phase	7	4	8	8		6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	9.9	22.9	22.9	22.9		22.9
Total Split (s)	14.0	103.0	89.0	89.0		29.0
Total Split (%)	10.6%	78.0%	67.4%	67.4%		22.0%
Maximum Green (s)	10.0	98.1	84.1	84.1		24.1
Yellow Time (s)	3.0	3.9	3.9	3.9		3.9
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9		4.9
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	None		Min
Walk Time (s)		7.0	7.0	7.0		7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0	0	0		0
Act Effct Green (s)	6.5	37.0	31.2	31.2		5.7
Actuated g/C Ratio	0.12	0.70	0.59	0.59		0.11
v/c Ratio	0.11	0.57	0.50	0.26		0.25
Control Delay	24.9	4.4	7.5	1.6		1.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	24.9	4.4	7.5	1.6		1.1
LOS	C	A	A	A		A
Approach Delay		4.8	6.6		1.1	
Approach LOS		A	A		A	
Queue Length 50th (ft)	7	79	105	0		0
Queue Length 95th (ft)	23	100	143	25		0
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	673	5085	5085	1583		1463
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.07	0.40	0.29	0.17		0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 52.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 40.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave

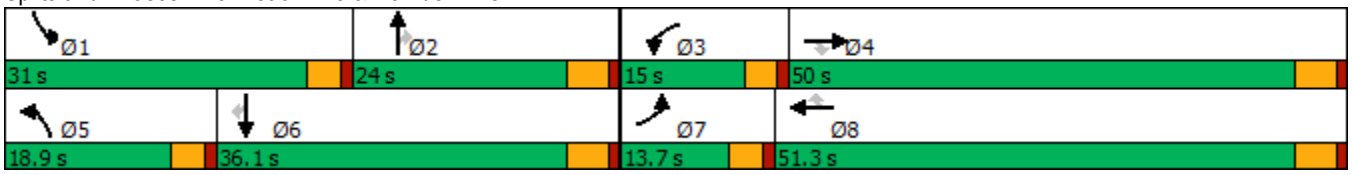


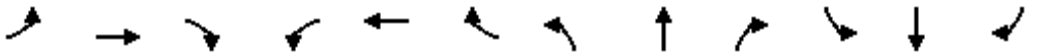
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1641	159	115	1423	190	99	133	136	314	209	112
Future Volume (vph)	88	1641	159	115	1423	190	99	133	136	314	209	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1545	1769	5085	1545	1767	1863	1559	1767	1863	1560
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			126			126			123
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	97	1803	175	126	1564	209	109	146	149	345	230	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	1803	175	126	1564	209	109	146	149	345	230	123
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	13.7	50.0	50.0	15.0	51.3	51.3	18.9	24.0	24.0	31.0	36.1	36.1
Total Split (%)	11.4%	41.7%	41.7%	12.5%	42.8%	42.8%	15.8%	20.0%	20.0%	25.8%	30.1%	30.1%
Maximum Green (s)	9.7	45.1	45.1	11.0	46.4	46.4	14.9	19.1	19.1	27.0	31.2	31.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	9.2	44.4	44.4	10.6	45.7	45.7	11.7	13.9	13.9	24.9	27.1	27.1
Actuated g/C Ratio	0.08	0.40	0.40	0.09	0.41	0.41	0.10	0.12	0.12	0.22	0.24	0.24
v/c Ratio	0.66	0.89	0.25	0.75	0.75	0.30	0.59	0.63	0.49	0.88	0.51	0.26
Control Delay	73.9	39.1	9.0	78.3	31.8	11.1	62.1	59.7	17.3	66.0	41.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	39.1	9.0	78.3	31.8	11.1	62.1	59.7	17.3	66.0	41.6	7.6
LOS	E	D	A	E	C	B	E	E	B	E	D	A
Approach Delay		38.2			32.6			44.7			47.7	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	71	454	23	92	360	38	78	104	15	245	146	0
Queue Length 95th (ft)	#154	#597	74	#198	449	98	141	173	77	#422	231	47
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	154	2066	702	175	2126	719	237	320	372	430	524	527
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.87	0.25	0.72	0.74	0.29	0.46	0.46	0.40	0.80	0.44	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 111.7			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 37.9		Intersection LOS: D	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Peach Ave & Herndon Ave





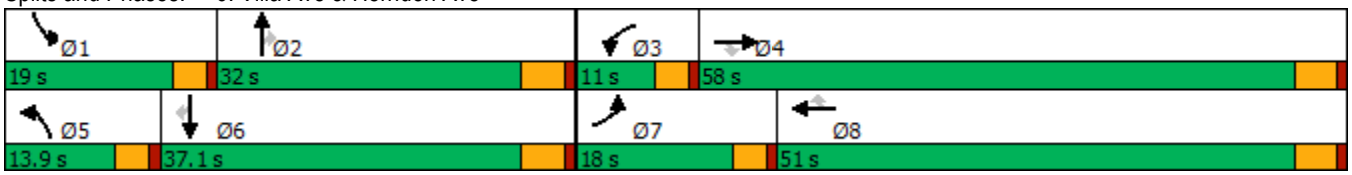
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1879	164	112	1496	194	142	263	108	279	274	91
Future Volume (vph)	117	1879	164	112	1496	194	142	263	108	279	274	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1561	3432	5085	1546	3428	1863	1561	3428	3539	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			163			163			126
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	122	1957	171	117	1558	202	148	274	113	291	285	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	1957	171	117	1558	202	148	274	113	291	285	95
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	18.0	58.0	58.0	11.0	51.0	51.0	13.9	32.0	32.0	19.0	37.1	37.1
Total Split (%)	15.0%	48.3%	48.3%	9.2%	42.5%	42.5%	11.6%	26.7%	26.7%	15.8%	30.9%	30.9%
Maximum Green (s)	14.0	53.1	53.1	7.0	46.1	46.1	9.9	27.1	27.1	15.0	32.2	32.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

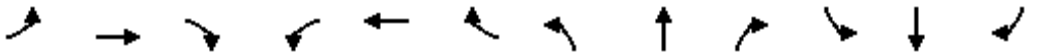
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	11.8	50.7	50.7	7.0	45.8	45.8	9.2	21.0	21.0	13.6	25.4	25.4
Actuated g/C Ratio	0.11	0.46	0.46	0.06	0.42	0.42	0.08	0.19	0.19	0.12	0.23	0.23
v/c Ratio	0.64	0.84	0.22	0.54	0.74	0.27	0.52	0.77	0.26	0.69	0.35	0.21
Control Delay	65.1	30.9	6.9	62.4	30.8	7.2	57.4	58.4	3.1	56.8	37.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	30.9	6.9	62.4	30.8	7.2	57.4	58.4	3.1	56.8	37.0	3.7
LOS	E	C	A	E	C	A	E	E	A	E	D	A
Approach Delay		30.9			30.3			46.5			40.9	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	87	450	18	44	352	17	54	194	0	106	92	0
Queue Length 95th (ft)	157	563	62	78	450	70	92	289	15	160	132	23
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	227	2479	825	220	2189	758	312	463	510	472	1046	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.79	0.21	0.53	0.71	0.27	0.47	0.59	0.22	0.62	0.27	0.17

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 110.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Villa Ave & Herndon Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	12	98	79	7	105	58	1291	57	143	1124	31
Future Volume (vph)	129	12	98	79	7	105	58	1291	57	143	1124	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98		0.99		0.97	0.99	1.00		1.00		0.95
Frt		0.867				0.850		0.994				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1575	0	1770	1863	1583	1770	3511	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1742	1575	0	1746	1863	1540	1760	3511	0	1763	3539	1510
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		103				126		5				90
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Peak Hour Factor	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)	136	13	103	83	7	111	61	1359	60	151	1183	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	116	0	83	7	111	61	1419	0	151	1183	33
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	17.4	24.2		16.2	23.0	23.0	13.8	61.2		18.4	65.8	65.8
Total Split (%)	14.5%	20.2%		13.5%	19.2%	19.2%	11.5%	51.0%		15.3%	54.8%	54.8%
Maximum Green (s)	13.4	19.3		12.2	18.1	18.1	9.8	56.3		14.4	60.9	60.9
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	11.9	11.9		9.7	6.9	6.9	8.3	46.6		12.8	53.6	53.6
Actuated g/C Ratio	0.12	0.12		0.10	0.07	0.07	0.09	0.48		0.13	0.56	0.56
v/c Ratio	0.62	0.41		0.47	0.05	0.49	0.40	0.84		0.65	0.60	0.04
Control Delay	56.6	17.0		53.6	47.4	14.4	54.2	27.1		56.3	16.9	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	56.6	17.0		53.6	47.4	14.4	54.2	27.1		56.3	16.9	0.1
LOS	E	B		D	D	B	D	C		E	B	A
Approach Delay		38.4			31.7			28.2			20.8	
Approach LOS		D			C			C			C	
Queue Length 50th (ft)	82	8		51	4	0	37	394		91	259	0
Queue Length 95th (ft)	#174	64		108	20	43	88	535		#191	367	0
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	252	405		229	358	398	184	2104		271	2292	1010
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.54	0.29		0.36	0.02	0.28	0.33	0.67		0.56	0.52	0.03

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 96.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 26.1 Intersection LOS: C
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	238	52	46	122	285	206
Future Vol, veh/h	238	52	46	122	285	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	259	57	50	133	310	224

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	655	422	534	0	-	0
Stage 1	422	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	431	632	1034	-	-	-
Stage 1	662	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	409	632	1034	-	-	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	806	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.8	2.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1034	-	437	-	-
HCM Lane V/C Ratio	0.048	-	0.721	-	-
HCM Control Delay (s)	8.7	0	31.8	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	5.7	-	-

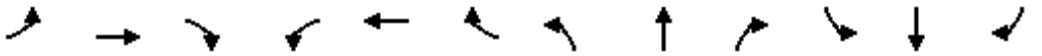
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	10	159	24	2	336
Future Vol, veh/h	25	10	159	24	2	336
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	11	177	27	2	373

