Incomplete Application Response

#5-02/24 | 091W03B001500

This letter shall serve as the applicant's response to an incomplete application notice received on April 25th, 2025.

July 15, 2025
Jennifer Siciliano
City of Stayton
362 N. Third Avenue
Stayton, OR 97383

RE: Response to Incomplete Application Notice – Golf Lane Annexation (File #5-02/24)

Dear Ms. Siciliano,

Thank you for your April 25, 2025, incomplete application notice regarding the proposed annexation of Marion County Assessor's Map and Tax Lot 091W03B001500 on behalf of KSD Properties, LLC. We appreciate your thorough review and write now to formally respond to the items identified.

1. Clarification of Requested Zoning Designation

Please note that the applicant has revised the requested zoning designation from High Density Residential (HD) to Medium Density Residential (MD). This change was made to better align with the anticipated development pattern, which consists primarily of detached single-family homes. The updated zoning request is reflected throughout the revised annexation narrative dated July 14, 2025, which has been resubmitted for your review.

This revision directly resolves the concern noted in your letter regarding the incompatibility between the previously proposed use (single-family development) and the permitted uses and density standards of the HD zone. The MD zoning district permits detached single-family dwellings and supports the proposed density and site layout.

2. Conceptual Plan Submittal – Paper Copies

While the original narrative stated that no formal conceptual plan was being submitted, the application materials included a preliminary layout labeled as Exhibit E. In response to your letter, we have now provided the required (3) full-size copies and (18) reduced 11x17 copies of the conceptual subdivision plan. These documents illustrate the proposed layout and are intended to satisfy the requirements of SMC 17.12.210.3.b for a conceptual plan accompanying an annexation request without concurrent subdivision approval.

3. Updated Narrative Addressing Applicable Criteria

The revised narrative submitted with this response fully replaces the prior version and reflects the updated zoning designation. The findings have been revised to demonstrate that the proposed annexation and future development are consistent with the applicable provisions of the Stayton Municipal Code, the Comprehensive Plan, and Oregon law. In particular:

The proposed Medium Density Residential zoning complies with SMC 17.16.070.1 permitted uses;

- The anticipated development of 74 single-family detached homes is consistent with the MD zone's density range;
- Applicable design standards, including those related to connectivity, open space, and building form, will be addressed in detail during future subdivision review.

We trust that these revised and supplemental materials adequately address the City's concerns. We look forward to confirmation that the application can now be deemed complete and scheduled for public hearing. Please do not hesitate to contact me directly should you require any additional information.

Sincerely,

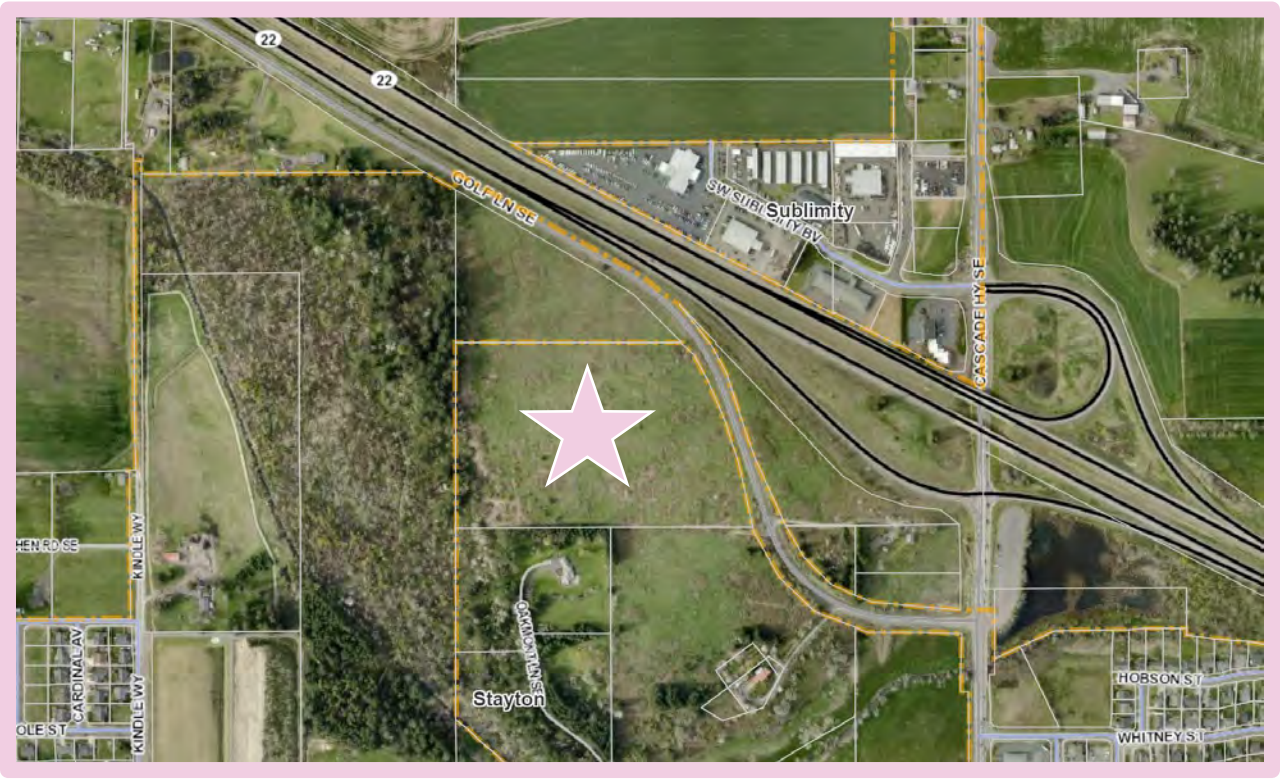
Britany Randall
BRAND Land Use, LLC
britany@brandlanduse.com

Enclosures:

1. Revised Narrative with Markups
2. Revised Conceptual Future Subdivision Plan

Table of Contents

Aerial View of Subject Property and Existing Development



Section 1: Property Background and Request

The applicant, KSD Properties, LLC, is requesting the annexation of a 21.00-acre property into the corporate city limits of the City of Stayton. The subject property, identified as Marion County Assessor's Map and Tax Lot 091W03B001500, currently holds a Residential designation in the City of Stayton Comprehensive Plan. Upon annexation, the applicant proposes to apply the corresponding ~~High Density Residential (HD)~~Medium Density Residential (MD) zoning to facilitate the future development of residential homes of varying types. The owner's team evaluated the possibility of developing the site as a ~~92-lot~~74-lot, plus a stormwater tract, single-family residential subdivision.

This annexation aligns with Stayton's 2021 Amended Comprehensive Plan, which emphasizes the need for additional residential land to accommodate the city's projected population growth. The plan seeks to maintain a mix of housing options while targeting an overall gross density of approximately ~~six units per acre~~ 3.5 dwelling units per acre. By bringing this land into the city, the proposed development will support these housing objectives while ensuring consistency with Stayton's long-term growth management policies.

A Transportation Impact Analysis (TIA) was conducted to assess the potential effects of the development on Stayton's roadway network. The analysis determined that the future subdivision would generate 69 AM peak hour trips (17 inbound, 52 outbound) and 92 PM peak hour trips (58 inbound, 34 outbound), with the majority of traffic utilizing Cascade Highway and OR 22. While most study intersections will continue to operate within acceptable standards, the Cascade Highway / Shaff Road / Fern Ridge Road intersection does not currently meet Marion County's PM peak hour operating standards. However, no mitigation measures are required as the intersection remains within Stayton's operational standards and no planned improvements are identified in the City's Transportation System Plan (TSP). The TIA also evaluated the Golf Lane / Cascade Highway intersection and concluded that a realignment is not warranted, as the intersection does not meet signal warrant criteria, nor does it present operational or safety deficiencies that would trigger a required realignment under the City-County Memorandum of Understanding (MOU).

Future development may include a new public street access via Golf Lane, which meets Stayton's access spacing requirements and has been designed to ensure safe and efficient traffic flow. Additionally, half-street frontage improvements, including bike lanes, planter strips, and sidewalks, may be constructed along the project frontage to align with city collector street standards. At the time of future development of these improvements, they will enhance pedestrian and cyclist safety while integrating the development into the city's transportation network.

By addressing both housing needs and transportation considerations, the proposed annexation and development will contribute to Stayton's vision for sustainable growth. This project will expand the city's residential land supply, support housing availability, and ensure efficient infrastructure planning while maintaining consistency with the comprehensive plan and development policies.

Section 2: Existing Conditions

The site is located within the Urban Growth Boundary of the City of Stayton. The City of Stayton Comprehensive Plan map designates the property as "Residential".

The Comprehensive Plan designations of surrounding properties include:

North: "Commercial"

South: "Residential"

East: Across Golf Lane - "Public/Semi-Public"

West: "Public/Semi-Public"

The applicant is seeking to apply the ~~High Density Residential (HD)~~Medium Density Residential zoning to the property. The surrounding properties are zoned as follows:

North: Commercial Central (CG)

South: Marion County – Outside Corporate City Limits

East: Across Golf Lane - Marion County – Outside Corporate City Limits

West: Public/Semi-Public (P)

Section 3: Findings Applicable to Administrative Procedures

Chapter 17.12 – Development Approval Procedures

Sections 17.12.030 – Application Procedure

Any application for a land use or development approval action authorized in this title shall be filed in the following manner.

(1) FORMS. The application shall be submitted on forms provided by the City Planner.
(2) FILING LOCATION. Unless stated otherwise, the application shall be filed with the City Planner at City Hall.
(3) PROPERTY OWNER AUTHORIZATION. If the property owners are not the applicants, then the application shall be accompanied by a notarized statement certifying the authority of anyone representing the owner(s) of property involved in the application. The application shall be signed by the property owner or authorized representative.
(4) SUPPLEMENTAL INFORMATION. All supplemental documentation and information specified in those sections governing the approval or action being requested shall accompany the application. The applicant shall be responsible for providing any and all information required for a complete application.
(5) COST FOR SERVICES.
    (a) Basic Application Costs. Basic application costs are intended to recover expenses incurred by the City in the receipt, review and processing of a land use application. A deposit in an amount established in the Deposit Schedule will be required at the time an application is filed.
    (b) Outside Planning Services. An applicant may, upon permission of the City, choose outside planning services at the applicant's expense, approved by the City, to process any land use application. The outside planning service will be tantamount to the function of the City Planner and will be subject to the supervision, direction and review of the City Planner. Utilizing outside planning services does not forego the City's requirement as to costs (including non-refundable deposit).

(c) In the event the application is withdrawn before City action, the applicant shall be responsible to pay for the costs incurred up to the time of its withdrawal.

(d) Waiver of Charges. The City Council may, at its discretion, waive some or all charges for the processing of applications determined by the City Council to be in the public interest

(6) DEPOSIT SCHEDULE. A deposit schedule shall be in resolution form and adopted by the City Council.

Applicant's Findings: *The applicant acknowledges and understands the procedural requirements set forth in Stayton Municipal Code Section 17.12.030 for land use and development applications. This includes submitting the annexation application using forms provided by the city planner and filing all materials at city hall, unless otherwise directed. As the legal owner of the subject property, the application has been signed by an authorized representative of the property owner, and no additional authorization is required.*

The applicant further understands that all required supplemental information must be submitted in accordance with the applicable sections of the code governing the annexation process, and that the completeness of the application is the applicant's responsibility.

Regarding application fees, the applicant acknowledges that a deposit has been submitted in accordance with the city's adopted deposit schedule and understands that the city may charge staff time and other direct costs associated with processing the application. The applicant also understands that should the application be withdrawn; they remain responsible for any costs incurred up to the point of withdrawal. Finally, the applicant recognizes that the city council has discretion to waive certain fees when an application is determined to serve the public interest.

Section 4: Findings Applicable to Annexation

Chapter 17.12 – Development Approval Procedures

Sections 17.12.210 – Annexations

(1) DEFINITION. An annexation is an expansion of the City limits through the addition of territory to the jurisdictional boundaries of the City, including "contract annexation" agreements between applicants and the City.

Applicant's Findings: *KSD Properties, LLC, is requesting annexation of a 21.00-acre parcel (Marion County Assessor's Map and Tax Lot 091W03B001500) into the City of Stayton. The property is designated Residential in the Comprehensive Plan, and the applicant proposes ~~High-Density Residential (HD)~~Medium Density Residential (MD) zoning to support a potential ~~92-lot~~74-lot single-family subdivision.*

The request aligns with the 2021 Amended Comprehensive Plan, which calls for additional residential land to meet projected growth and targets an average of ~~six units per acre~~ 3.5

dwelling units per acre. A Transportation Impact Analysis (TIA) determined that traffic from the development would not exceed the city's operational standards, and no mitigation is required. Access is proposed via Golf Lane, which meets spacing requirements, and future frontage improvements will align with collector street standards. The annexation supports Stayton's goals for managed growth, increased housing supply, and coordinated infrastructure planning.

(2) METHOD OF ADOPTION.

(b) Minor Annexations.

(1) A Minor Annexation is any annexation that meets all of the following characteristics.

(i) Consists of only one parcel, except proposed annexations that consist of contiguous parcels in the same ownership.

(ii) The area proposed for annexation is 1 acre or less. (Amended Ord. 918, March 18, 2010)

(2) Approval procedures. The following procedures shall be followed in the review and approval of an application for a Minor Annexation:

(i) An application for a Minor Annexation shall be filed with the City Planning Department.

(ii) Planning Commission Proceedings. The Planning Commission shall hold a public hearing in accordance with the requirements of Section 17.12.090. Following the public hearing the Commission shall make findings of fact and conclusions as to whether the criteria of Section 17.12.210.4 below are met. Based on the findings of fact and conclusions the Planning Commission shall make a recommendation to the City Council regarding the approval of the application.

(iii) City Council Proceedings. The City Council shall hold a public hearing in accordance with the requirements of Section 17.12.100. Following the public hearing, the City Council shall make findings of fact and conclusions as to whether the criteria of Section 17.12.210.4 below are met. If the Council finds that the criteria of Section 17.12.210.4 have been or will be met, the Council shall, by ordinance, shall set the boundaries of the area to be annexed by a legal description.

(c) Health Hazard Annexation The City may annex those areas constituting a health hazard in accordance with Oregon Revised Statutes, taking into consideration the ability of the City to provide necessary services. Annexation of areas constituting a health hazard is not subject to voter approval.

Applicant's Findings: *This application does not qualify as a Minor Annexation, as the subject property consists of 21.00 acres, exceeding the one-acre threshold defined in Section 17.12.210.2(b)(1)(ii). However, the subject property meets the approval procedures listed within Senate Bill 1573 and cannot be referred to the voters. Therefore, the proposal will follow the procedures for a minor annexation, including public hearings before both the planning commission and the city council in accordance with applicable code sections. This annexation is not being pursued on the basis of a health hazard and is therefore not subject to the provisions of Section 17.12.210.2(c).*

(3) SUBMITTAL REQUIREMENTS. In order to be accepted as complete and be processed in a timely manner by the City, requests for annexation of territory shall include the following materials and information:

(a) Completed application forms as supplied by the City Planner.

(b) Three copies of a site plan, drawn to a scale of 1 inch equals not more than 50 feet, shown as a graphic scale, of the property for which the annexation is requested. The site plan shall depict the surrounding properties, neighboring streets and roads, and existing uses of the property. If the application for annexation is not accompanied by a concurrent application for site plan, subdivision, or other land use approval, three copies of a conceptual plan of proposed uses of the property subsequent to annexation. In addition, 18 reduced copies of the plan sized as 11 inches by 17 inches shall be submitted.

(c) A plan showing the boundary lines of the properties, certified by a professional land surveyor, and the approximate area of the properties in acres or square feet.

(d) A legal description of the property, meeting the requirements of ORS 308.225.

(e) A narrative statement fully explaining the request and fully addressing the criteria for approval of an annexation.

Applicant's Findings: *This annexation application includes all materials required by Section 17.12.210.3. The applicant has submitted completed application forms provided by the city planner. A conceptual site plan drawn to scale, depicting surrounding properties, roads, and existing site conditions, has been provided in three full-size copies along with 18 reduced 11x17 copies, as required. A certified boundary and acreage plan prepared by a professional land surveyor is included, along with a legal description of the property meeting the standards of ORS 308.225. In addition, this application includes a narrative statement that fully explains the annexation request and addresses the applicable criteria for approval. These materials satisfy the city's requirements for a complete annexation submittal.*

(4) APPROVAL CRITERIA. In order to approve an application for annexation, the following affirmative findings concerning the action must be made by the decision authority:

(a) Need exists in the community for the land proposed to be annexed.

Applicant's Findings: *There is a documented and pressing need within the City of Stayton for additional residential land to accommodate current and projected population growth, as well as to support the city's goals related to housing supply, diversity, and affordability. The subject property, consisting of approximately 21.00 acres and currently designated Residential in the Stayton Comprehensive Plan, presents a valuable opportunity to address these identified needs.*

According to Chapter 2 of the 2021 Amended Comprehensive Plan, Stayton has experienced steady population growth over the last several decades. The city's population increased from 4,396 in 1980 to 7,644 in 2010, representing a 74% increase over that 30-year period. Projections adopted in the plan forecast continued growth, with the population expected to reach approximately 9,777 by 2030 under the medium-growth scenario, and potentially as high as 11,359. Even using a revised estimate accounting for updated census figures, the plan notes a likely population of over 10,700 by 2030. This sustained growth drives the need for additional land within city limits that can be developed for residential use in an efficient and well-planned manner.