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	568	191	0	0	204	0
Stage 1	191	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	484	851	-	-	1368	-
Stage 1	841	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	483	851	-	-	1368	-
Mov Cap-2 Maneuver	483	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	693	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	551	1368	-
HCM Lane V/C Ratio	-	-	0.071	0.002	-
HCM Control Delay (s)	-	-	12	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

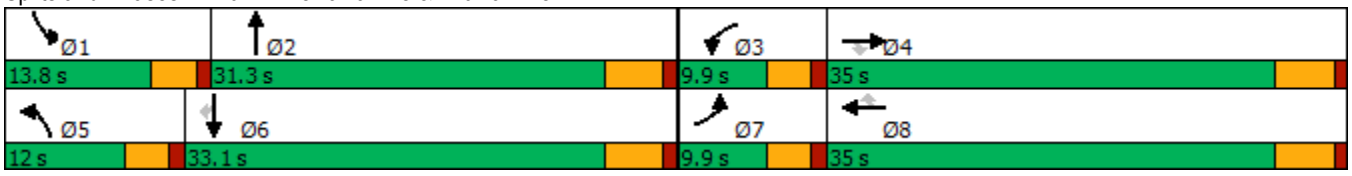


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	410	70	28	317	80	65	528	63	79	353	24
Future Volume (vph)	29	410	70	28	317	80	65	528	63	79	353	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96	0.99		0.98	0.99	1.00		0.99		0.96
Frt			0.850			0.850		0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3467	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1761	1863	1520	1758	1863	1545	1756	3467	0	1760	1863	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120		14				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			7			7			7			7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	436	74	30	337	85	69	562	67	84	376	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	436	74	30	337	85	69	629	0	84	376	26
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	35.0	35.0	9.9	35.0	35.0	12.0	31.3		13.8	33.1	33.1
Total Split (%)	11.0%	38.9%	38.9%	11.0%	38.9%	38.9%	13.3%	34.8%		15.3%	36.8%	36.8%
Maximum Green (s)	5.9	30.1	30.1	5.9	30.1	30.1	8.0	26.4		9.8	28.2	28.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	6.8	21.4	21.4	6.8	21.4	21.4	8.1	18.7		9.0	22.2	22.2
Actuated g/C Ratio	0.11	0.33	0.33	0.11	0.33	0.33	0.13	0.29		0.14	0.35	0.35
v/c Ratio	0.16	0.70	0.13	0.16	0.54	0.14	0.31	0.62		0.34	0.58	0.04
Control Delay	38.6	28.2	1.8	38.5	23.9	2.5	38.1	24.6		36.8	25.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.6	28.2	1.8	38.5	23.9	2.5	38.1	24.6		36.8	25.4	0.1
LOS	D	C	A	D	C	A	D	C		D	C	A
Approach Delay		25.2			20.8			26.0			26.0	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	12	144	0	11	104	0	25	107		31	126	0
Queue Length 95th (ft)	45	322	10	44	239	17	80	215		91	280	0
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	193	1023	888	193	1023	902	261	1700		320	971	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.16	0.43	0.08	0.16	0.33	0.09	0.26	0.37		0.26	0.39	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 64			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 24.7		Intersection LOS: C	
Intersection Capacity Utilization 58.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



Intersection	
Int Delay, s/veh	11.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	58	205	206	441	676	96
Future Vol, veh/h	58	205	206	441	676	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
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	63	223	224	479	735	104

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1714	787	839	0	-	0
Stage 1	787	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	99	392	796	-	-	-
Stage 1	449	-	-	-	-	-
Stage 2	385	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	71	392	796	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	323	-	-	-	-	-
Stage 2	385	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	64.3	3.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	796	-	319	-	-
HCM Lane V/C Ratio	0.281	-	0.896	-	-
HCM Control Delay (s)	11.3	-	64.3	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	1.2	-	8.5	-	-

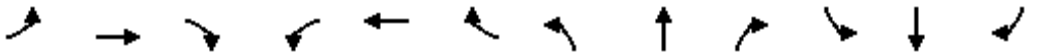
Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	73	574	93	121	764
Future Vol, veh/h	24	73	574	93	121	764
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
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	26	79	624	101	132	830

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1771	677	0	0	726	0
Stage 1	676	-	-	-	-	-
Stage 2	1095	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	91	453	-	-	877	-
Stage 1	505	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	77	452	-	-	876	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	272	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	876	-
HCM Lane V/C Ratio	-	-	0.311	0.15	-
HCM Control Delay (s)	-	-	20.3	9.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.5	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1282	430	234	1956	163	554	1047	115	205	1281	263
Future Volume (vph)	250	1282	430	234	1956	163	554	1047	115	205	1281	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3430	5085	1536	3419	5085	1536	3424	5085	1536	3421	3539	1536
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			246			101			109			130
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	7		7	7		7	7		7	7		7
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	1393	467	254	2126	177	602	1138	125	223	1392	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	272	1393	467	254	2126	177	602	1138	125	223	1392	286
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	14.0	51.8	51.8	18.2	56.0	56.0	25.0	60.2	60.2	19.8	55.0	55.0
Total Split (%)	9.3%	34.5%	34.5%	12.1%	37.3%	37.3%	16.7%	40.1%	40.1%	13.2%	36.7%	36.7%
Maximum Green (s)	10.0	46.9	46.9	14.2	51.1	51.1	21.0	55.3	55.3	15.8	50.1	50.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

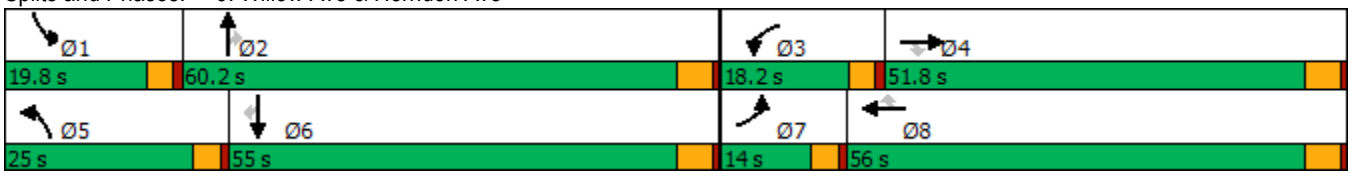
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	10.0	47.3	47.3	13.8	51.1	51.1	21.0	56.9	56.9	14.2	50.1	50.1
Actuated g/C Ratio	0.07	0.32	0.32	0.09	0.34	0.34	0.14	0.38	0.38	0.09	0.33	0.33
v/c Ratio	1.19	0.87	0.72	0.80	1.23	0.30	1.25	0.59	0.19	0.69	1.18	0.48
Control Delay	178.5	55.5	27.7	85.8	149.6	16.9	181.1	39.0	8.0	76.9	132.7	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	178.5	55.5	27.7	85.8	149.6	16.9	181.1	39.0	8.0	76.9	132.7	23.7
LOS	F	E	C	F	F	B	F	D	A	E	F	C
Approach Delay		65.1			134.0			82.8			109.7	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	~164	473	200	127	~936	52	~378	327	10	110	~855	118
Queue Length 95th (ft)	#261	537	341	#189	#1026	115	#501	381	55	155	#996	209
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	228	1601	652	324	1732	589	480	1928	650	361	1182	599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	0.87	0.72	0.78	1.23	0.30	1.25	0.59	0.19	0.62	1.18	0.48

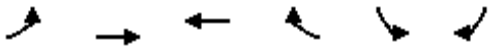
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay: 99.9		Intersection LOS: F	
Intersection Capacity Utilization 111.0%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Willow Ave & Herndon Ave



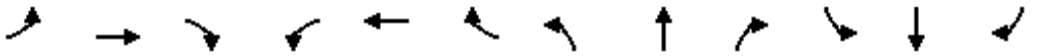


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	201	1433	2260	132	204	118
Future Volume (vph)	201	1433	2260	132	204	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	2	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	5085	5085	1583	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	5085	5085	1583	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				103		128
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	1558	2457	143	222	128
Shared Lane Traffic (%)						
Lane Group Flow (vph)	218	1558	2457	143	222	128
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	22.9	22.9	22.9
Total Split (s)	19.0	106.0	87.0	87.0	26.0	26.0
Total Split (%)	14.4%	80.3%	65.9%	65.9%	19.7%	19.7%
Maximum Green (s)	15.0	101.1	82.1	82.1	22.0	22.0
Yellow Time (s)	3.0	3.9	3.9	3.9	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	12.4	88.1	71.6	71.6	12.9	12.9
Actuated g/C Ratio	0.11	0.80	0.65	0.65	0.12	0.12
v/c Ratio	0.56	0.38	0.74	0.13	0.56	0.29
Control Delay	55.0	3.5	15.0	3.0	53.9	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	3.5	15.0	3.0	53.9	10.3
LOS	D	A	B	A	D	B
Approach Delay		9.8	14.3		38.0	
Approach LOS		A	B		D	
Queue Length 50th (ft)	82	91	399	9	84	0
Queue Length 95th (ft)	130	131	528	35	129	31
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	481	4541	3884	1233	706	675
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.34	0.63	0.12	0.31	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 110.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 66.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave



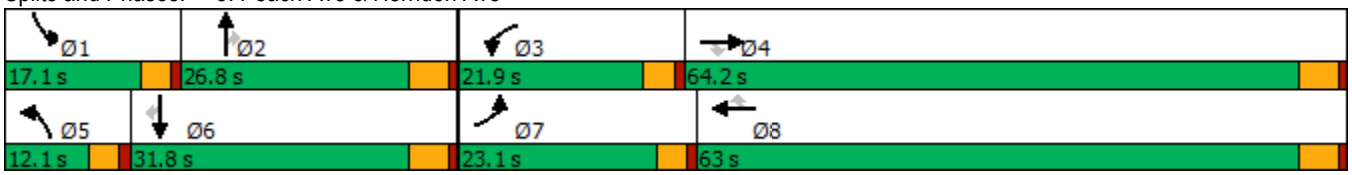
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	1326	106	126	2160	259	91	271	68	320	256	132
Future Volume (vph)	247	1326	106	126	2160	259	91	271	68	320	256	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor			0.98			0.98			0.99			0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1550	1770	5085	1550	1770	1863	1562	3433	1863	1563
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117			117			117			139
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	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)	260	1396	112	133	2274	273	96	285	72	337	269	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	1396	112	133	2274	273	96	285	72	337	269	139
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	23.1	64.2	64.2	21.9	63.0	63.0	12.1	26.8	26.8	17.1	31.8	31.8
Total Split (%)	17.8%	49.4%	49.4%	16.8%	48.5%	48.5%	9.3%	20.6%	20.6%	13.2%	24.5%	24.5%
Maximum Green (s)	19.1	59.3	59.3	17.9	58.1	58.1	8.1	21.9	21.9	13.1	26.9	26.9
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