Chapter 6 of the Comprehensive Plan further illustrates the housing implications of this growth. Table 6-10, "Housing Needs Projection," identifies a projected need for 894 new housing units between 2010 and 2030. To meet this need, the plan estimates that Stayton will require approximately 158 acres of additional residential land. While some of this need may be met through infill and redevelopment of underutilized parcels within the current city limits, the plan also recognizes that additional land will need to be brought into the city through annexation to maintain an adequate supply of buildable land.

Table 8-3 of the plan presents a Buildable Lands Inventory that shows a limited amount of vacant land currently available within city limits. As of February 2011, the city had only 67.9 acres of vacant land in residential zones, with a net buildable area of just 46.2 acres after accounting for constraints such as floodplains and natural resource protections. Furthermore, Table 8-4 identifies that much of the buildable land designated for residential use within the Urban Growth Boundary (UGB) lies outside the current city limits. Specifically, 154.8 acres of low-density residential land and 39.8 acres of medium-density residential land are located within the UGB but outside the city boundary. This means that without annexation, a large portion of the land identified for future residential growth is not currently available for development.

The proposed annexation directly supports the city's policy direction for managing urban growth. The comprehensive Plan states as a core land use goal (Chapter 8, Land Use Goals and Policies): "Coordinate the development of land outside the current city limits with Marion and Linn Counties" and "Provide for a land use regulation process that promotes a livable community and provides for expeditious review of development proposals." Annexing land

already designated for residential use and within the UGB allows Stayton to manage growth in a planned, coordinated manner and helps avoid leapfrog development or pressure on rural lands.

Additionally, the Comprehensive Plan emphasizes the importance of providing a variety of housing types to meet the needs of Stayton's diverse population. The housing goals outlined in Chapter 6 include:

- *"Existing and future residents will be provided a choice of housing types in safe and healthful housing."*
- *"New residential developments will be designed and built to become attractive neighborhoods."*

The proposed annexation and anticipated development of single-family homes on this property will directly contribute to the realization of these goals by expanding the range of housing options available in Stayton and supporting the development of new, well-integrated neighborhoods.

The proposed annexation is consistent with the City of Stayton Comprehensive Plan, which clearly establishes that additional residential land is needed to meet projected population and housing demands. The subject property is already designated Residential in the Comprehensive Plan and is located within the UGB, making it a logical and appropriate candidate for annexation. The proposed ~~High-Density Residential~~ Medium Density Residential (MD) zoning aligns with the city's land use goals, supports planned growth, and helps ensure that the city can meet future housing needs in a sustainable and coordinated manner.

(b) The site is or is capable of being serviced by adequate City public services including such services as may be provided subject to the terms of a contract annexation agreement between the applicant and the City.

Applicant's Findings: *The subject property is capable of being fully served by City of Stayton public services, including water, sanitary sewer, stormwater management, and transportation infrastructure, as documented in the city's adopted master plans. Extension of these services can be accomplished in a manner that is feasible, cost-effective, and consistent with the city's long-range public facility planning and development goals. A contract annexation agreement may be used, if necessary, to facilitate coordinated service provision and ensure that any improvements needed are implemented appropriately at the time of development.*

According to the Stayton Water Master Plan Executive Summary (2020), the city's water system has adequate capacity to meet future growth needs within the Urban Growth Boundary (UGB). The plan outlines a system-wide strategy for extending services to growing areas, including recommendations for new mains and system improvements to maintain pressure and fire flow standards. The subject property lies within the UGB and adjacent to existing city water infrastructure, allowing for logical service extension. Improvements to water mains will be

evaluated in conjunction with future subdivision design, and extension of service can be implemented in accordance with adopted master plan policies and development code requirements.

The 2021 Wastewater Facilities Planning Study identifies needed improvements to maintain system capacity and reliability as Stayton continues to grow. The study confirms that the existing wastewater treatment facility and trunk lines are adequately sized to serve new residential development within the UGB, including the area encompassing the subject property. Service to the site can be provided by extending gravity sewer lines from existing mains located to the north and west, consistent with the planned expansion of the residential sewer service area. At the time of development, project-specific engineering will confirm the alignment and sizing of sewer infrastructure and ensure compliance with the city's wastewater system standards and design criteria.

The Stayton Stormwater Master Plan (2020) provides a comprehensive framework for managing stormwater runoff and improving water quality throughout the community. The plan establishes design standards and policies for managing runoff from new development and emphasizes the use of detention, water quality treatment, and low-impact development techniques. The subject property is located in an area that can be served by storm drainage facilities consistent with the city's stormwater system goals. As part of future development, on-site stormwater facilities will be designed to meet the detention, conveyance, and treatment standards outlined in the Master Plan and Land Use and Development Code, ensuring protection of downstream infrastructure and water quality.

The 2007 Transportation System Plan (TSP) identifies planned improvements and future street connectivity objectives that support development within the UGB. The subject property has direct frontage along Golf Lane and will include public street improvements and connections as part of future subdivision development. These improvements will be designed in accordance with the city's collector street standards, which include provisions for sidewalks, bike lanes, planter strips, and appropriate access spacing. As noted in the Transportation Impact Analysis submitted with this application, the development is anticipated to generate 69 AM peak hour trips and 92 PM peak hour trips. The study determined that traffic impacts can be managed within the City's existing network and no mitigation is currently required under adopted standards.

The subject property is fully capable of being served by adequate public facilities, as documented in the city's adopted infrastructure master plans. Water, sewer, stormwater, and transportation services can be extended to the site in a manner consistent with Stayton's system capacities and design standards. The city's comprehensive planning framework anticipates urban development in this area, and the extension of public services to this site supports orderly, efficient growth in line with the goals of the Comprehensive Plan. If necessary, a contract

annexation agreement between the applicant and the city may formalize the timing, responsibility, and cost-sharing for public service extensions to ensure coordinated and timely delivery of infrastructure to the site.

(c) The proposed annexation is property contiguous to the existing City limits.

Applicant's Findings: *The subject property, identified as Marion County Assessor's Map and Tax Lot 091W03B001500, is contiguous to the existing City of Stayton corporate limits along its northern and western boundaries. The property shares an uninterrupted boundary line with land that is already located within the city limits, thereby meeting the statutory and code-based requirement for physical contiguity. This configuration allows for a logical and orderly extension of the city boundary, consistent with Stayton's Comprehensive Plan policies and the intent of Oregon's land use planning framework to promote efficient urban growth within established urban growth boundaries.*

(d) The proposed annexation is compatible with the character of the surrounding area and complies with the urban growth program and policies of the City of Stayton.

Applicant's Findings: *The proposed annexation is compatible with the character of the surrounding area and is consistent with the City of Stayton's adopted urban growth policies. The subject property is located within the Stayton Urban Growth Boundary (UGB) and is designated Residential in the Stayton Comprehensive Plan. Upon annexation, the applicant is proposing to apply the ~~High-Density Residential (HD)~~Medium Density Residential (MD) zoning district, which corresponds directly to the existing Comprehensive Plan designation.*

This demonstrates compatibility with the planned character of the area, as defined by the city's long-range planning documents. The Residential designation reflects the city's intent for this area to transition into urban residential use, consistent with surrounding properties that share the same designation within the UGB. Bringing the property into the city under its existing designation ensures alignment with the broader land use pattern envisioned in the Comprehensive Plan and avoids inconsistencies in development intensity or use.

The annexation also supports Stayton's urban growth program by facilitating orderly and contiguous expansion of the city limits in an area identified for future urban development. The annexation will allow for future development to occur in a manner consistent with adopted policies related to land use, housing, infrastructure, and community form. This includes goals and policies in the Comprehensive Plan that promote efficient growth within the UGB, the extension of public services in a coordinated manner, and the development of complete and livable neighborhoods.

Accordingly, the annexation complies with the city's urban growth program and land use policies, and the application of the HD zoning district ensures compatibility with the planned character of the area.

(e) The annexation request complies, or can be made to comply, with all applicable provisions of state and local law.

Applicant's Findings: *This annexation request complies, or can be made to comply, with all applicable provisions of state and local law. The application has been submitted in accordance with the procedural requirements of Stayton Municipal Code Section 17.12.210, which outlines the process and criteria for annexation. The applicant has provided all required submittal materials, including a completed application form, certified legal description, property boundary map, narrative addressing the applicable approval criteria, and a conceptual development plan.*

The proposal also complies with Oregon state law, including provisions of ORS Chapter 222, which governs annexation procedures for cities. The property is contiguous to the existing city limits and is located entirely within the City of Stayton Urban Growth Boundary (UGB), as acknowledged by the Department of Land Conservation and Development (DLCD). No territory subject to this annexation is considered to be "island" or noncontiguous land, and no conflicts arise with respect to boundaries or jurisdiction. In accordance with state law, consent of the property owner has been provided, and the proposed annexation does not require an election or petition from surrounding property owners or electors.

In addition, the proposed annexation is consistent with the city's adopted Comprehensive Plan, which designates the subject property as Residential and includes it within the area identified for future urban development. This demonstrates compatibility with the city's coordinated population, housing, and infrastructure planning efforts, as required by Oregon's Statewide Planning Goals—particularly Goal 14: Urbanization, which encourages orderly and efficient transition of land from rural to urban use.

To the extent that any additional procedural steps are required prior to final approval (e.g., recording of the annexation ordinance, updating of service agreements, or adoption of a zoning ordinance applying the ~~HD district~~ MD zoning district), such steps can and will be completed in accordance with both state and local law.

(f) If a proposed contract annexation, within the terms and conditions of the contract the cost of City facility and service extensions to the annexed area shall be calculated by the Public Works Director.

Applicant's Findings: *This is not a contract annexation. Therefore, the provisions of Section 17.12.210.4(f) regarding cost calculations by the Public Works Director are not applicable to this request.*

(5) ZONING OF ANNEXED TERRITORY. All lands that are annexed to the City shall be zoned in accordance with the designation of the property in the Comprehensive Plan. The specific zone assigned to the land being annexed shall be determined by the City Council in accordance with the proposed uses of the land and the needs identified by the buildable lands analysis in the Comprehensive Plan. This requirement does not prohibit an application to amend the Comprehensive Plan Map concurrent with the application for annexation.

Applicant's Findings: *The subject property is designated Residential in the City of Stayton Comprehensive Plan, and the applicant is requesting the application of the corresponding ~~High-Density Residential (HD)~~Medium Density Residential (MD) zoning district upon annexation. This request is consistent with the Comprehensive Plan designation and no amendment to the Plan Map is proposed.*

The ~~HD zoning~~MD zoning district implements the Residential designation by allowing for primarily single-family detached homes at a density that supports the city's long-term housing and land use goals. The applicant anticipates future residential subdivision development on the property in a manner consistent with the allowed uses and development standards of the ~~HD zone~~MD zone.

This zoning assignment is also supported by the City's Buildable Lands Inventory and Housing Needs Analysis as outlined in Chapter 6 and Chapter 8 of the Comprehensive Plan. These analyses project the need for approximately 894 new housing units between 2010 and 2030 and identify a corresponding need for over 150 acres of additional residential land within the Urban Growth Boundary. Table 8-4 of the Comprehensive Plan shows that while there is some vacant land within the UGB, much of it is located outside the city limits—requiring annexation to make it available for development. The requested zoning supports the city's strategy to meet projected housing demand while maintaining an overall target gross density of ~~six units~~3.5 dwelling units per acre.

Accordingly, the proposed zoning is consistent with the adopted Comprehensive Plan designation, the intended use of the land, and the city's identified need for residential land within the Urban Growth Boundary.

(6) CONFORMANCE WITH CONCEPTUAL PLAN. Development of the property after annexation shall be in substantial conformance with any conceptual plan submitted with the application for annexation. For the purposes of this section, development is in substantial conformance with a conceptual plan if:

(a) The development is generally consistent with the character and intent of the conceptual plan;

(b) The number and types of housing units are generally consistent with those presented in the conceptual plan;

(c) The impacts from the development, including but not limited to, noise, vibration, dust, odor, or fumes, detectable at the property line will not exceed the maximums typical for the categories of uses proposed in the conceptual plan;
(d) The number and types of vehicular trips to and from the site will not exceed the maximums typical for the categories of uses proposed in the conceptual plan; and
(e) The amount and types of outside storage, loading, and parking will not exceed the maximums typical for the categories of uses proposed in the conceptual plan.

Applicant's Findings: *No formal ~~conceptual~~ development plan is submitted with this annexation application, only a highly conceptual plan depicting how a development could possibly be presented in the future. However, the applicant anticipates that the property will be developed in the future as a traditional residential subdivision consistent with the ~~High-Density Residential (HD)~~Medium Density Residential (MD) zoning designation proposed in conjunction with annexation.*

While a specific layout has not been prepared at this time, the anticipated future use—single-family residential development—is fully consistent with the Residential Comprehensive Plan designation that currently applies to the property. The property is being brought into the city under a zoning designation that supports traditional neighborhood development patterns, with detached homes, internal public streets, and appropriate pedestrian and infrastructure improvements.

As future development plans are brought forward, they will be subject to separate land use applications (e.g., subdivision review or site development approval) and will be required to demonstrate compliance with applicable standards for use, density, access, traffic generation, and environmental impacts. All development will be required to stay within the scope of impacts typical for ~~high-density~~medium density residential neighborhoods, including limits on noise, traffic, parking, and other externalities as outlined in the development code.

In the absence of a ~~conceptual~~ formal plan and given the applicant's stated intent to pursue residential subdivision development consistent with the ~~HD zoning~~MD zoning, future development will be aligned with the expectations and parameters described in this section.

(7) NOTICE TO COUNTY AND STATE.
(a) Within 10 working days after enactment of the ordinance approving the annexation, the City Recorder shall provide by certified mail to all public utilities, electric cooperatives and telecommunications carriers operating within the City each site address to be annexed as recorded on county assessment and tax rolls, a legal description and map of the proposed boundary change, and a copy of the ordinance approving the annexation.

(b) Within 10 days from the effective date the ordinance approving the annexation, the City Recorder shall provide to the Marion County Clerk and County Assessor a report containing a detailed legal description of the new boundaries established by the City.

(c) Within 14 days of enactment of the ordinance approving the annexation, the City Recorder shall transmit to the Oregon Secretary of State:

(1) A copy of the ordinance proclaiming the annexation, including a legal description of the territory to be annexed.

(2) An abstract of the vote, if a major annexation. The abstract of the vote shall show the whole number of electors voting on the annexation, the number of votes cast for annexation, and the number of votes cast against annexation.

(3) A copy of the statement of consent by electors or landowners in the territory annexed.

(d) Within 30 days of enactment of an ordinance annexing territory into the City, the City Recorder shall transmit to the Marion County Assessor and the Oregon Department of Revenue the legal description of the boundary change or proposed change and an accurate map conforming to the requirements of ORS 308.225(2).

Applicant's Findings: *The applicant understands that, following city council approval of the annexation ordinance, the city recorder is responsible for providing notice and documentation of the annexation to all applicable county and state agencies in accordance with Stayton Municipal Code Section 17.12.210.7 and ORS 308.225. This includes providing legal descriptions, maps, and copies of the ordinance to Marion County departments, the Oregon Secretary of State, the Oregon Department of Revenue, and utility service providers within the required timelines. The applicant acknowledges these post-approval steps are part of the formal annexation process and will ensure full cooperation with city staff as needed to complete these requirements.*

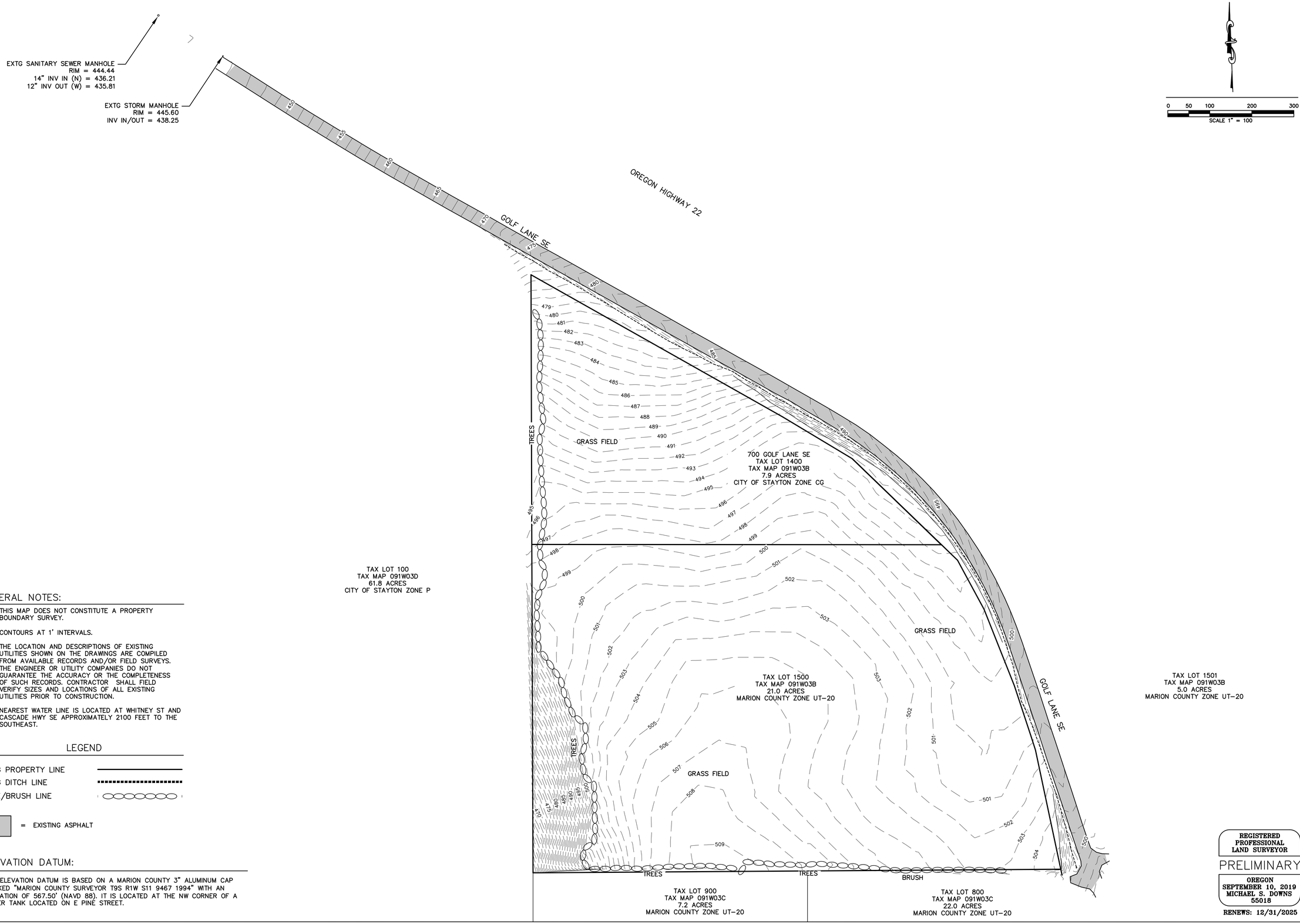
Section 5: Conclusion

The proposed annexation of the 21.00-acre property identified as Marion County Assessor's Map and Tax Lot 091W03B001500 is consistent with the applicable provisions of the Stayton Municipal Code, the city's Comprehensive Plan, and state law. The property is located within the city's Urban Growth Boundary and is designated Residential in the Comprehensive Plan, indicating its suitability for future urban development. The applicant is requesting ~~High-Density Residential (HD)~~Medium Density Residential (MD) zoning upon annexation, which aligns with the city's long-range planning goals and supports the anticipated development of a traditional single-family residential neighborhood. The annexation will help meet Stayton's projected housing needs by expanding the supply of buildable residential land within the city limits. Public

services and infrastructure can be extended to the property in an efficient and coordinated manner, consistent with the city's adopted utility master plans. The property is contiguous to the existing city limits and can be integrated seamlessly into the city's urban fabric.

Through this application, the applicant has provided all required materials and demonstrated compliance with the applicable criteria for annexation. The request supports the city's goals for managed growth, housing availability, and infrastructure planning, and represents a logical and beneficial expansion of the Stayton city limits. The applicant respectfully requests approval of the annexation and application of the Low-Density Residential zoning designation.

Section 6: Exhibits



GENERAL NOTES:

1. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
2. CONTOURS AT 1' INTERVALS.
3. THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE ENGINEER OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. CONTRACTOR SHALL FIELD VERIFY SIZES AND LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. NEAREST WATER LINE IS LOCATED AT WHITNEY ST AND CASCADE HWY SE APPROXIMATELY 2100 FEET TO THE SOUTHEAST.

LEGEND

EXTG PROPERTY LINE

EXTG DITCH LINE

TREE/BRUSH LINE

= EXISTING ASPHALT

ELEVATION DATUM:

THE ELEVATION DATUM IS BASED ON A MARION COUNTY 3" ALUMINUM CAP MARKED "MARION COUNTY SURVEYOR T9S R1W S11 9467 1994" WITH AN ELEVATION OF 567.50' (NAVD 88). IT IS LOCATED AT THE NW CORNER OF A WATER TANK LOCATED ON E PINE STREET.

NORTH SANTIAM PAVING COMPANY
41203 KINGSTON-LYONS DRIVE, P.O. BOX 516
STAYTON, OREGON 97383
(503) 769-3436
LEVIW@NSPOR.COM
CONSTRUCTION • ENGINEERING • SURVEYING

GOLF LANE DEVELOPMENT
700 GOLF LANE SE

CITY OF STAYTON MARION COUNTY, OREGON
NW 1/4 SEC 3 T9S R1W WM TAX MAP 091W03B TAX LOT 1400

EXISTING CONDITIONS

PLOT DATE: 3/1/2024
REVISIONS:
DRAWN BY: LDW
CHECKED BY: LDW
JOB No: 23110
SCALE: 1" = 100'

SHEET
C1

REGISTERED PROFESSIONAL LAND SURVEYOR

PRELIMINARY

OREGON
SEPTEMBER 10, 2019
MICHAEL S. DOWNS
55018

RENEWS: 12/31/2025

PRELIMINARY LAND USE

GROSS PLANNING AREA:

GROSS AREA	914,760 SF = 21.0 ACRES
TRACT A	34,445 SF = – 0.79 ACRES
	880,315 SF = 20.21 ACRES

PLANNING TO BE DEVELOPED:

TOTAL	880,315 SF = 20.21 ACRES
PLAT ROADS	242,248 SF = –5.56 ACRES
NET PLANNING AREA	638,067 SF = 14.65 ACRES

NET PLANNING AREA:

74 LOTS / 14.65 ACRES = 5.05 LOTS PER ACRE

638,067 SF / 74 LOTS = 8,622 SF AVERAGE LOT SIZE

SMALLEST LOT SIZE: 7,000 SF
LARGEST LOT SIZE: 30,662 SF

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GOLF LANE DEVELOPMENT

CITY OF STAYTON MARION COUNTY, OREGON
NW 1/4 SEC 3 T9S R1W WM TAX MAP 091W03B TAX LOT 1500

PRELIMINARY LAYOUT

REGISTERED PROFESSIONAL ENGINEER
88956PE
OREGON
JANUARY 21, 2021
LEVI D. WARRINER
EXPIRES: 6–30–2026

PLOT DATE:	6/11/2025
REVISIONS:	
DRAWN BY:	LDW
CHECKED BY:	LDW
JOB No:	23110
SCALE:	1" = 50'

SHEET
C2

0 100 200 400 600

SCALE 1" = 200'

NORTH SANTIAM PAVING COMPANY
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CONSTRUCTION • ENGINEERING • SURVEYING

GOLF LANE DEVELOPMENT

CITY OF STAYTON MARION COUNTY, OREGON
NW 1/4 SEC 3 T9S R1W WM TAX MAP 091W03B TAX LOT 1500

FUTURE UTILITIES

REGISTERED PROFESSIONAL ENGINEER
88956PE
LDW
OREGON
JANUARY 21, 2021
LEVI D. WARRINER
EXPIRES: 6-30-2026

PLOT DATE: 6/11/2025

REVISIONS:

DRAWN BY: LDW

CHECKED BY: LDW

JOB No: 23110

SCALE: 1" = 50'

SHEET
C3

Stayton Annexation

Submittal Date:	March 26th, 2025
Submitted To:	City of Stayton Planning Division
Project Location:	Marion County Tax Lot No: 091W03B001500
Applicant(s):	KSD Properties, LLC Owner
Applicant's Land Use Representative:	Britany Randall of BRAND Land Use Britany@brandlanduse.com

BRAND

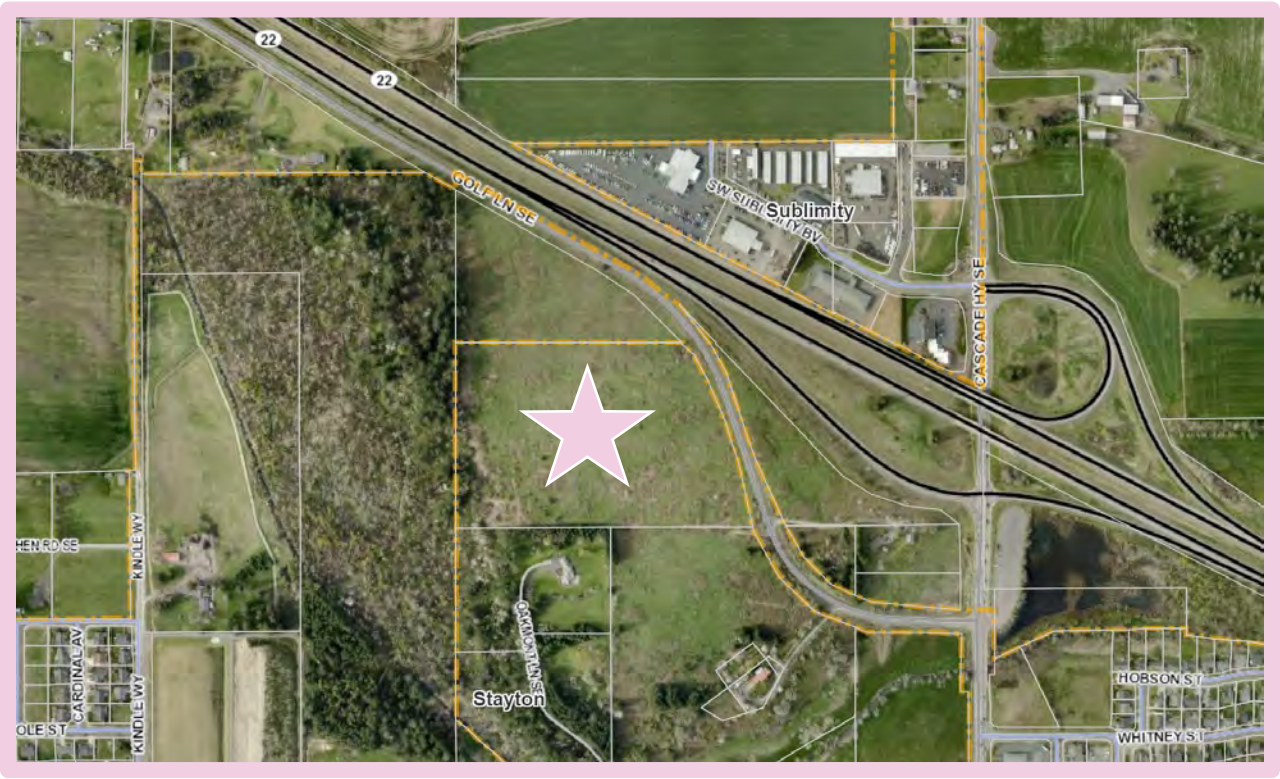
FEASABILITY | PLANNING | LAND USE

BRANDLANDUSE.COM

503.370.8704

Table of Contents

Aerial View of Subject Property and Existing Development



Section 1: Property Background and Request

The applicant, KSD Properties, LLC, is requesting the annexation of a 21.00-acre property into the corporate city limits of the City of Stayton. The subject property, identified as Marion County Assessor's Map and Tax Lot 091W03B001500, currently holds a Residential designation in the City of Stayton Comprehensive Plan. Upon annexation, the applicant proposes to apply the corresponding High Density Residential (HD) zoning to facilitate the future development of residential homes of varying types. The owner's team evaluated the possibility of developing the site as a 92-lot single-family residential subdivision.

This annexation aligns with Stayton's 2021 Amended Comprehensive Plan, which emphasizes the need for additional residential land to accommodate the city's projected population growth. The plan seeks to maintain a mix of housing options while targeting an overall gross density of approximately six units per acre. By bringing this land into the city, the proposed development will support these housing objectives while ensuring consistency with Stayton's long-term growth management policies.

A Transportation Impact Analysis (TIA) was conducted to assess the potential effects of the development on Stayton's roadway network. The analysis determined that the future

subdivision would generate 69 AM peak hour trips (17 inbound, 52 outbound) and 92 PM peak hour trips (58 inbound, 34 outbound), with the majority of traffic utilizing Cascade Highway and OR 22. While most study intersections will continue to operate within acceptable standards, the Cascade Highway / Shaff Road / Fern Ridge Road intersection does not currently meet Marion County's PM peak hour operating standards. However, no mitigation measures are required as the intersection remains within Stayton's operational standards and no planned improvements are identified in the City's Transportation System Plan (TSP). The TIA also evaluated the Golf Lane / Cascade Highway intersection and concluded that a realignment is not warranted, as the intersection does not meet signal warrant criteria, nor does it present operational or safety deficiencies that would trigger a required realignment under the City-County Memorandum of Understanding (MOU).

Future development may include a new public street access via Golf Lane, which meets Stayton's access spacing requirements and has been designed to ensure safe and efficient traffic flow. Additionally, half-street frontage improvements, including bike lanes, planter strips, and sidewalks, may be constructed along the project frontage to align with city collector street standards. At the time of future development of these improvements, they will enhance pedestrian and cyclist safety while integrating the development into the city's transportation network.

By addressing both housing needs and transportation considerations, the proposed annexation and development will contribute to Stayton's vision for sustainable growth. This project will expand the city's residential land supply, support housing availability, and ensure efficient infrastructure planning while maintaining consistency with the comprehensive plan and development policies.

Section 2: Existing Conditions

The site is located within the Urban Growth Boundary of the City of Stayton. The City of Stayton Comprehensive Plan map designates the property as "Residential".

The Comprehensive Plan designations of surrounding properties include:

North: "Commercial"

South: "Residential"

East: Across Golf Lane - "Public/Semi-Public"

West: "Public/Semi-Public"

The applicant is seeking to apply the High Density Residential (HD) zoning to the property. The surrounding properties are zoned as follows:

North: Commercial Central (CG)

South: Marion County – Outside Corporate City Limits

East: Across Golf Lane - Marion County – Outside Corporate City Limits

West: Public/Semi-Public (P)

Section 3: Findings Applicable to Administrative Procedures

Chapter 17.12 – Development Approval Procedures

Sections 17.12.030 – Application Procedure

Any application for a land use or development approval action authorized in this title shall be filed in the following manner.

(1) FORMS. The application shall be submitted on forms provided by the City Planner.
(2) FILING LOCATION. Unless stated otherwise, the application shall be filed with the City Planner at City Hall.
(3) PROPERTY OWNER AUTHORIZATION. If the property owners are not the applicants, then the application shall be accompanied by a notarized statement certifying the authority of anyone representing the owner(s) of property involved in the application. The application shall be signed by the property owner or authorized representative.
(4) SUPPLEMENTAL INFORMATION. All supplemental documentation and information specified in those sections governing the approval or action being requested shall accompany the application. The applicant shall be responsible for providing any and all information required for a complete application.
(5) COST FOR SERVICES.
    (a) Basic Application Costs. Basic application costs are intended to recover expenses incurred by the City in the receipt, review and processing of a land use application. A deposit in an amount established in the Deposit Schedule will be required at the time an application is filed.
    (b) Outside Planning Services. An applicant may, upon permission of the City, choose outside planning services at the applicant's expense, approved by the City, to process any land use application. The outside planning service will be tantamount to the function of the City Planner and will be subject to the supervision, direction and review of the City Planner. Utilizing outside planning services does not forego the City's requirement as to costs (including non-refundable deposit).
    (c) In the event the application is withdrawn before City action, the applicant shall be responsible to pay for the costs incurred up to the time of its withdrawal.

(d) Waiver of Charges. The City Council may, at its discretion, waive some or all charges for the processing of applications determined by the City Council to be in the public interest

(6) DEPOSIT SCHEDULE. A deposit schedule shall be in resolution form and adopted by the City Council.

Applicant's Findings: *The applicant acknowledges and understands the procedural requirements set forth in Stayton Municipal Code Section 17.12.030 for land use and development applications. This includes submitting the annexation application using forms provided by the city planner and filing all materials at city hall, unless otherwise directed. As the legal owner of the subject property, the application has been signed by an authorized representative of the property owner, and no additional authorization is required.*

The applicant further understands that all required supplemental information must be submitted in accordance with the applicable sections of the code governing the annexation process, and that the completeness of the application is the applicant's responsibility.

Regarding application fees, the applicant acknowledges that a deposit has been submitted in accordance with the city's adopted deposit schedule and understands that the city may charge staff time and other direct costs associated with processing the application. The applicant also understands that should the application be withdrawn; they remain responsible for any costs incurred up to the point of withdrawal. Finally, the applicant recognizes that the city council has discretion to waive certain fees when an application is determined to serve the public interest.

Section 4: Findings Applicable to Annexation

Chapter 17.12 – Development Approval Procedures

Sections 17.12.210 – Annexations

(1) DEFINITION. An annexation is an expansion of the City limits through the addition of territory to the jurisdictional boundaries of the City, including "contract annexation" agreements between applicants and the City.