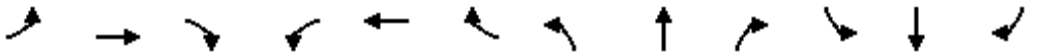
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	19.1	62.8	62.8	14.4	58.1	58.1	8.1	21.4	21.4	13.1	26.4	26.4
Actuated g/C Ratio	0.15	0.48	0.48	0.11	0.45	0.45	0.06	0.17	0.17	0.10	0.20	0.20
v/c Ratio	1.00	0.57	0.14	0.68	1.00	0.36	0.87	0.93	0.20	0.97	0.71	0.32
Control Delay	110.1	25.3	3.6	72.1	53.9	14.4	116.0	89.1	2.8	99.9	59.3	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.1	25.3	3.6	72.1	53.9	14.4	116.0	89.1	2.8	99.9	59.3	9.0
LOS	F	C	A	E	D	B	F	F	A	F	E	A
Approach Delay		36.4			50.8			81.1			68.2	
Approach LOS		D			D			F			E	
Queue Length 50th (ft)	222	302	0	109	~690	81	82	239	0	148	212	0
Queue Length 95th (ft)	#403	366	32	176	#821	149	#189	#405	10	#246	311	55
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	261	2464	811	244	2280	759	110	314	361	346	386	434
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.57	0.14	0.55	1.00	0.36	0.87	0.91	0.20	0.97	0.70	0.32

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 129.5
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 51.0 Intersection LOS: D
Intersection Capacity Utilization 93.6% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Peach Ave & Herndon Ave





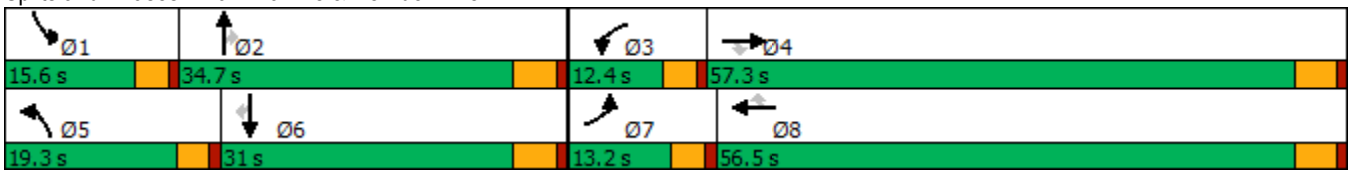
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1252	262	113	2079	341	257	427	157	293	320	133
Future Volume (vph)	117	1252	262	113	2079	341	257	427	157	293	320	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1555	3427	5085	1536	3420	1863	1555	3422	3539	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			179			144			137
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	3		3	3		3	3		3	3		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	1291	270	116	2143	352	265	440	162	302	330	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1291	270	116	2143	352	265	440	162	302	330	137
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	13.2	57.3	57.3	12.4	56.5	56.5	19.3	34.7	34.7	15.6	31.0	31.0
Total Split (%)	11.0%	47.8%	47.8%	10.3%	47.1%	47.1%	16.1%	28.9%	28.9%	13.0%	25.8%	25.8%
Maximum Green (s)	9.2	52.4	52.4	8.4	51.6	51.6	15.3	29.8	29.8	11.6	26.1	26.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	9.2	52.8	52.8	8.1	51.6	51.6	13.7	29.5	29.5	11.6	27.4	27.4
Actuated g/C Ratio	0.08	0.44	0.44	0.07	0.43	0.43	0.11	0.25	0.25	0.10	0.23	0.23
v/c Ratio	0.90	0.58	0.35	0.50	0.98	0.46	0.68	0.96	0.33	0.91	0.41	0.30
Control Delay	108.4	26.5	9.8	61.8	48.4	13.5	59.8	78.3	9.8	84.8	41.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.4	26.5	9.8	61.8	48.4	13.5	59.8	78.3	9.8	84.8	41.5	8.2
LOS	F	C	A	E	D	B	E	E	A	F	D	A
Approach Delay		29.7			44.3			59.9			52.6	
Approach LOS		C			D			E			D	
Queue Length 50th (ft)	95	271	49	45	588	88	102	337	11	121	115	0
Queue Length 95th (ft)	#210	319	111	76	#714	170	146	#539	66	#205	163	52
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	135	2241	777	241	2192	764	438	463	495	332	809	461
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.58	0.35	0.48	0.98	0.46	0.61	0.95	0.33	0.91	0.41	0.30

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 119.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 43.5 Intersection LOS: D
Intersection Capacity Utilization 92.3% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Villa Ave & Herndon Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	9	26	26	5	56	49	1638	111	135	1750	81
Future Volume (vph)	40	9	26	26	5	56	49	1638	111	135	1750	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.99		1.00		0.98	1.00	1.00		1.00		0.97
Frt		0.889				0.850		0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1637	0	1770	1863	1583	1770	3498	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1763	1637	0	1763	1863	1558	1769	3498	0	1769	3539	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28				126		9				90
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	10	28	28	5	61	53	1780	121	147	1902	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	38	0	28	5	61	53	1901	0	147	1902	88
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	10.0	23.0		9.9	22.9	22.9	10.3	71.6		15.5	76.8	76.8
Total Split (%)	8.3%	19.2%		8.3%	19.1%	19.1%	8.6%	59.7%		12.9%	64.0%	64.0%
Maximum Green (s)	6.0	18.1		5.9	18.0	18.0	6.3	66.7		11.5	71.9	71.9
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	6.0	6.7		5.9	6.6	6.6	6.3	65.4		11.5	74.5	74.5
Actuated g/C Ratio	0.06	0.07		0.06	0.07	0.07	0.06	0.65		0.11	0.74	0.74
v/c Ratio	0.41	0.28		0.27	0.04	0.28	0.48	0.83		0.72	0.72	0.08
Control Delay	61.7	28.4		56.4	48.4	3.1	64.5	19.6		67.3	13.2	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.6	0.0
Total Delay	61.7	28.4		56.4	48.4	3.1	64.5	19.6		67.3	13.8	1.7
LOS	E	C		E	D	A	E	B		E	B	A
Approach Delay		46.1			21.4			20.8			17.0	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)	29	7		19	3	0	36	534		101	453	0
Queue Length 95th (ft)	68	40		50	16	0	#87	712		#213	608	16
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	107	323		106	340	388	113	2374		206	2586	1150
Starvation Cap Reductn	0	0		0	0	0	0	0		0	296	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.40	0.12		0.26	0.01	0.16	0.47	0.80		0.71	0.83	0.08

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 100.4
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	32	66	281	256	232
Future Vol, veh/h	149	32	66	281	256	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	159	34	70	299	272	247

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	835	396	519	0	-	0
Stage 1	396	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	338	653	1047	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	311	653	1047	-	-	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.1	1.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1047	-	343	-	-
HCM Lane V/C Ratio	0.067	-	0.561	-	-
HCM Control Delay (s)	8.7	0	28.1	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	3.3	-	-

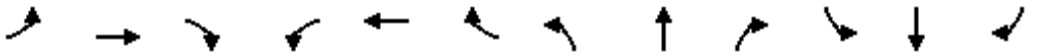
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	10	338	86	2	286
Future Vol, veh/h	12	10	338	86	2	286
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	13	11	367	93	2	311

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	729	414	0	0	460	0
Stage 1	414	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	390	638	-	-	1101	-
Stage 1	667	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	389	638	-	-	1101	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	473	1101	-
HCM Lane V/C Ratio	-	-	0.051	0.002	-
HCM Control Delay (s)	-	-	13	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

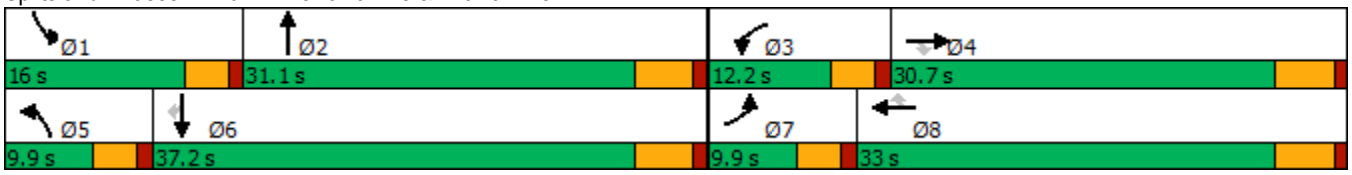


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	329	95	92	532	205	84	741	30	152	605	102
Future Volume (vph)	42	329	95	92	532	205	84	741	30	152	605	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96	0.99		0.98	0.99	1.00		0.99		0.96
Frt			0.850			0.850		0.994				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3512	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1760	1863	1519	1748	1863	1545	1755	3512	0	1759	1863	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168			168		5				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	358	103	100	578	223	91	805	33	165	658	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	358	103	100	578	223	91	838	0	165	658	111
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	30.7	30.7	12.2	33.0	33.0	9.9	31.1		16.0	37.2	37.2
Total Split (%)	11.0%	34.1%	34.1%	13.6%	36.7%	36.7%	11.0%	34.6%		17.8%	41.3%	41.3%
Maximum Green (s)	5.9	25.8	25.8	8.2	28.1	28.1	5.9	26.2		12.0	32.3	32.3
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	5.8	24.7	24.7	7.9	28.6	28.6	5.9	27.1		11.1	32.4	32.4
Actuated g/C Ratio	0.07	0.29	0.29	0.09	0.33	0.33	0.07	0.31		0.13	0.38	0.38
v/c Ratio	0.39	0.67	0.19	0.62	0.94	0.36	0.75	0.76		0.72	0.94	0.17
Control Delay	49.8	35.4	1.5	57.0	54.7	8.8	77.9	32.9		56.1	51.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	49.8	35.4	1.5	57.0	54.7	8.8	77.9	32.9		56.1	51.6	4.2
LOS	D	D	A	E	D	A	E	C		E	D	A
Approach Delay		29.8			43.6			37.3			46.8	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	26	179	0	56	325	22	52	231		91	366	0
Queue Length 95th (ft)	61	276	8	#124	#543	77	#135	304		#180	#596	30
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	121	568	580	168	616	623	121	1106		246	698	644
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.38	0.63	0.18	0.60	0.94	0.36	0.75	0.76		0.67	0.94	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 86.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 40.6		Intersection LOS: D	
Intersection Capacity Utilization 83.5%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