Applicant's Findings: *KSD Properties, LLC, is requesting annexation of a 21.00-acre parcel (Marion County Assessor's Map and Tax Lot 091W03B001500) into the City of Stayton. The property is designated Residential in the Comprehensive Plan, and the applicant proposes High-Density Residential (HD) zoning to support a potential 92-lot single-family subdivision.*

The request aligns with the 2021 Amended Comprehensive Plan, which calls for additional residential land to meet projected growth and targets an average of six units per acre. A Transportation Impact Analysis (TIA) determined that traffic from the development would not exceed the city's operational standards, and no mitigation is required. Access is proposed via Golf Lane, which meets spacing requirements, and future frontage improvements will align with

collector street standards. The annexation supports Stayton's goals for managed growth, increased housing supply, and coordinated infrastructure planning.

(2) METHOD OF ADOPTION.

(b) Minor Annexations.

(1) A Minor Annexation is any annexation that meets all of the following characteristics.

(i) Consists of only one parcel, except proposed annexations that consist of contiguous parcels in the same ownership.

(ii) The area proposed for annexation is 1 acre or less. (Amended Ord. 918, March 18, 2010)

(2) Approval procedures. The following procedures shall be followed in the review and approval of an application for a Minor Annexation:

(i) An application for a Minor Annexation shall be filed with the City Planning Department.

(ii) Planning Commission Proceedings. The Planning Commission shall hold a public hearing in accordance with the requirements of Section 17.12.090. Following the public hearing the Commission shall make findings of fact and conclusions as to whether the criteria of Section 17.12.210.4 below are met. Based on the findings of fact and conclusions the Planning Commission shall make a recommendation to the City Council regarding the approval of the application.

(iii) City Council Proceedings. The City Council shall hold a public hearing in accordance with the requirements of Section 17.12.100. Following the public hearing, the City Council shall make findings of fact and conclusions as to whether the criteria of Section 17.12.210.4 below are met. If the Council finds that the criteria of Section 17.12.210.4 have been or will be met, the Council shall, by ordinance, shall set the boundaries of the area to be annexed by a legal description.

(c) Health Hazard Annexation The City may annex those areas constituting a health hazard in accordance with Oregon Revised Statutes, taking into consideration the ability of the City to provide necessary services. Annexation of areas constituting a health hazard is not subject to voter approval.

Applicant's Findings: *This application does not qualify as a Minor Annexation, as the subject property consists of 21.00 acres, exceeding the one-acre threshold defined in Section 17.12.210.2(b)(1)(ii). However, the subject property meets the approval procedures listed within Senate Bill 1573 and cannot be referred to the voters. Therefore, the proposal will follow the*

procedures for a minor annexation, including public hearings before both the planning commission and the city council in accordance with applicable code sections. This annexation is not being pursued on the basis of a health hazard and is therefore not subject to the provisions of Section 17.12.210.2(c).

(3) SUBMITTAL REQUIREMENTS. In order to be accepted as complete and be processed in a timely manner by the City, requests for annexation of territory shall include the following materials and information:
   (a) Completed application forms as supplied by the City Planner.
   (b) Three copies of a site plan, drawn to a scale of 1 inch equals not more than 50 feet, shown as a graphic scale, of the property for which the annexation is requested. The site plan shall depict the surrounding properties, neighboring streets and roads, and existing uses of the property. If the application for annexation is not accompanied by a concurrent application for site plan, subdivision, or other land use approval, three copies of a conceptual plan of proposed uses of the property subsequent to annexation. In addition, 18 reduced copies of the plan sized as 11 inches by 17 inches shall be submitted.
   (c) A plan showing the boundary lines of the properties, certified by a professional land surveyor, and the approximate area of the properties in acres or square feet.
   (d) A legal description of the property, meeting the requirements of ORS 308.225.
   (e) A narrative statement fully explaining the request and fully addressing the criteria for approval of an annexation.

Applicant's Findings: *This annexation application includes all materials required by Section 17.12.210.3. The applicant has submitted completed application forms provided by the city planner. A site plan drawn to scale, depicting surrounding properties, roads, and existing site conditions, has been provided in three full-size copies along with 18 reduced 11x17 copies, as required. A certified boundary and acreage plan prepared by a professional land surveyor is included, along with a legal description of the property meeting the standards of ORS 308.225. In addition, this application includes a narrative statement that fully explains the annexation request and addresses the applicable criteria for approval. These materials satisfy the city's requirements for a complete annexation submittal.*

(4) APPROVAL CRITERIA. In order to approve an application for annexation, the following affirmative findings concerning the action must be made by the decision authority:
   (a) Need exists in the community for the land proposed to be annexed.

Applicant's Findings: *There is a documented and pressing need within the City of Stayton for additional residential land to accommodate current and projected population growth, as well as to support the city's goals related to housing supply, diversity, and affordability. The subject*

property, consisting of approximately 21.00 acres and currently designated Residential in the Stayton Comprehensive Plan, presents a valuable opportunity to address these identified needs.

According to Chapter 2 of the 2021 Amended Comprehensive Plan, Stayton has experienced steady population growth over the last several decades. The city's population increased from 4,396 in 1980 to 7,644 in 2010, representing a 74% increase over that 30-year period. Projections adopted in the plan forecast continued growth, with the population expected to reach approximately 9,777 by 2030 under the medium-growth scenario, and potentially as high as 11,359. Even using a revised estimate accounting for updated census figures, the plan notes a likely population of over 10,700 by 2030. This sustained growth drives the need for additional land within city limits that can be developed for residential use in an efficient and well-planned manner.

Chapter 6 of the Comprehensive Plan further illustrates the housing implications of this growth. Table 6-10, "Housing Needs Projection," identifies a projected need for 894 new housing units between 2010 and 2030. To meet this need, the plan estimates that Stayton will require approximately 158 acres of additional residential land. While some of this need may be met through infill and redevelopment of underutilized parcels within the current city limits, the plan also recognizes that additional land will need to be brought into the city through annexation to maintain an adequate supply of buildable land.

Table 8-3 of the plan presents a Buildable Lands Inventory that shows a limited amount of vacant land currently available within city limits. As of February 2011, the city had only 67.9 acres of vacant land in residential zones, with a net buildable area of just 46.2 acres after accounting for constraints such as floodplains and natural resource protections. Furthermore, Table 8-4 identifies that much of the buildable land designated for residential use within the Urban Growth Boundary (UGB) lies outside the current city limits. Specifically, 154.8 acres of low-density residential land and 39.8 acres of medium-density residential land are located within the UGB but outside the city boundary. This means that without annexation, a large portion of the land identified for future residential growth is not currently available for development.

The proposed annexation directly supports the city's policy direction for managing urban growth. The comprehensive Plan states as a core land use goal (Chapter 8, Land Use Goals and Policies): "Coordinate the development of land outside the current city limits with Marion and Linn Counties" and "Provide for a land use regulation process that promotes a livable community and provides for expeditious review of development proposals." Annexing land already designated for residential use and within the UGB allows Stayton to manage growth in a planned, coordinated manner and helps avoid leapfrog development or pressure on rural lands.

Additionally, the Comprehensive Plan emphasizes the importance of providing a variety of housing types to meet the needs of Stayton's diverse population. The housing goals outlined in Chapter 6 include:

- *"Existing and future residents will be provided a choice of housing types in safe and healthful housing."*
- *"New residential developments will be designed and built to become attractive neighborhoods."*

The proposed annexation and anticipated development of single-family homes on this property will directly contribute to the realization of these goals by expanding the range of housing options available in Stayton and supporting the development of new, well-integrated neighborhoods.

The proposed annexation is consistent with the City of Stayton Comprehensive Plan, which clearly establishes that additional residential land is needed to meet projected population and housing demands. The subject property is already designated Residential in the Comprehensive Plan and is located within the UGB, making it a logical and appropriate candidate for annexation. The proposed Low-Density Residential zoning aligns with the city's land use goals, supports planned growth, and helps ensure that the city can meet future housing needs in a sustainable and coordinated manner.

(b) The site is or is capable of being serviced by adequate City public services including such services as may be provided subject to the terms of a contract annexation agreement between the applicant and the City.

Applicant's Findings: *The subject property is capable of being fully served by City of Stayton public services, including water, sanitary sewer, stormwater management, and transportation infrastructure, as documented in the city's adopted master plans. Extension of these services can be accomplished in a manner that is feasible, cost-effective, and consistent with the city's long-range public facility planning and development goals. A contract annexation agreement may be used, if necessary, to facilitate coordinated service provision and ensure that any improvements needed are implemented appropriately at the time of development.*

According to the Stayton Water Master Plan Executive Summary (2020), the city's water system has adequate capacity to meet future growth needs within the Urban Growth Boundary (UGB). The plan outlines a system-wide strategy for extending services to growing areas, including recommendations for new mains and system improvements to maintain pressure and fire flow standards. The subject property lies within the UGB and adjacent to existing city water infrastructure, allowing for logical service extension. Improvements to water mains will be evaluated in conjunction with future subdivision design, and extension of service can be

implemented in accordance with adopted master plan policies and development code requirements.

The 2021 Wastewater Facilities Planning Study identifies needed improvements to maintain system capacity and reliability as Stayton continues to grow. The study confirms that the existing wastewater treatment facility and trunk lines are adequately sized to serve new residential development within the UGB, including the area encompassing the subject property. Service to the site can be provided by extending gravity sewer lines from existing mains located to the north and west, consistent with the planned expansion of the residential sewer service area. At the time of development, project-specific engineering will confirm the alignment and sizing of sewer infrastructure and ensure compliance with the city's wastewater system standards and design criteria.

The Stayton Stormwater Master Plan (2020) provides a comprehensive framework for managing stormwater runoff and improving water quality throughout the community. The plan establishes design standards and policies for managing runoff from new development and emphasizes the use of detention, water quality treatment, and low-impact development techniques. The subject property is located in an area that can be served by storm drainage facilities consistent with the city's stormwater system goals. As part of future development, on-site stormwater facilities will be designed to meet the detention, conveyance, and treatment standards outlined in the Master Plan and Land Use and Development Code, ensuring protection of downstream infrastructure and water quality.

The 2007 Transportation System Plan (TSP) identifies planned improvements and future street connectivity objectives that support development within the UGB. The subject property has direct frontage along Golf Lane and will include public street improvements and connections as part of future subdivision development. These improvements will be designed in accordance with the city's collector street standards, which include provisions for sidewalks, bike lanes, planter strips, and appropriate access spacing. As noted in the Transportation Impact Analysis submitted with this application, the development is anticipated to generate 69 AM peak hour trips and 92 PM peak hour trips. The study determined that traffic impacts can be managed within the City's existing network and no mitigation is currently required under adopted standards.

The subject property is fully capable of being served by adequate public facilities, as documented in the city's adopted infrastructure master plans. Water, sewer, stormwater, and transportation services can be extended to the site in a manner consistent with Stayton's system capacities and design standards. The city's comprehensive planning framework anticipates urban development in this area, and the extension of public services to this site supports orderly, efficient growth in line with the goals of the Comprehensive Plan. If necessary, a contract annexation agreement between the applicant and the city may formalize the timing,

responsibility, and cost-sharing for public service extensions to ensure coordinated and timely delivery of infrastructure to the site.

(c) The proposed annexation is property contiguous to the existing City limits.

Applicant's Findings: *The subject property, identified as Marion County Assessor's Map and Tax Lot 091W03B001500, is contiguous to the existing City of Stayton corporate limits along its northern and western boundaries. The property shares an uninterrupted boundary line with land that is already located within the city limits, thereby meeting the statutory and code-based requirement for physical contiguity. This configuration allows for a logical and orderly extension of the city boundary, consistent with Stayton's Comprehensive Plan policies and the intent of Oregon's land use planning framework to promote efficient urban growth within established urban growth boundaries.*

(d) The proposed annexation is compatible with the character of the surrounding area and complies with the urban growth program and policies of the City of Stayton.

Applicant's Findings: *The proposed annexation is compatible with the character of the surrounding area and is consistent with the City of Stayton's adopted urban growth policies. The subject property is located within the Stayton Urban Growth Boundary (UGB) and is designated Residential in the Stayton Comprehensive Plan. Upon annexation, the applicant is proposing to apply the High-Density Residential (HD) zoning district, which corresponds directly to the existing Comprehensive Plan designation.*

This demonstrates compatibility with the planned character of the area, as defined by the city's long-range planning documents. The Residential designation reflects the city's intent for this area to transition into urban residential use, consistent with surrounding properties that share the same designation within the UGB. Bringing the property into the city under its existing designation ensures alignment with the broader land use pattern envisioned in the Comprehensive Plan and avoids inconsistencies in development intensity or use.

The annexation also supports Stayton's urban growth program by facilitating orderly and contiguous expansion of the city limits in an area identified for future urban development. The annexation will allow for future development to occur in a manner consistent with adopted policies related to land use, housing, infrastructure, and community form. This includes goals and policies in the Comprehensive Plan that promote efficient growth within the UGB, the extension of public services in a coordinated manner, and the development of complete and livable neighborhoods.

Accordingly, the annexation complies with the city's urban growth program and land use policies, and the application of the HD zoning district ensures compatibility with the planned character of the area.

(e) The annexation request complies, or can be made to comply, with all applicable provisions of state and local law.

Applicant's Findings: *This annexation request complies, or can be made to comply, with all applicable provisions of state and local law. The application has been submitted in accordance with the procedural requirements of Stayton Municipal Code Section 17.12.210, which outlines the process and criteria for annexation. The applicant has provided all required submittal materials, including a completed application form, certified legal description, property boundary map, narrative addressing the applicable approval criteria, and a conceptual development plan.*

The proposal also complies with Oregon state law, including provisions of ORS Chapter 222, which governs annexation procedures for cities. The property is contiguous to the existing city limits and is located entirely within the City of Stayton Urban Growth Boundary (UGB), as acknowledged by the Department of Land Conservation and Development (DLCD). No territory subject to this annexation is considered to be "island" or noncontiguous land, and no conflicts arise with respect to boundaries or jurisdiction. In accordance with state law, consent of the property owner has been provided, and the proposed annexation does not require an election or petition from surrounding property owners or electors.

In addition, the proposed annexation is consistent with the city's adopted Comprehensive Plan, which designates the subject property as Residential and includes it within the area identified for future urban development. This demonstrates compatibility with the city's coordinated population, housing, and infrastructure planning efforts, as required by Oregon's Statewide Planning Goals—particularly Goal 14: Urbanization, which encourages orderly and efficient transition of land from rural to urban use.

To the extent that any additional procedural steps are required prior to final approval (e.g., recording of the annexation ordinance, updating of service agreements, or adoption of a zoning ordinance applying the HD district), such steps can and will be completed in accordance with both state and local law.

(f) If a proposed contract annexation, within the terms and conditions of the contract the cost of City facility and service extensions to the annexed area shall be calculated by the Public Works Director.

Applicant's Findings: *This is not a contract annexation. Therefore, the provisions of Section 17.12.210.4(f) regarding cost calculations by the Public Works Director are not applicable to this request.*

(5) ZONING OF ANNEXED TERRITORY. All lands that are annexed to the City shall be zoned in accordance with the designation of the property in the Comprehensive Plan. The specific zone assigned to the land being annexed shall be determined by the City Council in accordance with the proposed uses of the land and the needs identified by the

buildable lands analysis in the Comprehensive Plan. This requirement does not prohibit an application to amend the Comprehensive Plan Map concurrent with the application for annexation.

Applicant's Findings: *The subject property is designated Residential in the City of Stayton Comprehensive Plan, and the applicant is requesting the application of the corresponding High-Density Residential (HD) zoning district upon annexation. This request is consistent with the Comprehensive Plan designation and no amendment to the Plan Map is proposed.*

The HD zoning district implements the Residential designation by allowing for primarily single-family detached homes at a density that supports the city's long-term housing and land use goals. The applicant anticipates future residential subdivision development on the property in a manner consistent with the allowed uses and development standards of the HD zone.

This zoning assignment is also supported by the City's Buildable Lands Inventory and Housing Needs Analysis as outlined in Chapter 6 and Chapter 8 of the Comprehensive Plan. These analyses project the need for approximately 894 new housing units between 2010 and 2030 and identify a corresponding need for over 150 acres of additional residential land within the Urban Growth Boundary. Table 8-4 of the Comprehensive Plan shows that while there is some vacant land within the UGB, much of it is located outside the city limits—requiring annexation to make it available for development. The requested zoning supports the city's strategy to meet projected housing demand while maintaining an overall target gross density of six units per acre.

Accordingly, the proposed zoning is consistent with the adopted Comprehensive Plan designation, the intended use of the land, and the city's identified need for residential land within the Urban Growth Boundary.

(6) CONFORMANCE WITH CONCEPTUAL PLAN. Development of the property after annexation shall be in substantial conformance with any conceptual plan submitted with the application for annexation. For the purposes of this section, development is in substantial conformance with a conceptual plan if:

(a) The development is generally consistent with the character and intent of the conceptual plan;

(b) The number and types of housing units are generally consistent with those presented in the conceptual plan;

(c) The impacts from the development, including but not limited to, noise, vibration, dust, odor, or fumes, detectable at the property line will not exceed the maximums typical for the categories of uses proposed in the conceptual plan;

(d) The number and types of vehicular trips to and from the site will not exceed the maximums typical for the categories of uses proposed in the conceptual plan; and

(e) The amount and types of outside storage, loading, and parking will not exceed the maximums typical for the categories of uses proposed in the conceptual plan.