Intersection	
Int Delay, s/veh	131.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	201	392	283	574	422	159
Future Vol, veh/h	201	392	283	574	422	159
Conflicting Peds, #/hr	1	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	1	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	212	413	298	604	444	167

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1730	530	612	0	-	0
Stage 1	529	-	-	-	-	-
Stage 2	1201	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 97	549	967	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 67	548	966	-	-	-
Mov Cap-2 Maneuver	~ 183	-	-	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	285	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 447	3.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	966	-	327	-	-
HCM Lane V/C Ratio	0.308	-	1.909	-	-
HCM Control Delay (s)	10.4	-	$ 447	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	1.3	-	42.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	145	712	41	75	737
Future Vol, veh/h	82	145	712	41	75	737
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	1	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	154	757	44	80	784

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1725	781	0	0	802	0
Stage 1	780	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	98	395	-	-	822	-
Stage 1	452	-	-	-	-	-
Stage 2	378	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	88	394	-	-	821	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	341	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	50.4	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	304	821	-
HCM Lane V/C Ratio	-	-	0.794	0.097	-
HCM Control Delay (s)	-	-	50.4	9.9	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	6.4	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	482	1978	579	351	1292	284	458	1595	248	246	1163	280
Future Volume (vph)	482	1978	579	351	1292	284	458	1595	248	246	1163	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		220	265		140	315		215	250		200
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.93	0.99		0.93	0.99		0.93	0.99		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3403	5085	1466	3415	5085	1466	3396	5085	1466	3414	3539	1466
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			134			151			144
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		1938			1366			705			1239	
Travel Time (s)		26.4			18.6			9.6			16.9	
Confl. Peds. (#/hr)	25		25	25		25	25		25	25		25
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	524	2150	629	382	1404	309	498	1734	270	267	1264	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	524	2150	629	382	1404	309	498	1734	270	267	1264	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	27.9	58.0	58.0	18.0	48.1	48.1	22.0	57.9	57.9	16.1	52.0	52.0
Total Split (%)	18.6%	38.7%	38.7%	12.0%	32.1%	32.1%	14.7%	38.6%	38.6%	10.7%	34.7%	34.7%
Maximum Green (s)	23.9	53.1	53.1	14.0	43.2	43.2	18.0	53.0	53.0	12.1	47.1	47.1
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

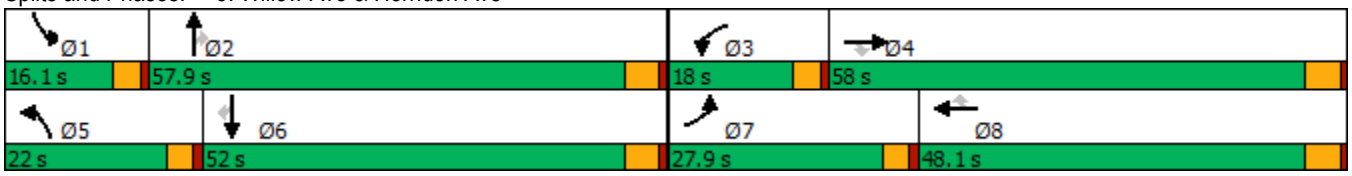
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	23.9	53.1	53.1	14.0	43.2	43.2	18.0	53.0	53.0	12.1	47.1	47.1
Actuated g/C Ratio	0.16	0.35	0.35	0.09	0.29	0.29	0.12	0.35	0.35	0.08	0.31	0.31
v/c Ratio	0.96	1.19	0.96	1.19	0.96	0.60	1.21	0.97	0.44	0.97	1.14	0.54
Control Delay	91.7	135.4	59.3	169.2	67.9	30.6	169.2	61.9	18.0	114.0	119.3	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.7	135.4	59.3	169.2	67.9	30.6	169.2	61.9	18.0	114.0	119.3	25.6
LOS	F	F	E	F	E	C	F	E	B	F	F	C
Approach Delay		114.0			80.9			78.5			103.0	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	265	~928	453	~231	497	148	~305	608	85	136	~756	128
Queue Length 95th (ft)	#379	#1019	#720	#340	#596	256	#422	#716	169	#230	#897	230
Internal Link Dist (ft)		1858			1286			625			1159	
Turn Bay Length (ft)	280		220	265		140	315		215	250		200
Base Capacity (vph)	546	1800	652	320	1464	517	411	1796	615	276	1111	559
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	1.19	0.96	1.19	0.96	0.60	1.21	0.97	0.44	0.97	1.14	0.54

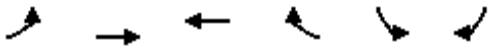
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.21			
Intersection Signal Delay: 95.7		Intersection LOS: F	
Intersection Capacity Utilization 108.3%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Willow Ave & Herndon Ave



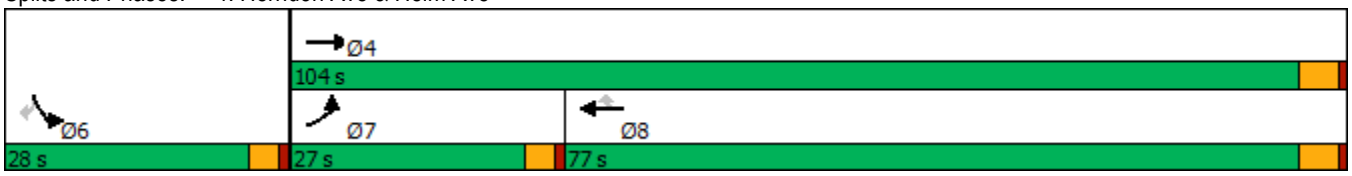


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	296	2263	1791	320	287	300
Future Volume (vph)	296	2263	1791	320	287	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300			200	0	0
Storage Lanes	2			1	2	2
Taper Length (ft)	90				90	
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	5085	5085	1583	3433	2787
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	5085	5085	1583	3433	2787
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				263		319
Link Speed (mph)		50	50		40	
Link Distance (ft)		1366	1380		747	
Travel Time (s)		18.6	18.8		12.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	315	2407	1905	340	305	319
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	2407	1905	340	305	319
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	22.9	22.9	22.9
Total Split (s)	27.0	104.0	77.0	77.0	28.0	28.0
Total Split (%)	20.5%	78.8%	58.3%	58.3%	21.2%	21.2%
Maximum Green (s)	23.0	99.1	72.1	72.1	24.0	24.0
Yellow Time (s)	3.0	3.9	3.9	3.9	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.9	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	15.3	74.5	55.0	55.0	15.1	15.1
Actuated g/C Ratio	0.15	0.75	0.56	0.56	0.15	0.15
v/c Ratio	0.60	0.63	0.67	0.34	0.58	0.46
Control Delay	46.6	6.6	17.2	4.1	46.5	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	6.6	17.2	4.1	46.5	7.3
LOS	D	A	B	A	D	A
Approach Delay		11.2	15.2		26.4	
Approach LOS		B	B		C	
Queue Length 50th (ft)	95	206	285	21	92	0
Queue Length 95th (ft)	173	320	438	76	167	44
Internal Link Dist (ft)		1286	1300		667	
Turn Bay Length (ft)	300			200		
Base Capacity (vph)	838	4711	3838	1259	875	948
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.51	0.50	0.27	0.35	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 98.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.5		Intersection LOS: B	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Herndon Ave & Helm Ave

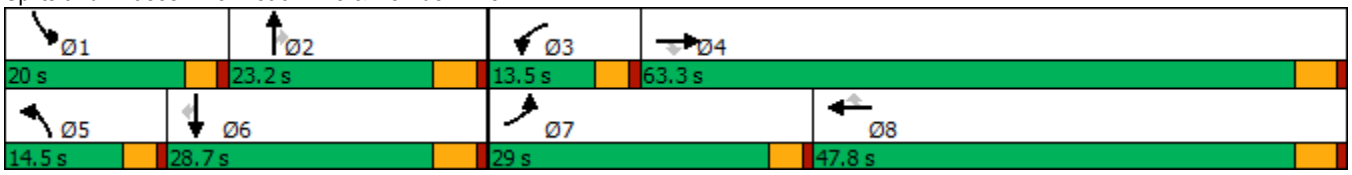


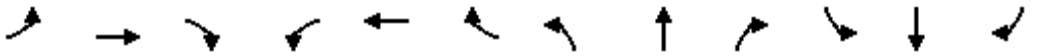
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	2076	159	115	1635	316	129	139	136	391	240	368
Future Volume (vph)	324	2076	159	115	1635	316	129	139	136	391	240	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		125	150		110	235		50	180		220
Storage Lanes	1		1	1		1	1		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1545	1769	5085	1545	1767	1863	1559	3427	1863	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			163			163			327
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1380			1896			517			500	
Travel Time (s)		18.8			25.9			8.8			8.5	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	352	2257	173	125	1777	343	140	151	148	425	261	400
Shared Lane Traffic (%)												
Lane Group Flow (vph)	352	2257	173	125	1777	343	140	151	148	425	261	400
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	29.0	63.3	63.3	13.5	47.8	47.8	14.5	23.2	23.2	20.0	28.7	28.7
Total Split (%)	24.2%	52.8%	52.8%	11.3%	39.8%	39.8%	12.1%	19.3%	19.3%	16.7%	23.9%	23.9%
Maximum Green (s)	25.0	58.4	58.4	9.5	42.9	42.9	10.5	18.3	18.3	16.0	23.8	23.8
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	24.7	58.1	58.1	9.5	42.9	42.9	10.5	15.2	15.2	16.0	20.8	20.8
Actuated g/C Ratio	0.21	0.50	0.50	0.08	0.37	0.37	0.09	0.13	0.13	0.14	0.18	0.18
v/c Ratio	0.94	0.89	0.21	0.87	0.95	0.51	0.88	0.62	0.43	0.90	0.79	0.73
Control Delay	80.4	32.5	6.1	100.9	48.5	17.9	99.4	59.5	9.4	73.7	63.4	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	32.5	6.1	100.9	48.5	17.9	99.4	59.5	9.4	73.7	63.4	18.1
LOS	F	C	A	F	D	B	F	E	A	E	E	B
Approach Delay		36.9			46.7			55.3			50.7	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	268	561	18	97	485	104	108	109	0	168	190	48
Queue Length 95th (ft)	#459	652	58	#214	#609	199	#233	180	48	#267	286	163
Internal Link Dist (ft)		1300			1816			437			420	
Turn Bay Length (ft)	285		125	150		110	235		50	180		220
Base Capacity (vph)	379	2546	836	144	1870	671	159	292	381	471	380	578
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.89	0.21	0.87	0.95	0.51	0.88	0.52	0.39	0.90	0.69	0.69

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 116.7			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 43.8		Intersection LOS: D	
Intersection Capacity Utilization 84.2%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Peach Ave & Herndon Ave





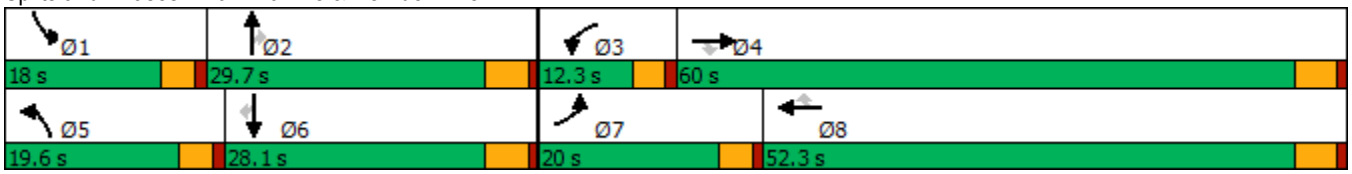
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	2170	282	202	1736	346	264	327	141	347	341	120
Future Volume (vph)	171	2170	282	202	1736	346	264	327	141	347	341	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	290		110	255		165	180		0	150		150
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1769	5085	1561	3433	5085	1546	3429	1863	1561	3429	3539	1561
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			205			127			126
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1896			1276			880			485	
Travel Time (s)		25.9			17.4			15.0			8.3	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	178	2260	294	210	1808	360	275	341	147	361	355	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	2260	294	210	1808	360	275	341	147	361	355	125
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9	22.9
Total Split (s)	20.0	60.0	60.0	12.3	52.3	52.3	19.6	29.7	29.7	18.0	28.1	28.1
Total Split (%)	16.7%	50.0%	50.0%	10.3%	43.6%	43.6%	16.3%	24.8%	24.8%	15.0%	23.4%	23.4%
Maximum Green (s)	16.0	55.1	55.1	8.3	47.4	47.4	15.6	24.8	24.8	14.0	23.2	23.2
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	14.9	55.1	55.1	8.3	48.5	48.5	14.0	23.9	23.9	14.0	23.9	23.9
Actuated g/C Ratio	0.13	0.46	0.46	0.07	0.41	0.41	0.12	0.20	0.20	0.12	0.20	0.20
v/c Ratio	0.81	0.96	0.38	0.88	0.87	0.48	0.68	0.91	0.36	0.90	0.50	0.30
Control Delay	76.9	42.8	14.6	89.3	38.7	13.3	59.6	76.3	12.2	77.3	45.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.9	42.8	14.6	89.3	38.7	13.3	59.6	76.3	12.2	77.3	45.4	9.0
LOS	E	D	B	F	D	B	E	E	B	E	D	A
Approach Delay		42.0			39.3			57.9			53.7	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	135	609	89	84	475	82	106	259	13	144	130	0
Queue Length 95th (ft)	#242	#738	158	#156	545	171	151	#425	69	#231	181	51
Internal Link Dist (ft)		1816			1196			800			405	
Turn Bay Length (ft)	290		110	255		165	180			150		150
Base Capacity (vph)	238	2353	779	239	2071	751	450	388	425	403	710	414
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.96	0.38	0.88	0.87	0.48	0.61	0.88	0.35	0.90	0.50	0.30

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 119.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 44.3 Intersection LOS: D
Intersection Capacity Utilization 89.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Villa Ave & Herndon Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	15	109	79	9	116	72	2011	57	155	1913	42
Future Volume (vph)	143	15	109	79	9	116	72	2011	57	155	1913	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	80		80	140		0	165		75
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.98	0.97		0.98		0.97	1.00	1.00		1.00		0.95
Frt		0.868				0.850		0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1572	0	1770	1863	1583	1770	3520	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1735	1572	0	1740	1863	1533	1766	3520	0	1767	3539	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		107				117		3				72
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		468			368			920			705	
Travel Time (s)		10.6			8.4			12.5			9.6	
Confl. Peds. (#/hr)	8		8	8		8	8		8	8		8
Peak Hour Factor	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)	151	16	115	83	9	122	76	2117	60	163	2014	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	131	0	83	9	122	76	2177	0	163	2014	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9		9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	16.8	25.3		14.4	22.9	22.9	11.4	92.3		18.0	98.9	98.9
Total Split (%)	11.2%	16.9%		9.6%	15.3%	15.3%	7.6%	61.5%		12.0%	65.9%	65.9%
Maximum Green (s)	12.8	20.4		10.4	18.0	18.0	7.4	87.4		14.0	94.0	94.0
Yellow Time (s)	3.0	3.9		3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9		4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	12.8	10.6		9.9	7.7	7.7	7.4	87.4		14.0	94.0	94.0
Actuated g/C Ratio	0.09	0.08		0.07	0.06	0.06	0.05	0.63		0.10	0.67	0.67
v/c Ratio	0.93	0.60		0.66	0.09	0.63	0.82	0.99		0.92	0.85	0.04
Control Delay	117.5	28.3		88.6	63.6	26.4	117.2	42.4		111.2	22.2	0.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	21.4	0.0
Total Delay	117.5	28.3		88.6	63.6	26.4	117.2	42.4		111.2	43.7	0.7
LOS	F	C		F	E	C	F	D		F	D	A
Approach Delay		76.1			52.1			45.0			47.8	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	137	21		74	8	4	69	931		147	651	0
Queue Length 95th (ft)	#291	89		#154	28	70	#170	#1281		#304	893	5
Internal Link Dist (ft)		388			288			840			625	
Turn Bay Length (ft)				80		80	140			165		75
Base Capacity (vph)	162	321		131	239	299	93	2203		177	2381	1033
Starvation Cap Reductn	0	0		0	0	0	0	0		0	440	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.93	0.41		0.63	0.04	0.41	0.82	0.99		0.92	1.04	0.04

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 139.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 48.3 Intersection LOS: D
Intersection Capacity Utilization 95.5% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Willow Ave & Magill Ave

Intersection	
Int Delay, s/veh	12.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	238	52	47	166	308	206
Future Vol, veh/h	238	52	47	166	308	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	259	57	51	180	335	224

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	729	447	559	0	-	0
Stage 1	447	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	390	612	1012	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	368	612	1012	-	-	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	766	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.4	1.9	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1012	-	396	-	-
HCM Lane V/C Ratio	0.05	-	0.796	-	-
HCM Control Delay (s)	8.7	0	41.4	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.2	-	6.9	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	12	201	30	2	358
Future Vol, veh/h	31	12	201	30	2	358
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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	34	13	218	33	2	389

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	628	235	0	0	251	0
Stage 1	235	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	447	804	-	-	1314	-
Stage 1	804	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	446	804	-	-	1314	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	681	-	-	-	-	-

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

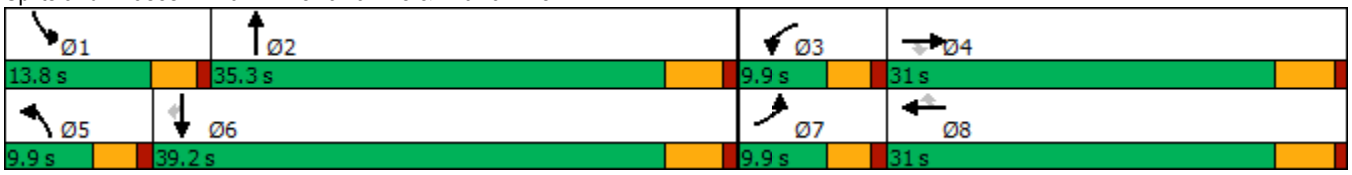
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	509	1314	-
HCM Lane V/C Ratio	-	-	0.092	0.002	-
HCM Control Delay (s)	-	-	12.8	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	505	86	33	391	121	80	689	76	120	638	36
Future Volume (vph)	44	505	86	33	391	121	80	689	76	120	638	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	150		120	250		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96	0.99		0.98	1.00	1.00		1.00		0.96
Frt			0.850			0.850		0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3472	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1762	1863	1518	1759	1863	1544	1761	3472	0	1762	1863	1522
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120		14				120
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		1391			1369			999			801	
Travel Time (s)		23.7			23.3			15.1			12.1	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			7			7			7			7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	47	537	91	35	416	129	85	733	81	128	679	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	537	91	35	416	129	85	814	0	128	679	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.9	22.9	22.9	9.9	22.9	22.9	9.9	22.9		9.9	22.9	22.9
Total Split (s)	9.9	31.0	31.0	9.9	31.0	31.0	9.9	35.3		13.8	39.2	39.2
Total Split (%)	11.0%	34.4%	34.4%	11.0%	34.4%	34.4%	11.0%	39.2%		15.3%	43.6%	43.6%
Maximum Green (s)	5.9	26.1	26.1	5.9	26.1	26.1	5.9	30.4		9.8	34.3	34.3
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.9	3.0	3.9		3.0	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.9	4.9	4.0	4.9	4.9	4.0	4.9		4.0	4.9	4.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	5.9	26.6	26.6	5.9	26.6	26.6	6.0	27.3		9.3	33.2	33.2
Actuated g/C Ratio	0.07	0.32	0.32	0.07	0.32	0.32	0.07	0.33		0.11	0.40	0.40
v/c Ratio	0.37	0.90	0.16	0.28	0.69	0.22	0.66	0.70		0.65	0.91	0.06
Control Delay	48.7	49.8	3.3	45.6	34.5	6.9	66.5	27.9		54.2	43.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.7	49.8	3.3	45.6	34.5	6.9	66.5	27.9		54.2	43.6	0.2
LOS	D	D	A	D	C	A	E	C		D	D	A
Approach Delay		43.4			29.0			31.5			43.2	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	26	303	0	19	215	4	48	204		71	369	0
Queue Length 95th (ft)	61	#514	21	50	#352	44	#126	271		#149	#598	0
Internal Link Dist (ft)		1311			1289			919			721	
Turn Bay Length (ft)	120		120	150		120	250			250		
Base Capacity (vph)	129	599	569	129	599	578	129	1311		213	788	712
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.36	0.90	0.16	0.27	0.69	0.22	0.66	0.62		0.60	0.86	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 82.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 37.0		Intersection LOS: D	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