Applicant's Findings: *No formal conceptual development plan is submitted with this annexation application. However, the applicant anticipates that the property will be developed in the future as a traditional residential subdivision consistent with the High-Density Residential (HD) zoning designation proposed in conjunction with annexation.*

While a specific layout has not been prepared at this time, the anticipated future use—single-family residential development—is fully consistent with the Residential Comprehensive Plan designation that currently applies to the property. The property is being brought into the city under a zoning designation that supports traditional neighborhood development patterns, with detached homes, internal public streets, and appropriate pedestrian and infrastructure improvements.

As future development plans are brought forward, they will be subject to separate land use applications (e.g., subdivision review or site development approval) and will be required to demonstrate compliance with applicable standards for use, density, access, traffic generation, and environmental impacts. All development will be required to stay within the scope of impacts typical for low-density residential neighborhoods, including limits on noise, traffic, parking, and other externalities as outlined in the development code.

In the absence of a conceptual plan and given the applicant's stated intent to pursue residential subdivision development consistent with the HD zoning, future development will be aligned with the expectations and parameters described in this section.

(7) NOTICE TO COUNTY AND STATE.

(a) Within 10 working days after enactment of the ordinance approving the annexation, the City Recorder shall provide by certified mail to all public utilities, electric cooperatives and telecommunications carriers operating within the City each site address to be annexed as recorded on county assessment and tax rolls, a legal description and map of the proposed boundary change, and a copy of the ordinance approving the annexation.

(b) Within 10 days from the effective date the ordinance approving the annexation, the City Recorder shall provide to the Marion County Clerk and County Assessor a report containing a detailed legal description of the new boundaries established by the City.

(c) Within 14 days of enactment of the ordinance approving the annexation, the City Recorder shall transmit to the Oregon Secretary of State:

(1) A copy of the ordinance proclaiming the annexation, including a legal description of the territory to be annexed.

(2) An abstract of the vote, if a major annexation. The abstract of the vote shall show the whole number of electors voting on the annexation, the number of votes cast for annexation, and the number of votes cast against annexation.

(3) A copy of the statement of consent by electors or landowners in the territory annexed.

(d) Within 30 days of enactment of an ordinance annexing territory into the City, the City Recorder shall transmit to the Marion County Assessor and the Oregon Department of Revenue the legal description of the boundary change or proposed change and an accurate map conforming to the requirements of ORS 308.225(2).

Applicant's Findings: *The applicant understands that, following city council approval of the annexation ordinance, the city recorder is responsible for providing notice and documentation of the annexation to all applicable county and state agencies in accordance with Stayton Municipal Code Section 17.12.210.7 and ORS 308.225. This includes providing legal descriptions, maps, and copies of the ordinance to Marion County departments, the Oregon Secretary of State, the Oregon Department of Revenue, and utility service providers within the required timelines. The applicant acknowledges these post-approval steps are part of the formal annexation process and will ensure full cooperation with city staff as needed to complete these requirements.*

Section 5: Conclusion

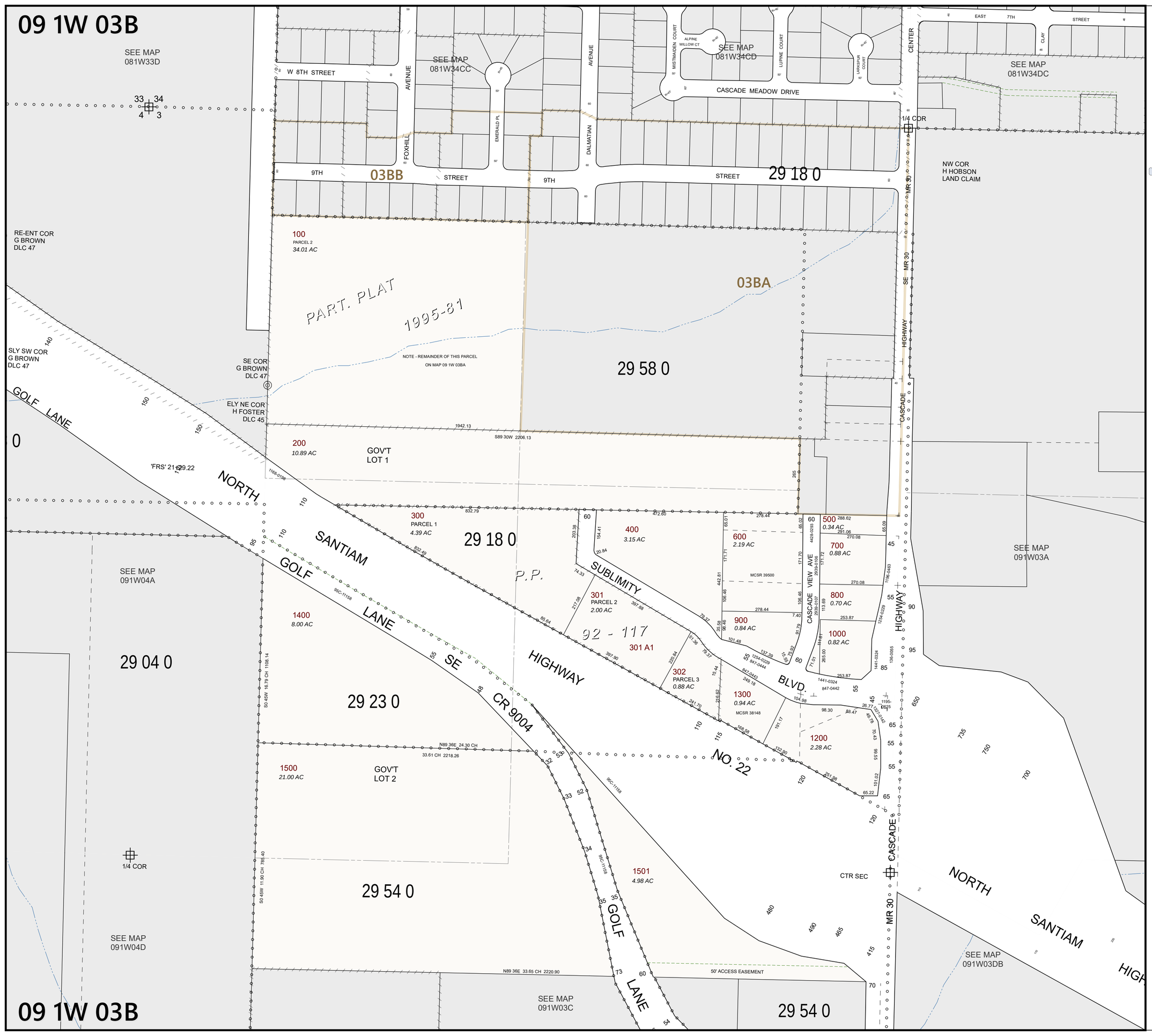
The proposed annexation of the 21.00-acre property identified as Marion County Assessor's Map and Tax Lot 091W03B001500 is consistent with the applicable provisions of the Stayton Municipal Code, the city's Comprehensive Plan, and state law. The property is located within the city's Urban Growth Boundary and is designated Residential in the Comprehensive Plan, indicating its suitability for future urban development. The applicant is requesting High-Density Residential (HD) zoning upon annexation, which aligns with the city's long-range planning goals and supports the anticipated development of a traditional single-family residential neighborhood. The annexation will help meet Stayton's projected housing needs by expanding the supply of buildable residential land within the city limits. Public services and infrastructure can be extended to the property in an efficient and coordinated manner, consistent with the city's adopted utility master plans. The property is contiguous to the existing city limits and can be integrated seamlessly into the city's urban fabric.

Through this application, the applicant has provided all required materials and demonstrated compliance with the applicable criteria for annexation. The request supports the city's goals for managed growth, housing availability, and infrastructure planning, and represents a logical and beneficial expansion of the Stayton city limits. The applicant respectfully requests approval of the annexation and application of the Low-Density Residential zoning designation.

Section 6: Exhibits

Exhibit A – Marion County Tax Map

09 1W 03B



09 1W 03B SUBLIMITY

MARION COUNTY, OREGON

NW1/4 SEC3 T9S R1W W.M.

SCALE 1" = 200'

LEGEND

LINE TYPES

- Taxlot Boundary
- Historical Boundary
- Road Right-of-Way
- Easement
- Railroad Right-of-Way
- Railroad Centerline
- Private Road ROW
- Taxcode Line
- Subdivision/Plat Bndry
- Map Boundary
- Waterline - Taxlot Bndry
- Waterline - Non Bndry

CORNER TYPES

- 1/16TH Section Cor.
- 1/4 Section Cor.
- DLC Corner
- Section Corner (16 15 / 21 22)

NUMBERS

Tax Code Number

00 00 0

Acreage *0.25 AC*

All acres listed are Net Acres, excluding any portions of the taxlot within public ROWs

NOTES

Tick Marks: A tick mark in the road indicates that the labeled dimension extends into the public ROW

200.00
175.00

CANCELLED NUMBERS

201
501
701
1100
1201
1401

DISCLAIMER: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY

Marion County OREGON — Assessors Office Cartography Dept

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT www.co.marion.or.us

PLOT DATE: 3/28/2022

SUBLIMITY 09 1W 03B

09 1W 03B

Exhibit B – Deeds

Marion County Parcel Information

Parcel Information

Parcel #:	**533917**
Tax Lot:	**091W03B001500**
Site Address:	
	Sublimity OR 97385
Owner:	Ksd Properties LLC
Owner2:	
Owner Address:	500 SW Sublimity Blvd
	Sublimity OR 97385 - 9629
Twn/Range/Section:	09S / 01W / 03 / NW
Parcel Size:	21.00 Acres (914,760 SqFt)
Plat/Subdivision:	
Lot:	
Block:	
Census Tract/Block:	010701 / 5027
Waterfront:	

Tax Information

Levy Code Area:	29540
Levy Rate:	12.1555
Tax Year:	2023
Annual Tax:	$2,777.28
Exempt Desc:	N/A

Legal

01-02: 21.0 ACRES DISQ FARM USE, PAT LIAB $4,884.71

Assessment Information

Market Value Land:	$781,200.00
Market Value Impr:	$0.00
Market Value Total:	$781,200.00
Assessed Value:	$228,480.00

Land

Zoning:	County-UT-20 - Urban Transition - 20 Acres Lot Min.	**Cnty Bldg Use:**	Residential
Cnty Land Use:	490 - Tract land only, over 1 acre, inside city or urban growth boundary	**Neighborhood:**	
Std Land Use:	VMSC - Vacant Misc	**Recreation:**	
School District:	29J - North Santiam	**Primary School:**	Stayton Elementary School
Middle School:	Stayton Middle School	**High School:**	Stayton High School

Improvement

Year Built:		**Stories:**		**Finished Area:**	
Bedrooms:		**Bathrooms:**		**Garage:**	
Basement Fin:					

Transfer Information

Rec. Date:	09/28/2023	**Sale Price:**	$650,000.00	**Doc Num:**	2023-29433	**Doc Type:**	Deed
Owner:	Ksd Properties LLC			**Grantor:**	MCCLAIN LIVING TRUST		
Orig. Loan Amt:				**Title Co:**	AMERITITLE		
Finance Type:		**Loan Type:**		**Lender:**			

AmeriTitle

MARION COUNTY RECORDS **2023-29433**
D-DEED 09/28/2023 10:30 AM
$10.00 $11.00 $10.00 $60.00 $91.00

I, Bill Burgess, County Clerk for Marion County, Oregon, certify that the instrument identified herein was recorded in the Official Records.

Pgs=2 JCK

After recording return to:
KSD Properties LLC, an Oregon limited liability company
500 SW Sublimity Blvd
Sublimity, OR 97385

Until a change is requested all tax statements shall be sent to the following address:
KSD Properties LLC, an Oregon limited liability company
500 SW Sublimity Blvd
Sublimity, OR 97385
File No. 605382AM

605382AM

STATUTORY WARRANTY DEED

William L. McClain and Pamela K. McClain, Trustees, or their successors in interest of the McClain Living Trust, dated June 6, 2003,

Grantor(s), hereby convey and warrant to

KSD Properties LLC, an Oregon limited liability company,

Grantee(s), the following described real property in the County of Marion and State of Oregon free of encumbrances except as specifically set forth herein:

Beginning at a point on the legal subdivision line dividing Section 3 into East and West halves and being 33.35 chains North 15' East from the one fourth section line on the North boundary of said Section 3 in Township 9 South, Range 1 West of the Willamette Meridian in Marion County, Oregon; thence South 89°30' West 33.61 chains to the Eastline of the Donation Land Claim of Henry Foster; thence South 45' West 11.90 chains along the line of the Henry Foster Donation Land Claim; thence North 89°36' East 33.65 chains to the East line of the West one half of said Section 3; thence North 15' West 11.90 chains along the East line of the West one half of said Section 3 to the place of beginning.

SAVE AND EXCEPT that portion conveyed to the State of Oregon by and through its State Highway Commission recorded in Book 483, Page 669, Deed Records for Marion County, Oregon.

ALSO SAVE AND EXCEPT therefrom that ceratin real property conveyed to the Sublimity Fire Insurance Co. in Book 638, Page 091, Deed Records for Marion County.

FURTHER SAVE AND EXCEPT therefrom that certain property described in Final Judgment filed August 11, 1997 in Marion County Court Case 95C11158, recorded August 29, 1997 in Reel 1422, Page 23, Deed Records for Marion County.

FOR INFORMATION PURPOSES ONLY, THE MAP/TAX ACCT #(S) ARE REFERENCED HERE:

091W03B001500

The true and actual consideration for this conveyance is $650,000.00.

The above-described property is free of encumbrances except all those items of record, if any, as of the date of this deed and those shown below, if any:

2023-2024 Real Property Taxes, a lien not yet due and payable

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Dated this 27 day of September 2023

The McClain Living Trust, dated June 6, 2003

X _____
William L. McClain, Trustee

X _____
Pamela K. McClain, Trustee

State of Oregon} ss.
County of Marion}

On this 27 day of September, 2023 ___, before me, Stephanie Catlett Goad a Notary Public in and for said state, personally appeared William L. McClain and Pamela K. McClain known or identified to me to be the person whose name is subscribed to the foregoing instrument as trustee of the McClain Living Trust, and acknowledged to me that he/she/they executed the same as Trustee.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

_____
Notary Public for the State of Oregon
Residing at: Salem OR
Commission Expires: 12-13-2025

OFFICIAL STAMP
STEPHANIE MARIE CATLETT-GOAD
NOTARY PUBLIC - OREGON
COMMISSION NO. 1019866
MY COMMISSION EXPIRES DECEMBER 13, 2025

Marion County
Document Separator Page

Instrument # 2023-29433

September 28, 2023 10:30 AM

State of Oregon
County of Marion

I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

Fee: $91.00

Bill Burgess
Marion County Clerk

This is not an invoice.

Exhibit C – Articles of Organization

AMENDED ANNUAL REPORT

Corporation Division
sos.oregon.gov/business

E-FILED
Jan 03, 2024
OREGON SECRETARY OF STATE

REGISTRY NUMBER

13117791

REGISTRATION DATE

02/18/2003

BUSINESS NAME

KSD PROPERTIES, LLC

BUSINESS ACTIVITY

REAL ESTATE INVESTMENT

MAILING ADDRESS

500 SW SUBLIMITY BLVD
SUBLIMITY OR 97385 USA

TYPE

DOMESTIC LIMITED LIABILITY COMPANY

PRIMARY PLACE OF BUSINESS

500 SW SUBLIMITY BLVD
SUBLIMITY OR 97385 USA

JURISDICTION

OREGON

REGISTERED AGENT

JEFF KOEHNKE

500 SW SUBLIMITY BLVD
SUBLIMITY OR 97385 USA

If the Registered Agent has changed, the new agent has consented to the appointment.

MANAGER

JEFF KOEHNKE

500 W SUBLIMITY BLVD
SUBLIMITY OR 97385 USA

I declare, under penalty of perjury, that this document does not fraudulently conceal, fraudulently obscure, fraudulently alter or otherwise misrepresent the identity of the person or any officers, managers, members or agents of the limited liability company on behalf of which the person signs. This filing has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete. Making false statements in this document is against the law and may be penalized by fines, imprisonment, or both.

By typing my name in the electronic signature field, I am agreeing to conduct business electronically with the State of Oregon. I understand that transactions and/or signatures in records may not be denied legal effect solely because they are conducted, executed, or prepared in electronic form and that if a law requires a record or signature to be in writing, an electronic record or signature satisfies that requirement.

ELECTRONIC SIGNATURE

NAME

JEFF KOEHNKE

TITLE

MANAGING MEMBER

DATE

01-03-2024

Exhibit D – Stayton Annexation Application Form

Submit Via Email

CITY OF STAYTON
APPLICATION FOR ANNEXATION

PROPERTY OWNER: KSD Properties, LLC
Address: 500 SW Sublimity Blvd
City/State/Zip: Sublimity, OR 97385
Phone: See Representative Email: See Representative

APPLICANT: Same as property owner.
Address:
City/State/Zip:
Phone: Email:

APPLICANT'S REPRESENTATIVE: BRAND Land Use, LLC | Britany Randall
Address: 1720 Liberty Street SE
City/State/Zip: Salem, OR 97302
Phone: 503-370-8704 Email: britany@brandlanduse.com

CONSULTANTS: Please list below planning and engineering consultants.