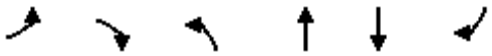
Splits and Phases: 10: Minnewawa Ave & Alluvial Ave



APPENDIX D

IMPROVED INTERSECTION ANALYSES

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION



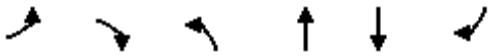
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	205	206	441	676	96
Future Volume (vph)	58	205	206	441	676	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	1			0
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		223				104
Link Speed (mph)	30			40	40	
Link Distance (ft)	700			430	542	
Travel Time (s)	15.9			7.3	9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	223	224	479	735	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	223	224	479	735	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.9	22.9	9.9	22.9	22.9	22.9
Total Split (s)	22.9	22.9	19.3	67.1	47.8	47.8
Total Split (%)	25.4%	25.4%	21.4%	74.6%	53.1%	53.1%
Maximum Green (s)	18.0	18.0	15.3	62.2	42.9	42.9
Yellow Time (s)	3.9	3.9	3.0	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.0	4.9	4.9	4.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Min	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0	7.0

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	8.4	8.4	13.5	50.7	33.1	33.1
Actuated g/C Ratio	0.12	0.12	0.19	0.73	0.48	0.48
v/c Ratio	0.29	0.58	0.65	0.35	0.83	0.13
Control Delay	35.0	11.7	38.9	4.2	25.3	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	11.7	38.9	4.2	25.3	2.9
LOS	C	B	D	A	C	A
Approach Delay	16.8			15.2	22.5	
Approach LOS	B			B	C	
Queue Length 50th (ft)	26	0	90	53	263	0
Queue Length 95th (ft)	66	61	#210	113	455	23
Internal Link Dist (ft)	620			350	462	
Turn Bay Length (ft)			1			
Base Capacity (vph)	479	591	407	1627	1202	1059
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.38	0.55	0.29	0.61	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 69.3			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 62.7%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Peach Ave & Spruce Ave

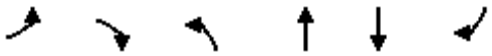


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	149	32	66	281	256	232
Future Volume (vph)	149	32	66	281	256	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99	
Frt		0.850			0.936	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1726	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1549	1770	1863	1726	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		34			74	
Link Speed (mph)	30			40	40	
Link Distance (ft)	1014			346	517	
Travel Time (s)	23.0			5.9	8.8	
Confl. Bikes (#/hr)		1				1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	159	34	70	299	272	247
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	34	70	299	519	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.9	22.9	9.9	22.9	22.9	
Total Split (s)	25.0	25.0	14.0	65.0	51.0	
Total Split (%)	27.8%	27.8%	15.6%	72.2%	56.7%	
Maximum Green (s)	20.1	20.1	10.0	60.1	46.1	
Yellow Time (s)	3.9	3.9	3.0	3.9	3.9	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.9	4.9	4.0	4.9	4.9	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	10.9	10.9	8.0	34.6	28.2	
Actuated g/C Ratio	0.22	0.22	0.16	0.68	0.56	
v/c Ratio	0.42	0.09	0.25	0.24	0.52	
Control Delay	24.7	9.7	26.6	5.4	12.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.7	9.7	26.6	5.4	12.9	
LOS	C	A	C	A	B	
Approach Delay	22.0			9.4	12.9	
Approach LOS	C			A	B	
Queue Length 50th (ft)	42	0	19	35	109	
Queue Length 95th (ft)	116	21	65	82	245	
Internal Link Dist (ft)	934			266	437	
Turn Bay Length (ft)						
Base Capacity (vph)	782	703	389	1792	1493	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.20	0.05	0.18	0.17	0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 50.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Peach Ave & Magill Ave

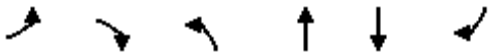


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	201	392	283	574	422	159
Future Volume (vph)	201	392	283	574	422	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	1			0
Storage Lanes	1	1	1			1
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.98	1.00			0.98
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1765	1545	1767	1863	1863	1546
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		413				167
Link Speed (mph)	30			40	40	
Link Distance (ft)	700			430	542	
Travel Time (s)	15.9			7.3	9.2	
Confl. Peds. (#/hr)	1	1	1			1
Confl. Bikes (#/hr)		1				1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	212	413	298	604	444	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	212	413	298	604	444	167
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.9	22.9	9.9	22.9	22.9	22.9
Total Split (s)	25.0	25.0	27.0	65.0	38.0	38.0
Total Split (%)	27.8%	27.8%	30.0%	72.2%	42.2%	42.2%
Maximum Green (s)	20.1	20.1	23.0	60.1	33.1	33.1
Yellow Time (s)	3.9	3.9	3.0	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.9	4.9	4.0	4.9	4.9	4.9
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Min	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	13.9	13.9	16.7	43.2	22.2	22.2
Actuated g/C Ratio	0.21	0.21	0.25	0.64	0.33	0.33
v/c Ratio	0.58	0.64	0.69	0.51	0.73	0.27
Control Delay	34.2	8.4	34.5	8.4	28.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	8.4	34.5	8.4	28.9	4.7
LOS	C	A	C	A	C	A
Approach Delay	17.1			17.0	22.3	
Approach LOS	B			B	C	
Queue Length 50th (ft)	79	0	109	109	156	0
Queue Length 95th (ft)	178	77	241	220	311	39
Internal Link Dist (ft)	620			350	462	
Turn Bay Length (ft)			1			
Base Capacity (vph)	565	774	646	1597	979	891
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.53	0.46	0.38	0.45	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 67.7			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Peach Ave & Spruce Ave



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	238	52	47	166	308	206
Future Volume (vph)	238	52	47	166	308	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99	
Frt		0.850			0.946	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1748	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1549	1770	1863	1748	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		57			55	
Link Speed (mph)	30			40	40	
Link Distance (ft)	1014			346	517	
Travel Time (s)	23.0			5.9	8.8	
Confl. Bikes (#/hr)		1				1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	259	57	51	180	335	224
Shared Lane Traffic (%)						
Lane Group Flow (vph)	259	57	51	180	559	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.9	22.9	9.9	22.9	22.9	
Total Split (s)	28.0	28.0	11.1	62.0	50.9	
Total Split (%)	31.1%	31.1%	12.3%	68.9%	56.6%	
Maximum Green (s)	23.1	23.1	7.1	57.1	46.0	
Yellow Time (s)	3.9	3.9	3.0	3.9	3.9	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.9	4.9	4.0	4.9	4.9	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	14.4	14.4	7.2	30.9	25.4	
Actuated g/C Ratio	0.26	0.26	0.13	0.55	0.45	
v/c Ratio	0.57	0.13	0.23	0.18	0.68	
Control Delay	26.7	7.7	32.6	6.8	17.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.7	7.7	32.6	6.8	17.7	
LOS	C	A	C	A	B	
Approach Delay	23.3			12.5	17.7	
Approach LOS	C			B	B	
Queue Length 50th (ft)	81	0	17	25	145	
Queue Length 95th (ft)	190	27	60	65	304	
Internal Link Dist (ft)	934			266	437	
Turn Bay Length (ft)						
Base Capacity (vph)	815	744	250	1677	1414	
Starvation Cap Reductn	0	0	0	0	19	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.08	0.20	0.11	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 56.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