PLANNING	ENGINEERING
Name: BRAND Land Use, LLC	Name:
Address: 1720 Liberty Street SE	Address:
City/State/Zip: Salem, OR 97302	City/State/Zip:
Phone: 503-370-8704	Phone:
Email: britany@brandlandus.com	Email:

Select one of the above as the principal contact to whom correspondence from the Planning Department should be addressed:

☐ owner ☐ applicant ■ applicant's representative ■ planning consultant ☐ engineer

LOCATION:

StreetAddress:

Assessor's Tax Lot Number and Tax Map Number:
091W03B001500

Closest Intersecting Streets: Golf Lane SE and Cascade Highway SE

CURRENT COMPREHENSIVE PLAN DESIGNATION: Residential

ZONE MAP DESIGNATION PROPOSED WITH ANNEXATION: High Density Residential (HD)

SIGNATURE OF APPLICANT: Jeff Koehnke

DO NOT WRITE BELOW THIS LINE

Application received by: Date: Fee Paid: $ Receipt No.

Land Use File#

Please See Detailed Narrative Included with Submittal

QUESTIONS TO BE ADDRESSED IN NARRATIVE STATEMENT

The Stayton Planning Commission, with assistance from the Planning Department and the Public Works Department will use the information provided by the applicant to analyze the merits of this application. A decision to approve or deny the application is made based on how well the applicant presents information to show the application meets the standards and criteria set forth in the Stayton Land Use and Development Code 17.12.210.5. Please provide the following information in full and attach a narrative statement to this application.

1. NEED: What is the demonstrated need for this property to be annexed into the City?
2. ADEQUATE UTILITIES: How will the proposed annexation obtain or maintain adequate utility systems (including water, sewer, surface water drainage, power, and communications), and connections, including easements, to properly serve the subject property in accordance with accepted City standards?

   All public improvements must meet City of Stayton standard specifications. All design plans must be approved by the City prior to construction. The City will inspect all construction.

   a. List public services currently available to the site:

      Water Supply: _____ - inch line available in _____ Street.
      Sanitary Sewer: _____ - inch line available in _____ Street.
      Storm Sewer: _____ - inch line available in _____ Street.
      Natural Gas: _____ - inch line available in _____ Street.
      Telephone: ☐ is (or) ☐ is not available in _____ Street.
      Cable TV: ☐ is (or) ☐ is not available in _____ Street.
      Electrical: ☐ is (or) ☐ is not available in _____ Street.

   b. Will existing City public services need to be replaced or upgraded to accommodate the demands created by the annexation? ☐ yes ☐ no
3. Is the subject property contiguous to the city limits? ☐ yes ☐ no
4. Is the proposed annexation compatible with the character of the surrounding area and does it comply with the urban growth program and policies of the City?
5. How does the proposed annexation comply, or will be made to comply with all applicable provisions of state and local law?
6. If the proposed annexation is a contract annexation, does the proposal include the cost of City facility and service extensions as calculated by the Public Works Director?

Exhibit E – Conceptual Subdivision Site Plan

Exhibit F – Professional Land Surveyor Property Boundary Line Exhibit

LAND USE

GROSS PLANNING AREA:

GROSS AREA	914,760 SF = 21.0 ACRES
TRACT A	33,600 SF = − 0.77 ACRES
	881,160 SF = 20.23 ACRES

PLANNING TO BE DEVELOPED:

TOTAL	881,160 SF = 20.23 ACRES
PLAT ROADS	248,400 SF = −5.70 ACRES
NET PLANNING AREA	632,760 SF = 14.53 ACRES

NET PLANNING AREA:

92 LOTS / 14.53 ACRES = 6.33 LOTS PER ACRE

632,760 SF / 92 LOTS = 6,880 SF AVERAGE LOT SIZE

SMALLEST LOT SIZE: 6,000 SF
LARGEST LOT SIZE: 13,950 SF

NS NORTH SANTIAM PAVING COMPANY
41203 KINGSTON-LYONS DRIVE, P.O. BOX 516
STAYTON, OREGON 97383
(503) 769-3436
LEVI@NSPOR.COM
CONSTRUCTION • ENGINEERING • SURVEYING

GOLF LANE ROAD SUBDIVISION

CITY OF STAYTON MARION COUNTY, OREGON
NW 1/4 SEC 3 T9S R1W WM TAX MAP 091W03B TAX LOT 1500

PRELIMINARY LAYOUT OPTION 3

REGISTERED PROFESSIONAL ENGINEER 88956PE OREGON JANUARY 21, 2021 LEVI D. WARRINER
PRELIMINARY
EXPIRES: 6-30-2024

PLOT DATE: 2/7/2024
REVISIONS:
DRAWN BY: LDW
CHECKED BY: LDW
JOB No: 23110
SCALE: 1" = 50'
SHEET C1

Exhibit G – Legal Description of Property

EXHIBIT A

A unit of land situated in the northwest and southwest one-quarter of Section 3, Township 9 South, Range 1 West, of the Willamette Meridian, Marion County, Oregon, being all of that property conveyed to KSD Properties, LLC by Instrument Number 2023-29433, Marion County Records, and further described as follows:

Beginning at the northwest corner of Parcel 1 of Partition Plat 91-20, Marion County Records, being coincident with the east line of the Henry Foster Donation Land Claim and the east line of that property conveyed to the Stayton School District by Volume 638, Page 164, Marion County Records;

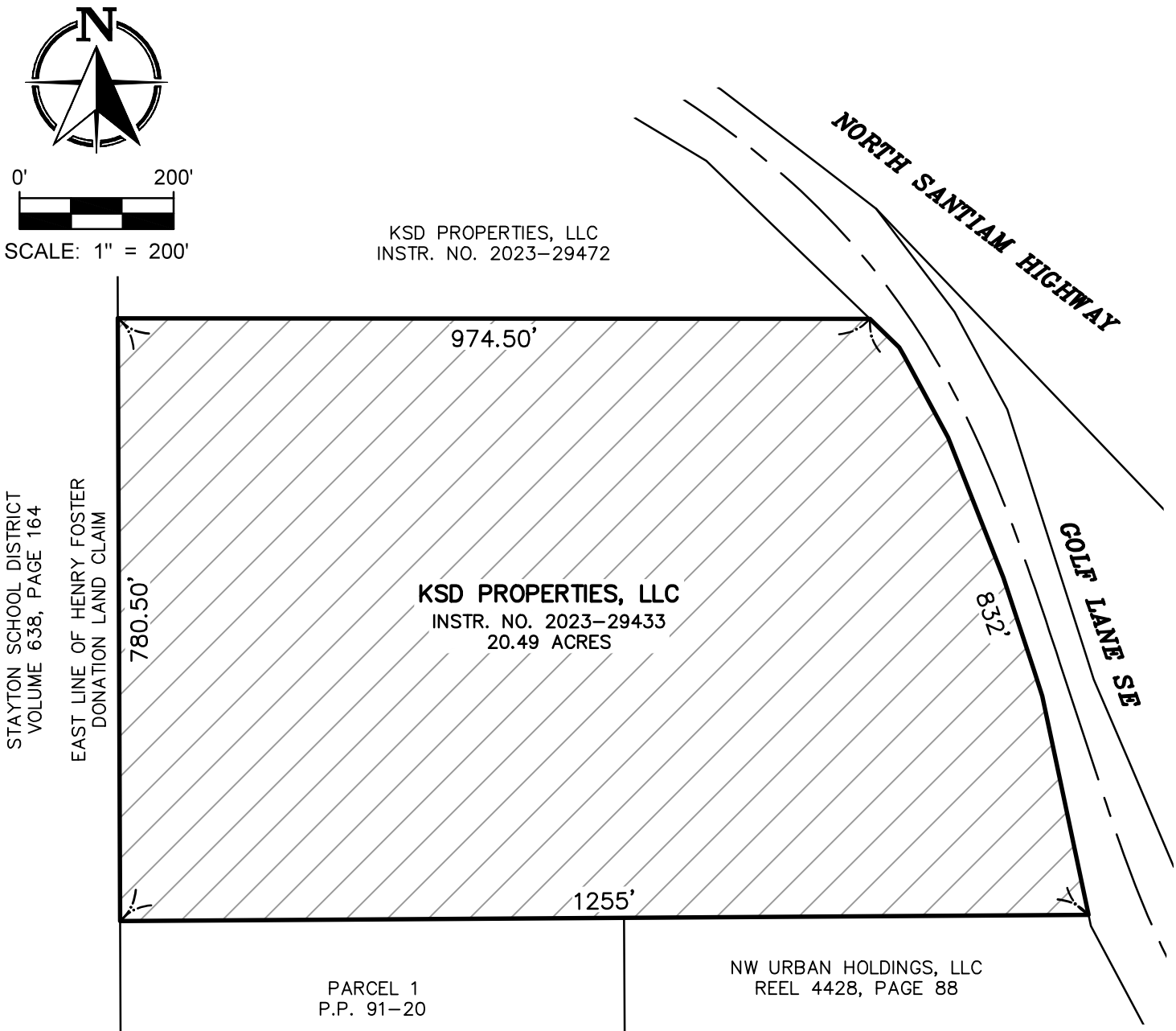
thence, going northerly, along the east line of said Henry Foster Donation Land Claim, approximately 780.50 feet to the south line of that property conveyed to KSD Properties, LLC by Instrument Number 2023-29472, Marion County Records;

thence, going easterly, along the south line of said Instrument Number 2023-29472, approximately 974.50 feet to the west line of Golf Lane SE;

thence, going southerly, along the west line of said Golf Lane SE, approximately 832 feet to the easterly extension of the north line of Parcel 1 of said Partition Plat 91-20, being coincident with the north line of that property conveyed to NW Urban Holdings, LLC by Reel 4428, Page 88, Marion County Records;

thence, going westerly, along the easterly extension of the north line of said Parcel 1 and the north line of said NW Urban Holdings, LLC property, approximately 1255 feet to the Point of Beginning.

Containing 20.49 acres, more or less.



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
SEPTEMBER 12, 2017
STEVEN LEE HOWELL
91569

RENEWS: 6–30–2025

EXHIBIT B

IN THE NW & SW 1/4 OF SECTION 3,
TOWNSHIP 9 SOUTH, RANGE 1 WEST, W.M.
MARION COUNTY, OREGON

DATE: MARCH 12, 2025

SURVEYED FOR: KSD PROPERTIES, LLC

FFN SURVEYING

7230 3rd Street SE #145, Turner, OR 97392
P: (503) 558-3330 E: info@ffnsurveying.com

JOB NO.
25–562

SHEET
1/1

Exhibit H – Transportation Impact Analysis

STAYTON GOLF LANE SUBDIVISION

TRANSPORTATION IMPACT ANALYSIS

AUGUST 2024

PREPARED FOR KSD PROPERTIES

Jeff Koehnke

Brad Koehnke

Bryan Koehnke

PREPARED BY DKS ASSOCIATES

Jenna Bogert, P.E.

Harrison Steiger

REGISTERED PROFESSIONAL ENGINEER
97,731
OREGON
MAY 11, 2021
JENNA C. BOGERT
EXPIRES: DEC. 31, 2025

Jenna C Bogert
Digitally signed by Jenna C Bogert
Date: 2024.08.16 14:02:07 -07'00'

DKS

117 COMMERCIAL STREET NE, SUITE 310, SALEM, OR 97301 • 503.391.8773 • DKSASSOCIATES.COM

SHAPING A SMARTER TRANSPORTATION EXPERIENCE™

AN EMPLOYEE-OWNED COMPANY

TABLE OF CONTENTS

INTRODUCTION

This study evaluates the transportation impacts associated with the proposed 92-lot subdivision development in Stayton, Oregon. The property is located west of the Golf Lane and Cascade Highway intersection, south of Highway 22.

The purpose of this transportation impact analysis is to identify potential mitigation measures needed to offset transportation impacts that the proposed development may have on the nearby transportation network. The impact analysis is focused on the study intersections, which are listed below and shown in Figure 1.

1. Cascade Hwy / OR 22 Westbound Ramps
2. Cascade Hwy / OR 22 Eastbound Ramps
3. Cascade Hwy / Golf Lane / Parking Lot
4. Cascade Hwy / Whitney St
5. Cascade Hwy Shaff Rd / Fern Ridge Rd
6. Golf Ln / New Public Street (Site Access)

FIGURE 1: STUDY AREA

EXISTING CONDITIONS

This chapter provides documentation of existing study area conditions, including the study area roadway network, pedestrian and bicycle facilities, and existing traffic volumes and operations.

STUDY AREA ROADWAY NETWORK

The project site is located in north Stayton, Oregon. The key roadways in the study area are summarized in Table 1 along with their existing roadway characteristics.

TABLE 1: STUDY AREA ROADWAY CHARACTERISTICS

ROADWAY	JURISDICTION	FUNCTIONAL CLASSIFICATION	LANES	POSTED SPEED	SIDEWALK	BIKE FACILITIES
OR 22	ODOT	Statewide Highway	4	55 mph	No	No
CASCADE HWY	Marion County	Major Arterial	3	45 mph	Partial[1]	Yes
GOLF LN	Marion County	Collector	2	N/A	No	No
WHITNEY ST	City of Stayton	Residential Local	2	N/A	Partial[2]	No
SHAFF RD	Marion County	Minor Arterial	2	35 mph	Partial [3]	Yes
FERN RIDGE RD	City of Stayton	Collector	3	35 mph	Yes	Yes

CRASH ANALYSIS

Crash data was obtained for the five most recent years of available data (2018-2022) in Stayton, Oregon. A total of 58 intersection crashes were reported at the five study intersections and are summarized below. No fatal crashes were reported and none of the crashes involved bicyclists or pedestrians. There were no reported crashes at the Cascade Highway / Golf Lane intersection during the time period analyzed. There are no ODOT SPIS sites (2019 – 2021 data) within the study area.

[1] Sidewalk present on east side of road and west side of road north of Mill Creek

[2] Sidewalk present on south side of road only

[3] Sidewalk present of south side of road only

There was one Serious Injury (A) crash that occurred at the OR22 Westbound Ramp / Cascade Highway intersection. On a clear morning, a motorcycle failed to stop while exiting OR22 and struck a vehicle travelling north on Cascade Highway.

The intersection of Cascade Highway/OR 22 westbound ramps exceeds the comparison 90th percentile crash rate as calculated by ODOT. This intersection has a high proportion of angle and turning crashes. The planned improvement at this intersection is a traffic signal as identified in the ODOT Interchange Area Management Plan.

TABLE 2: CRITICAL CRASH EVALUATION

INTERSECTION	CRASHES						CALCULATED CRASH RATE	PUBLISHED ODOT COMPARISON CRASH RATE
	FATAL	SERIOUS INJURY	MINOR INJURY	POSSIBLE INJURY	PDO	TOTAL		
CASCADE HWY / OR22 WB RAMPS	0	1	4	2	5	12	**0.479**	0.408
CASCADE HWY / OR22 EB RAMPS	0	0	5	3	15	23	0.740	0.860
CASCADE HWY / GOLF LN	0	0	0	0	0	0	0.000	0.408
CASCADE HWY / WHITNEY ST	0	0	0	2	5	7	0.230	0.509
CASCADE HWY / SHAFF RD / FERN RIDGE RD	0	0	1	6	10	16	0.441	0.860

EXISTING TRAFFIC VOLUMES

Weekday AM and PM peak hour turning movement counts (7:00-9:00 a.m. and 4:00-6:00 p.m.) were collected at the five study intersections on Thursday, May 30th, 2024. A seasonal adjustment factor of 1.08 was applied to the existing volumes to represent the 30th Highest Hourly Volumes (30HV). ATR Station #24-005 was used and is located on OR22 approximately 3.5 miles west of our study intersections. The resulting 2024 Existing traffic volumes are shown in Figure 2.

INTERSECTION PERFORMANCE MEASURES

Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two commonly used performance measures that provide a good picture of intersection operations.

- **Level of Service (LOS):** A "report card" rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity.
- **Volume-to-capacity (v/c) ratio:** A decimal representation (typically between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the

hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases, and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

The intersections in this analysis are predominately under either State or Marion County jurisdiction. Below are the standards for the agencies:

For intersections under ODOT jurisdiction, the Oregon Highway Plan identifies the operational standards for State Highways. OR 22 is a freight route on a state highway and will need to meet the v/c ratio standards in Table 6 of the Oregon Highway Plan. The standard for the WB ramps is a v/c ratio of 0.70 or better and for the EB ramps, the standard is 0.80 or better.

Marion County standards state that all signalized intersections shall operate at a LOS D or better (LOS E or better for all individual movements) and v/c ratio of 0.85 better. Two-way stop controlled intersections shall operate at Level Of Service E or better. For intersections that are within the UGB of a city, the City' standard shall also apply.

The City of Stayton's Land Use and Development Code states the minimum acceptable LOS for signalized intersections is LOS "D". The minimum acceptable level of service for unsignalized two-way stop-controlled intersections is LOS "E" or LOS "F" with a v/c ratio of 0.95 or less for the critical movement.