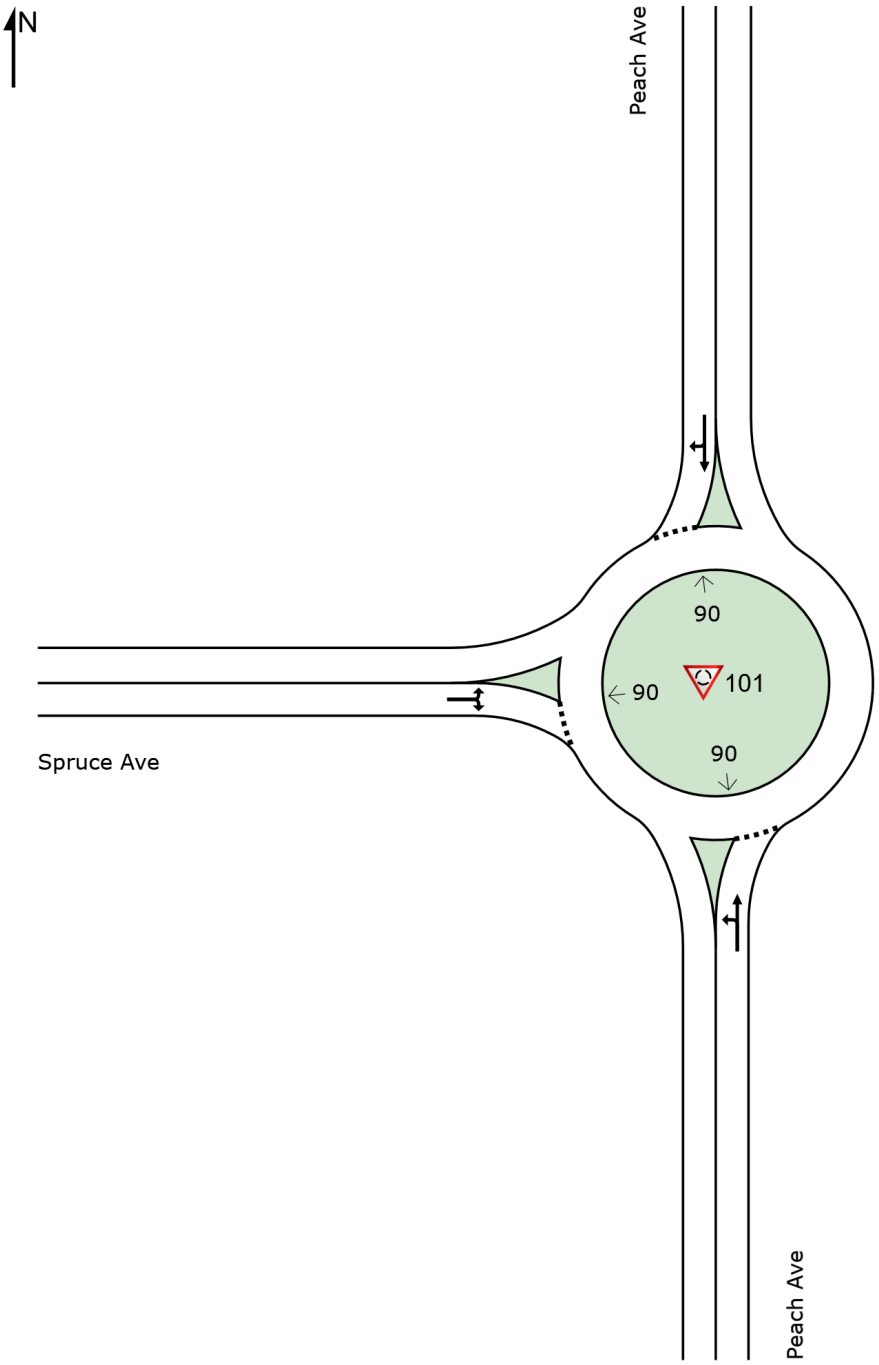
Splits and Phases: 8: Peach Ave & Magill Ave

SITE LAYOUT

Site: 101 [2045 With Project - AM (Site Folder: General)]

Peach and Spruce
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 101 [2045 With Project - AM (Site Folder: General)]

Peach and Spruce
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Peach Ave													
Lane 1[d]	703	2.0	1364	0.516	100	5.4	LOS A	5.2	132.3	Full	250	0.0	0.0
Approach	703	2.0		0.516		5.4	LOS A	5.2	132.3				
North: Peach Ave													
Lane 1[d]	839	2.0	1108	0.757	100	8.3	LOS A	10.2	259.1	Full	1600	0.0	0.0
Approach	839	2.0		0.757		8.3	LOS A	10.2	259.1				
West: Spruce Ave													
Lane 1[d]	287	2.0	568	0.506	100	12.1	LOS B	4.3	108.8	Full	200	0.0	0.0
Approach	287	2.0		0.506		12.1	LOS B	4.3	108.8				
Intersection	1829	2.0		0.757		7.8	LOS A	10.2	259.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Peach Ave

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	224	479	703	2.0	1364	0.516	100	NA	NA
Approach	224	479	703	2.0		0.516			

North: Peach Ave

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	735	104	839	2.0	1108	0.757	100	NA	NA
Approach	735	104	839	2.0		0.757			

West: Spruce Ave

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	64	223	287	2.0	568	0.506	100	NA	NA
Approach	64	223	287	2.0		0.506			

	Total	%HV	Deg.Satn (v/c)
Intersection	1829	2.0	0.757

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

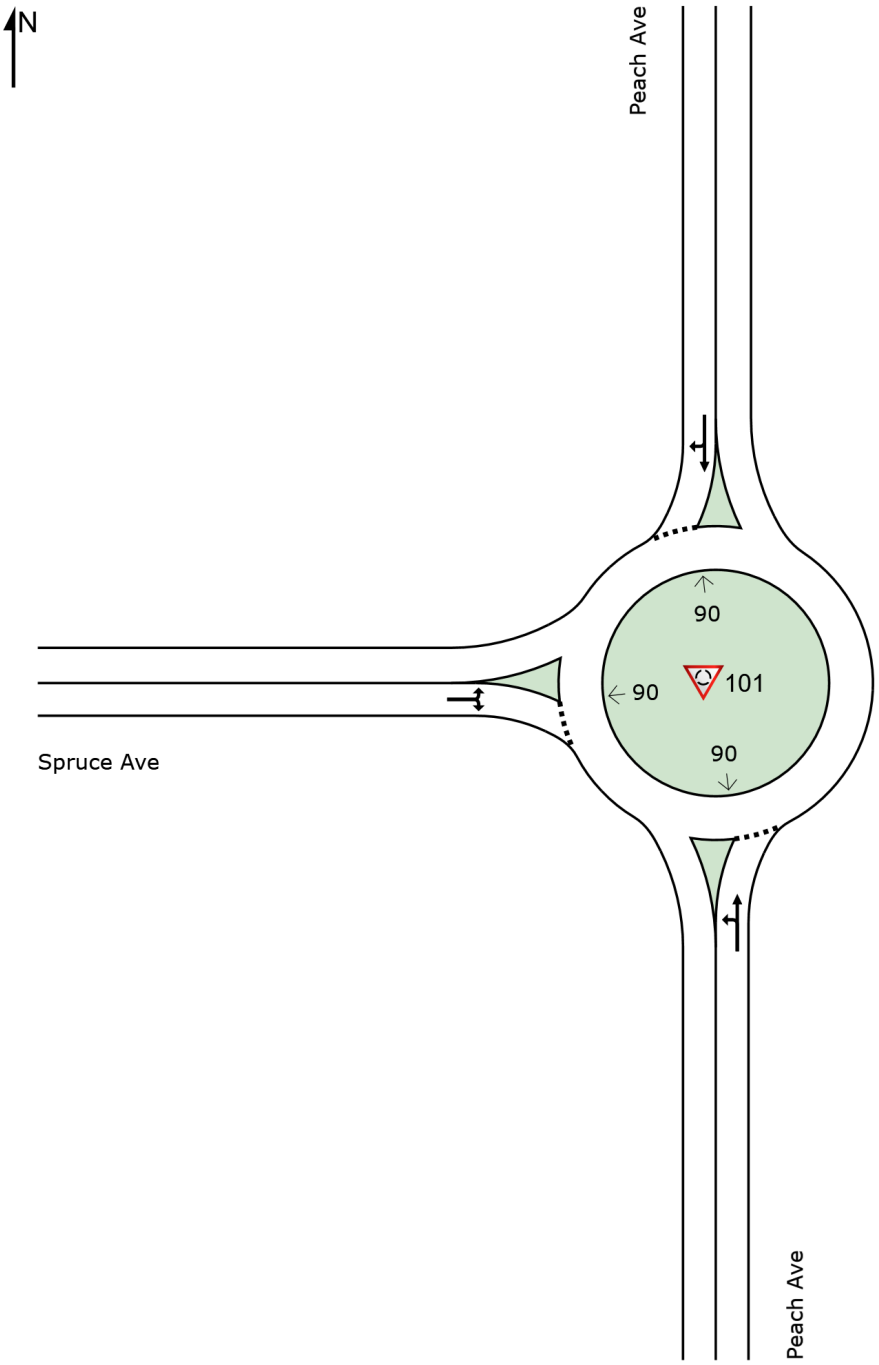
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Spruce Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

SITE LAYOUT

Site: 101 [2045 With Project - PM (Site Folder: General)]

Peach and Spruce
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 101 [2045 With Project - PM (Site Folder: General)]

Peach and Spruce
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Peach Ave													
Lane 1[d]	902	2.0	1095	0.824	100	10.5	LOS B	14.6	371.5	Full	250	0.0	18.3
Approach	902	2.0		0.824		10.5	LOS B	14.6	371.5				
North: Peach Ave													
Lane 1[d]	612	2.0	957	0.639	100	7.9	LOS A	6.8	173.7	Full	1600	0.0	0.0
Approach	612	2.0		0.639		7.9	LOS A	6.8	173.7				
West: Spruce Ave													
Lane 1[d]	624	2.0	815	0.766	100	14.0	LOS B	10.6	269.5	Full	200	0.0	14.6
Approach	624	2.0		0.766		14.0	LOS B	10.6	269.5				
Intersection	2138	2.0		0.824		10.8	LOS B	14.6	371.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Peach Ave

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	298	604	902	2.0	1095	0.824	100	NA	NA
Approach	298	604	902	2.0		0.824			

North: Peach Ave

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	444	167	612	2.0	957	0.639	100	NA	NA
Approach	444	167	612	2.0		0.639			

West: Spruce Ave

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	212	413	624	2.0	815	0.766	100	NA	NA
Approach	212	413	624	2.0		0.766			