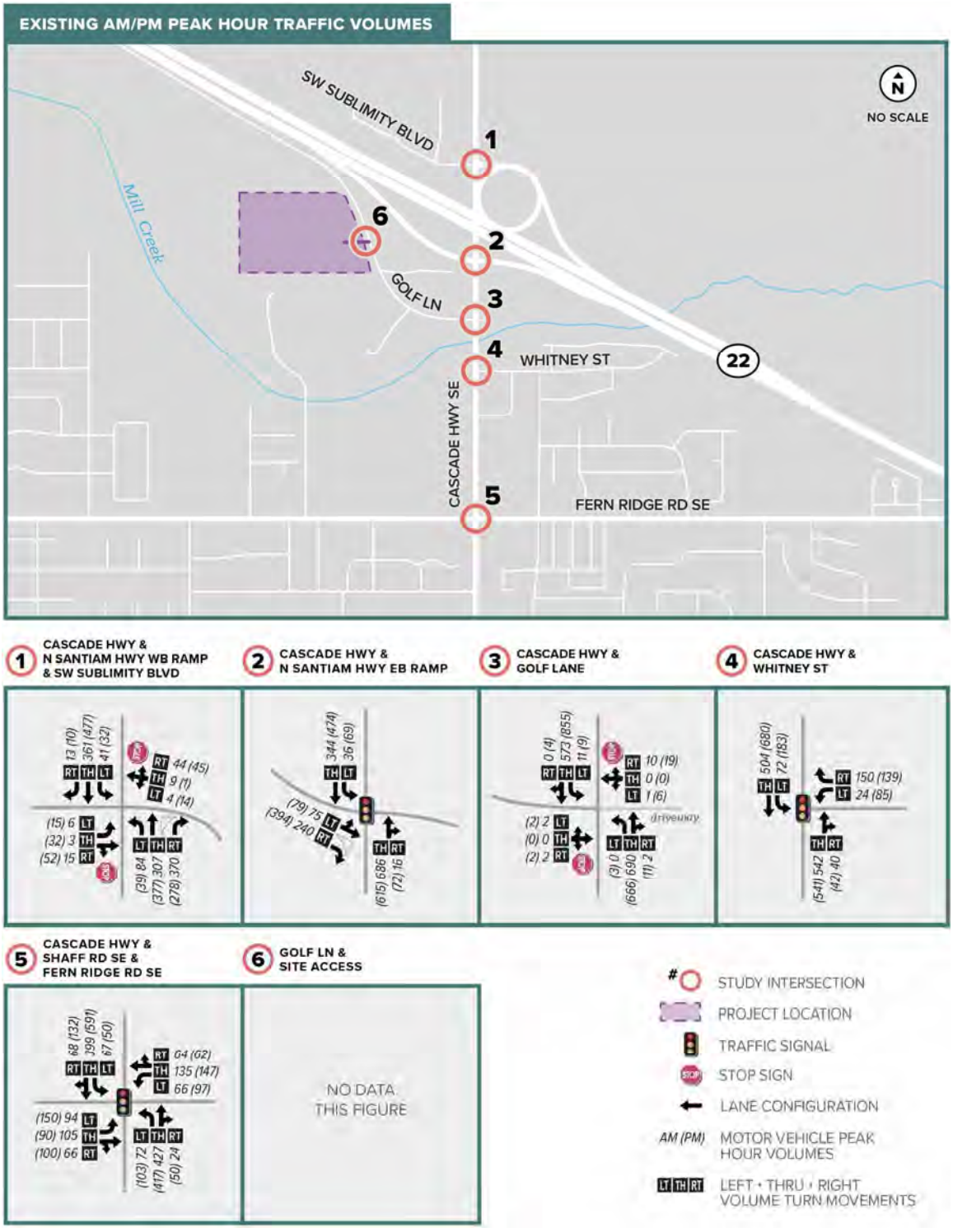


FIGURE 2: EXISTING 2023 AM AND PM PEAK HOUR VOLUMES

EXISTING OPERATING CONDITIONS

Existing traffic operations at the study intersections were determined for the AM and PM peak hours based on the Highway Capacity Manual (HCM) 6th Edition methodology for signalized and unsignalized intersections.[4] The results were then compared with the Marion County and ODOT operating standards. Table 3 lists the estimated v/c ratio and delay at each study intersection.

As shown below, there is one study intersection that does not meet the operating standards for the 2024 Existing PM peak hour and that is the Cascade Highway/Shaff Road/Fern Ridge Road intersection, which is under the County's jurisdiction.

TABLE 3: EXISTING INTERSECTION OPERATIONS (2024)

INTERSECTION	JURISDICTIONAL OWNER	OPERATING STANDARD	AM PEAK HOUR			PM PEAK HOUR		
			V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
CASCADE HWY / OR22 WB RAMPS	ODOT	v/c ≤ 0.70 (v/c ≤ 0.90) [a]	0.06	33.9	D	0.13	36.7	E
CASCADE HWY / OR22 EB RAMPS	ODOT	v/c ≤ 0.80 (v/c ≤ 0.90) [a]	0.80	34.9	C	0.81	23.9	C
CASCADE HWY / GOLF LN [b]	County	LOS E; v/c ≤ 0.95	0.05	18.2	C	0.15	27.2	D
CASCADE HWY / WHITNEY ST	County	LOS D; v/c ≤ 0.85	0.67	15.2	B	0.69	17.8	B
CASCADE HWY / SHAFF RD / FERN RIDGE RD	County	LOS D; v/c ≤ 0.85	0.73	34.2	C	**0.88**	37.2	D

STOP CONTROLLED INTERSECTION:
Delay = Critical Movement Approach Delay (secs)
v/c = Associated Movement Volume-to-Capacity Ratio
LOS = Level of Service (Major/Minor Road)

SIGNALIZED INTERSECTION
Delay = Average Intersection Delay (secs)
v/c = Total Volume-to-Capacity Ratio
LOS = Total Level of Service

[a] This v/c ratio may be increased to 0.90 if it can be determined that vehicles queues will not extend onto the mainline or into the portion of the ramp needed to safely accommodate deceleration; and if an adopted Interchange Area Management Plan (IAMP) is present or can be developed.
Queuing analysis showed that eastbound off-ramp vehicle queues do not extend onto the mainline of OR 22 during the peak hours. The queues are approximately 175 feet during the PM peak hour, while the off-ramp is approximately 1,800 feet in length.

At the intersection of Cascade Highway and Golf Lane, there is currently a two-way left turn lane (TWLTL) this is striped along Cascade Highway. This TWLTL serves as a left turn lane for vehicles turning off Cascade Highway onto Golf Lane and into the Cherriots Park and Ride lot. It also provides an opportunity for vehicles turning out of Golf Lane or the Park and Ride onto Cascade

[4] Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

Highway to make a left turn in two stages. During field observations, vehicles were observed to perform this two-stage maneuver during the peak hour. As shown in Figure 2, during the peak hours the number of vehicles turning into the Park and Ride lot is low (<10 vehicles) as well as the number of vehicles turning left out of Golf Lane (<5 vehicles), resulting in minimal conflicts within the TWLTL. This two-stage left turn was maintained in the analysis models for future conditions.

The intersection of Cascade Highway/Shaff Road/Fern Ridge Road currently exceeds the County/City operating standards during the PM peak hour. This is primarily due to the high volume (>1,200 vehicles per hour) of north-south traffic through the intersection. Traffic volumes on Cascade Highway at the intersection currently exceed the City's projected 2040 traffic volume estimates in their TSP. There is no improvement project identified in the City's Transportation System Plan.

PROJECT IMPACTS

This section reviews the impacts that the proposed residential development may have on the transportation system within the study area. This analysis includes the trip generation, trip distribution, and future year traffic volumes and operating conditions for the study intersections for both the No-Build and Build scenarios.

PROPOSED DEVELOPMENT

The development is a 92-lot subdivision to be used for single-family residential living. All lots will be accessed via Golf Lane. The project completion is estimated to be in 2028.

ANALYSIS SCENARIOS

Future operating conditions were analyzed at the study intersections for the following future traffic scenarios. The comparison of the following scenarios enables the assessment of project impacts:

- 2028 No-Build – This scenario represents the expected future traffic conditions of the study area without the project trips from the proposed development. There is currently one in-process development (Fern Ridge Apartments) near the study area and the associated project trips were included in the No-Build scenario.
- 2028 Build – This scenario represents the expected traffic conditions of the study area including the project trips for the proposed development, assuming it is built and fully occupied by 2028

TRIP GENERATION

Trip generation is the method used to estimate the number of vehicles added to site roadways and the adjacent roadway network by a development during a specified period (i.e., such as the PM

peak hour). ITE 11th Edition trip generation data was used to determine the trip generation of the new residential housing development.[5]

Single-Family Detached Housing (ITE code 210) was used to estimate the trip generation from the site. Neither Internal nor Pass-By trip reductions were applied to the values as they do not apply for this land use. Table 4 provides the trip generation for the proposed development. As shown, the development is expected to generate a total of 69 (17 in, 52 out) AM peak hour trips and 92 (58 in, 34 out) PM peak hour trips.

TABLE 4: TRIP GENERATION

LAND USE (ITE CODE)	SIZE	AM PEAK TRIPS			PM PEAK TRIPS			DAILY TRIPS
		TOTAL	IN	OUT	TOTAL	IN	OUT	
SINGLE-FAMILY DETACHED HOUSING (210)	92 units	69	17	52	92	58	34	935

TRIP DISTRIBUTION

Trip distribution provides an estimate of where project-related trips would be coming from and going to. It is given as percentages at key gateways to the study area and is used to route project rips through the study intersections. Figure 3 shows the expected trip distribution and project trip routing for the trips generated by the proposed development. The distribution was coordinated with City of Stayton's consultant traffic engineer.

- 35% to/from N First Avenue south of the project site
- 35% to/from OR22 west of the project site
- 10% to/from Shaff Road southwest of the project site
- 10% to/from Fern Ridge Road southeast of the project site
- 5% to/from S Center Street north of the project site
- 5% to/from OR22 east of the project site

FUTURE TRAFFIC VOLUMES

The AM and PM peak hour traffic volumes for the two future analysis scenarios are shown in Figure 4 and Figure 5. The Future 2028 No-Build scenario volumes were estimated by applying a linear growth rate of 1% per year to the Existing 2024 volumes over four years to 2028 (assumed year of project completion). The 1% linear growth rate was supported by the City's consultant traffic engineer and captures typical vehicle growth associated with regional and local growth. Additionally, the vehicle trips generated by the Fern Ridge Apartments were added to the 2028 No Build scenario volumes. The Future 2028 Build scenario volumes were estimated by adding the project generation trips to the Future 2028 No-Build scenario volumes.

[5] Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021.