	Total	%HV	Deg.Satn (v/c)
Intersection	2138	2.0	0.824

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

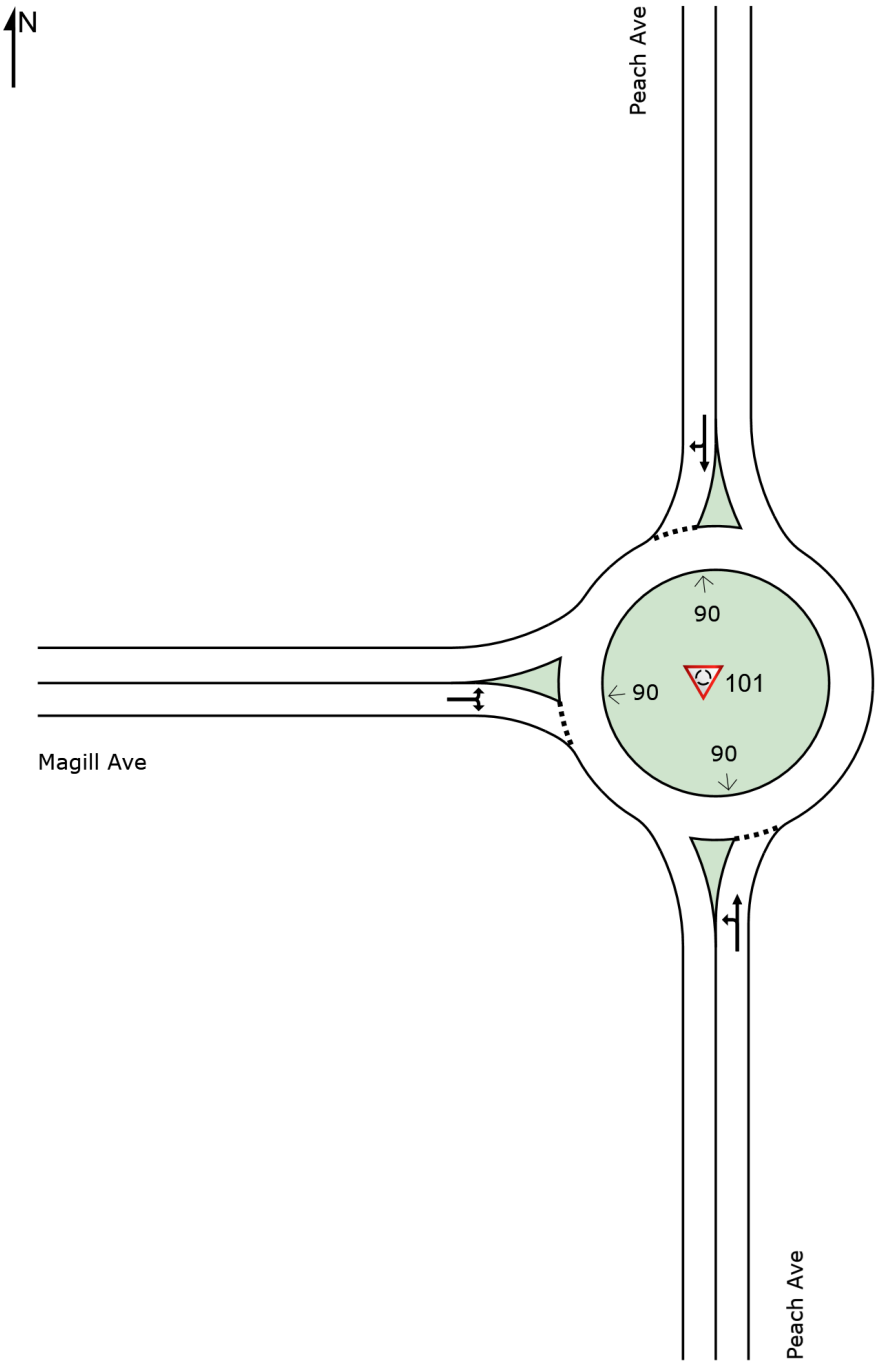
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Spruce Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

SITE LAYOUT

Site: 101 [2045 With Project - AM (Site Folder: General)]

Peach and Magill
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 101 [2045 With Project - AM (Site Folder: General)]

Peach and Magill
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Peach Ave													
Lane 1[d]	369	2.0	1143	0.323	100	5.3	LOS A	2.1	54.6	Full	250	0.0	0.0
Approach	369	2.0		0.323		5.3	LOS A	2.1	54.6				
North: Peach Ave													
Lane 1[d]	519	2.0	1339	0.388	100	4.5	LOS A	2.9	73.2	Full	1600	0.0	0.0
Approach	519	2.0		0.388		4.5	LOS A	2.9	73.2				
West: Magill Ave													
Lane 1[d]	193	2.0	996	0.193	100	8.8	LOS A	1.1	27.4	Full	200	0.0	0.0
Approach	193	2.0		0.193		8.8	LOS A	1.1	27.4				
Intersection	1081	2.0		0.388		5.5	LOS A	2.9	73.2				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Peach Ave

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	70	299	369	2.0	1143	0.323	100	NA	NA
Approach	70	299	369	2.0		0.323			

North: Peach Ave

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	272	247	519	2.0	1339	0.388	100	NA	NA
Approach	272	247	519	2.0		0.388			

West: Magill Ave

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	159	34	193	2.0	996	0.193	100	NA	NA
Approach	159	34	193	2.0		0.193			

	Total	%HV	Deg.Satn (v/c)
Intersection	1081	2.0	0.388

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

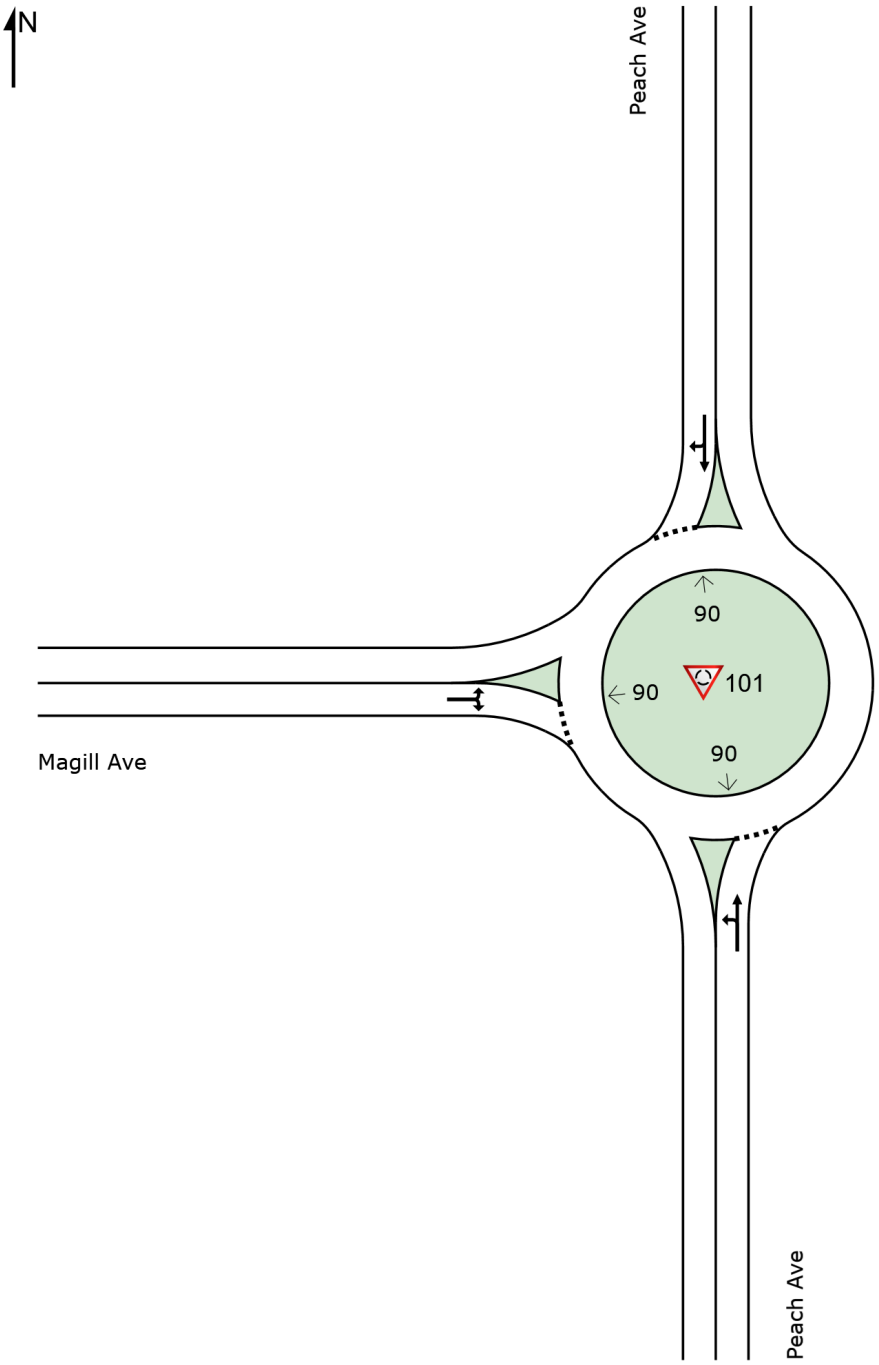
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Magill Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

SITE LAYOUT

Site: 101 [2045 With Project - PM (Site Folder: General)]

Peach and Magill
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 101 [2045 With Project - PM (Site Folder: General)]

Peach and Magill
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Peach Ave													
Lane 1[d]	232	2.0	988	0.234	100	6.1	LOS A	1.4	36.2	Full	250	0.0	0.0
Approach	232	2.0		0.234		6.1	LOS A	1.4	36.2				
North: Peach Ave													
Lane 1[d]	559	2.0	1395	0.400	100	4.3	LOS A	3.1	79.7	Full	1600	0.0	0.0
Approach	559	2.0		0.400		4.3	LOS A	3.1	79.7				
West: Magill Ave													
Lane 1[d]	315	2.0	945	0.334	100	9.5	LOS A	2.1	52.2	Full	200	0.0	0.0
Approach	315	2.0		0.334		9.5	LOS A	2.1	52.2				
Intersection	1105	2.0		0.400		6.2	LOS A	3.1	79.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Peach Ave

Mov. From S To Exit:	L2 W	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	51	180	232	2.0	988	0.234	100	NA	NA
Approach	51	180	232	2.0		0.234			

North: Peach Ave

Mov. From N To Exit:	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	335	224	559	2.0	1395	0.400	100	NA	NA
Approach	335	224	559	2.0		0.400			

West: Magill Ave

Mov. From W To Exit:	L2 N	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	259	57	315	2.0	945	0.334	100	NA	NA
Approach	259	57	315	2.0		0.334			

	Total	%HV	Deg.Satn (v/c)
Intersection	1105	2.0	0.400

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Peach Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Magill Ave Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

APPENDIX B
EXAMPLES OF SOUND LEVELS