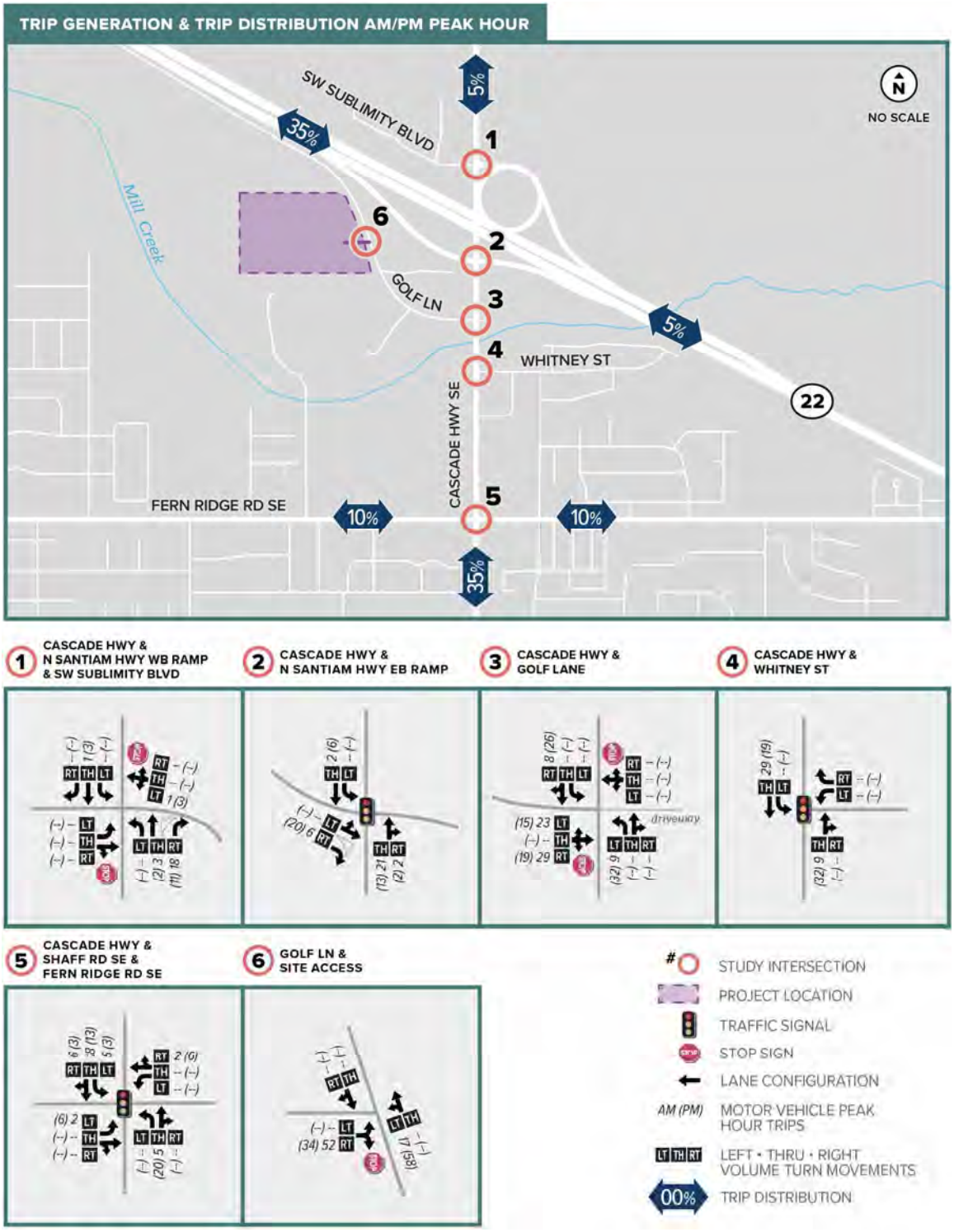


FIGURE 3: TRIP GENERATION & TRIP DISTRIBUTION

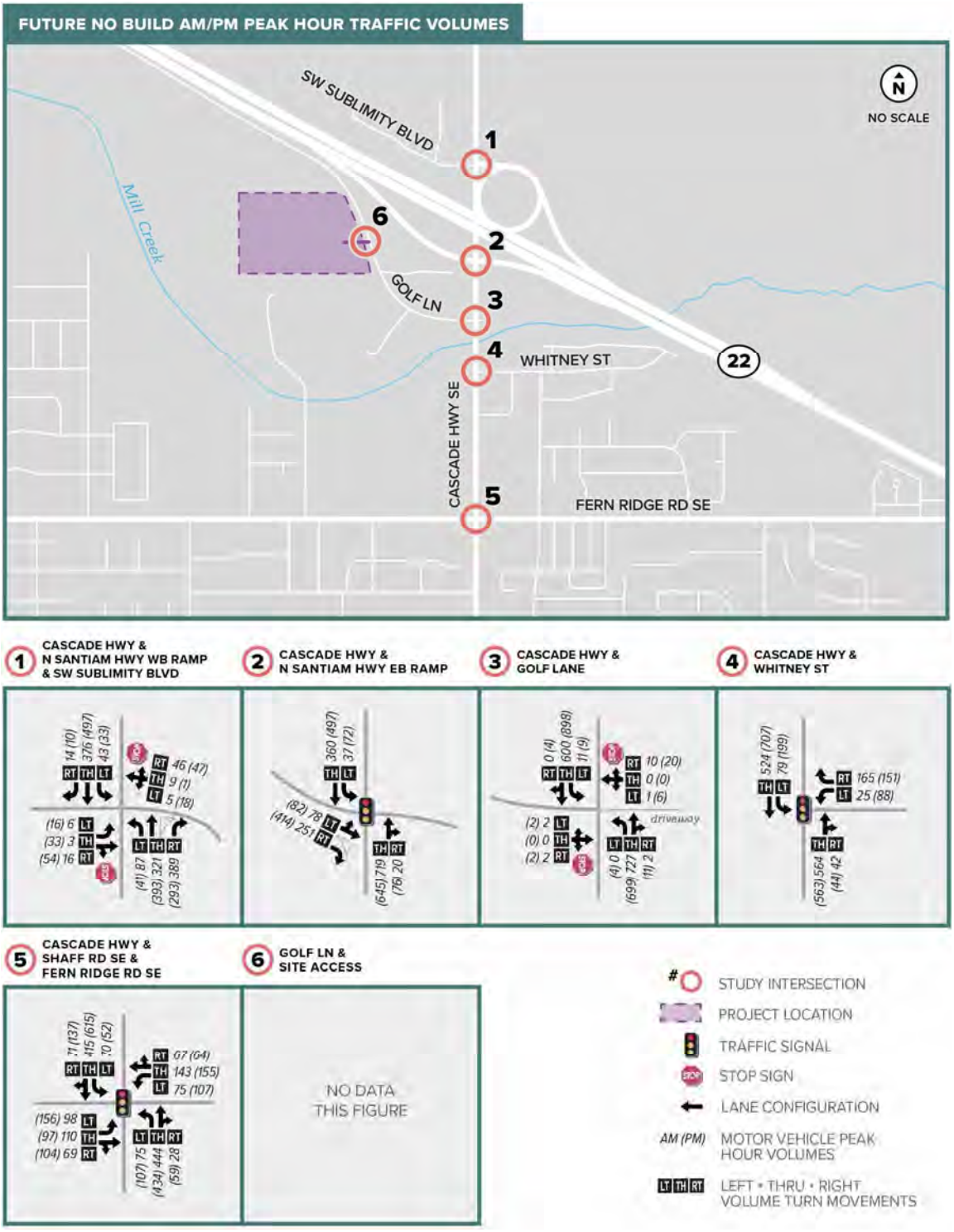


FIGURE 4: FUTURE 2028 NO-BUILD AM AND PM PEAK HOUR VOLUMES

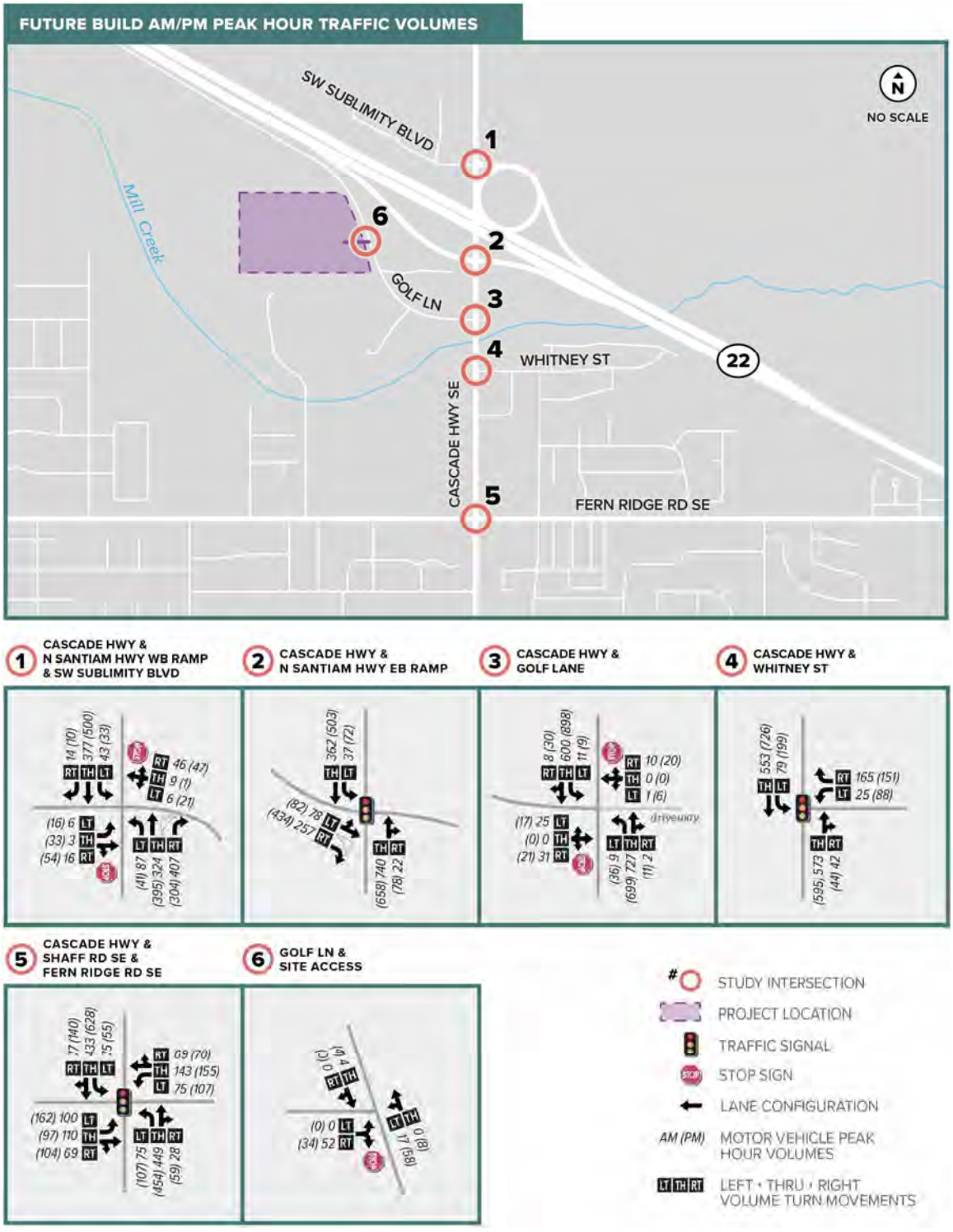


FIGURE 5: FUTURE 2028 BUILD AM AND PM PEAK HOUR VOLUMES

FUTURE INTERSECTION OPERATIONS

Future traffic operations at the study intersections were determined for the AM and PM peak hour based on the Highway Capacity Manual (HCM) 6th Edition methodology for unsignalized intersections. Table 5 and Table 6 list the estimated v/c ratio, delay, and LOS at each study intersection for the AM and PM peak hours for the No Build and Build scenarios, respectively. The reports are provided in the appendix.

As shown, the Cascade Highway/Shaff Road/Fern Ridge Road intersection continues to fail to meet the County's operating standard in the PM peak hour.

TABLE 5: FUTURE (2028) NO-BUILD INTERSECTION OPERATIONS – AM & PM PEAK

INTERSECTION	JURISDICTIONAL OWNER	OPERATING STANDARD	AM PEAK HOUR			PM PEAK HOUR		
			V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
CASCADE HWY / OR22 WB RAMPS	ODOT	v/c ≤ 0.70 (v/c ≤ 0.90) [a]	0.06	37.3	E	0.18	42.8	E
CASCADE HWY / OR22 EB RAMPS	ODOT	v/c ≤ 0.80 (v/c ≤ 0.90) [a]	0.85	45.1	D	0.87	32.0	C
CASCADE HWY / GOLF LN	County	LOS E; v/c ≤ 0.95	0.05	19.4	C	0.17	29.9	D
CASCADE HWY / WHITNEY ST	County	LOS D; v/c ≤ 0.85	0.71	16.7	B	0.73	19.6	B
CASCADE HWY / SHAFF RD / FERN RIDGE RD	County	LOS D; v/c ≤ 0.85	0.76	37.4	D	**0.88**	39.1	D

STOP CONTROLLED INTERSECTION:
Delay = Critical Movement Approach Delay (secs)
v/c = Associated Movement Volume-to-Capacity Ratio
LOS = Level of Service of Associated Movement

SIGNALIZED INTERSECTION
Delay = Average Intersection Delay (secs)
v/c = Total Volume-to-Capacity Ratio
LOS = Total Level of Service

[a] This v/c ratio may be increased to 0.90 if it can be determined that vehicles queues will not extend onto the mainline or into the portion of the ramp needed to safely accommodate deceleration; and if an adopted Interchange Area Management Plan (IAMP) is present or can be developed.
Queuing analysis shows that eastbound off-ramp vehicle queues do not extend onto the mainline of OR 22 during the peak hours. The AM and PM peak hour queues are approximately 75 feet and 150 feet, respectively, while the off-ramp is approximately 1,800 feet in length.

As shown, the Cascade Highway/Shaff Road/Fern Ridge Road intersection continues to fail to meet the County's operating standard in the AM peak hour and PM peak hour.

TABLE 6: FUTURE (2028) BUILD INTERSECTION OPERATIONS – AM & PM PEAK

INTERSECTION	JURISDI-CTIONAL OWNER	OPERATING STANDARD	AM PEAK HOUR			PM PEAK HOUR		
			V/C RATIO	DELAY (SECS)	LOS	V/C RATIO	DELAY (SECS)	LOS
CASCADE HWY / OR22 WB RAMPS	ODOT	v/c ≤ 0.70 (v/c ≤ 0.90) [a]	0.06	37.6	E	0.21	45.0	E
CASCADE HWY / OR22 EB RAMPS	ODOT	v/c ≤ 0.80 (v/c ≤ 0.90) [a]	0.87	52.2	D	0.90	34.9	C
CASCADE HWY / GOLF LN	County	LOS E; v/c ≤ 0.95	0.25	22.7	C	0.21	37.0	E
CASCADE HWY / WHITNEY ST	County	LOS D; v/c ≤ 0.85	0.72	17.0	B	0.75	20.6	C
CASCADE HWY / SHAFF RD / FERN RIDGE RD	County	LOS D; v/c ≤ 0.85	0.78	38.7	D	**0.91**	41.6	D
GOLF LN / PROPOSED ACCESS	County	LOS E; v/c ≤ 0.95	0.06	8.5	A	0.04	8.5	A

STOP CONTROLLED INTERSECTION:
Delay = Critical Movement Approach Delay (secs)
v/c = Associated Movement Volume-to-Capacity Ratio
LOS = Level of Service (Major/Minor Road)

SIGNALIZED INTERSECTION
Delay = Average Intersection Delay (secs)
v/c = Total Volume-to-Capacity Ratio
LOS = Total Level of Service

[a] This v/c ratio may be increased to 0.90 if it can be determined that vehicles queues will not extend onto the mainline or into the portion of the ramp needed to safely accommodate deceleration; and if an adopted Interchange Area Management Plan (IAMP) is present or can be developed.
Queuing analysis shows that eastbound off-ramp vehicle queues do not extend onto the mainline of OR 22 during the peak hours. The AM and PM peak hour queues are approximately 100 feet and 225 feet, respectively, while the off-ramp is approximately 1,800 feet in length.

CASCADE HIGHWAY/SHAFF ROAD/FERN RIDGE ROAD INTERSECTION

As demonstrated throughout the operations analysis, the intersection of Cascade Highway/Shaff Road/Fern Ridge Road does not meet the County's volume-to-capacity operating standard now and under future conditions with or without the project. However, it does meet the City's operating standard of LOS D. Currently, there is no identified improvement in the City of Stayton Transportation System Plan[6] at this intersection.

[6] City of Stayton Transportation System Plan, Adopted June 2019.

The City TSP does not include any capacity improvements at this intersection as it projected a lower volume of traffic on Cascade Highway in 2040 than the current 2024 traffic volumes. This observation was verified when compared to traffic data of similar magnitude that was collected in 2021 for a different nearby development. This data was provided by the City's traffic engineer. The high volume of traffic on Cascade Highway is likely a result of unanticipated growth and development in the City at the time of the TSP adoption.

Because this intersection is under the County's jurisdiction and the development will be approved through the City's land use process, then no mitigation at this intersection is identified or recommended.

QUEUING ANALYSIS

Vehicle queuing analysis was performed at all intersections for the AM & PM Peak hours under the 2028 Build scenario to determine the 95th percentile queues. The 95th percentile queue is the queue length for a given intersection movement that has only a five percent chance of being exceeded during the peak traffic hour. The queue lengths were estimated using SimTraffic. As shown in the table below, none of the 95th percentile queues at the study intersections exceed the available storage.

TABLE 7: 2028 BUILD SCENARIO QUEUING

INTERSECTION	MOVEMENT	STORAGE LENGTH (FT)	AM PEAK		PM PEAK	
			AVERAGE QUEUE (FT)	95TH PERCENTILE QUEUE (FT)	AVERAGE QUEUE (FT)	95TH PERCENTILE QUEUE (FT)
CASCADE HWY / OR22 WB RAMPS	EBL	350	0	25	0	25
	EBTR	350	0	25	25	50
	WBLT	1800	25	50	25	50
	WBR	1800	25	50	25	50
	NBL	750	25	50	25	50
	NBR	750	0	50	0	25
	SBL	500+	0	25	25	50
	SBR	500+	0	0	0	0
CASCADE HWY / OR22 EB RAMPS	EBLT	1800	50	100	50	100
	EBR	1800	25	75	100	225
	NBTR	475	200	400	175	325
	SBL	750	25	50	25	50
	SBT	750	50	100	75	150
CASCADE HWY / GOLF LN	EBLTR	500+	25	100	25	50
	WBLTR	100+	0	25	25	50
	NBL	425	0	25	25	50
	NBTR	425	0	100	0	0
	SBL	475	0	25	0	25

INTERSECTION	MOVEMENT	STORAGE LENGTH (FT)	AM PEAK		PM PEAK	
			AVERAGE QUEUE (FT)	95TH PERCENTILE QUEUE (FT)	AVERAGE QUEUE (FT)	95TH PERCENTILE QUEUE (FT)
	SBTR	475	0	0	0	0
CASCADE HWY / WHITNEY ST	WBL	525	25	50	50	75
	WBR	525	75	125	75	125
	NBTR	1000+	175	325	200	325
	SBL	425	50	100	100	175
	SBT	425	100	175	125	225
CASCADE HWY / SHAFF RD / FERN RIDGE RD	EBL	900	50	100	125	225
	EBTR	900	75	150	125	250
	WBL	500	50	100	100	175
	WBTR	500	125	225	175	300
	NBL	575	50	125	75	150
	NBTR	575	175	300	175	300
	SBL	1200	50	125	75	275
	SBTR	1200	200	350	350	600

GOLF LANE REALIGNMENT EVALUATION

Based on the Memo of Understanding (MOU)[7] between the City of Stayton and Marion County, the City has agreed to realign Golf Lane when one of two criteria are met. The realignment would be consistent with what is shown in the City's Transportation System (TSP) and would result in Golf Lane intersecting with Cascade Highway at Whitney Lane (relocated from opposite the Cherriots Park and Ride lot). The two criteria for the Golf Lane realignment are described below as well as whether the proposed project is anticipated to trigger either criteria.

SIGNAL WARRANT EVALUATION

Criterion: The Golf Lane Realignment would be triggered at the time when traffic signal warrants are met at the current Cascade Highway/Golf Lane intersection. The MUTCD signal warrants (Warrants 1 and 2) were evaluated at Cascade Highway/Golf Lane intersection under future 2028 Build conditions.[8]

Findings: Neither Warrant 1 nor Warrant 2 met the volume thresholds identified in the MUTCD[9]. Warrant 1 only met 5 of the required 8 hours and Warrant 2 only met 2 of the 4 required hours. The results of the signal warrant evaluation are provided in the appendix.

[7] Memorandum of Understanding: City of Stayton and Marion County (Regarding Golf Lane Realignment), May 19, 2003.

[8] Signal Warrants 3 – 8 are not applicable to the proposed development or study area.

[9] Section 4C.02 and Section 4C.03, Manual on Uniform Traffic Control Devices, 11th Edition.

OPERATIONS ANALYSIS

Criterion: The Golf Lane Realignment would be triggered at the time when Golf Lane fails to meet County standards for safety and/or operations.

Findings: Based on the findings in the Crash Analysis section, there are no crash trends or history of collisions at this intersection that would warrant any safety concerns. Based on the operations results in Table 5 and Table 6, the proposed project will not cause Golf Lane at Cascade Highway to fail to meet the County's operating standard.

MOU FINDINGS

The Golf Lane Realignment is not triggered by the proposed project as a traffic signal is not warranted nor do the safety or vehicle operations fail to meet Marion County standards under the proposed Build scenario.

SITE PLAN EVALUATION

This section reviews the proposed access point and project frontage for the proposed development based on the provided site plan and the City of Stayton's Development Code. This site will have access to the public street network via Golf Lane.

ACCESS SPACING

One access point is proposed via Golf Lane. The City of Stayton's access spacing standards for collectors[10] states that the minimum spacing between driveways and/or streets is 150 feet. Currently, there is an existing driveway approximately 350 feet to the south of the proposed access point. Therefore, the site meets the City's standards and there are no safety or operational concerns with the proposed access on Golf Lane.

FRONTAGE IMPROVEMENTS

The City of Stayton's TSP has street cross-sections standards for City collectors[11]. The development is required to construct half-street frontage improvements consistent with the cross-section standards identified in the TSP on Golf Lane. The City's Collector standard requires a right-of-way width of 60-80 feet, and includes bike lanes, planter strips, and sidewalks.

[10] City of Stayton Transportation System Plan, Adopted June 2019 - Table 7

[11] City of Stayton Transportation System Plan, Adopted June 2019 – Exhibit 4. Collector

PROJECT SUMMARY

The proposed single-family subdivision development in Stayton, Oregon consists of 92 total lots. All lots will be accessed via Golf Lane. The estimated year of completion is 2028. A summary of the development and its anticipated impacts are as follows:

TRIP GENERATION

- The development is expected to generate a total of 69 (17 in, 52 out) AM peak hour trips and 92 (58 in, 34 out) PM peak hour trips.

INTERSECTION OPERATIONS & VEHICLE QUEUING

- The Cascade Highway / Shaff Road / Fern Ridge Road intersection does not meet the County's operating standard during the PM Peak Hour under all analysis scenarios. No planned improvement is identified in the City of Stayton Transportation System Plan.
- The traffic volumes on Cascade Highway currently exceed the City's 2040 traffic volume projections. This is likely due to a high rate of development and growth in this area of Stayton than anticipated at the time of the TSP adoption.
- Because this intersection is under Marion County's jurisdiction and the development will be approved through the City of Stayton land use process, then no mitigation at this intersection is identified or recommended.
- None of the 95th percentile vehicle queues at the study intersections exceed the available storage under the AM or PM Build scenarios.

GOLF LANE REALIGNMENT

- The intersection of Cascade Highway & Golf Lane does not meet the criteria for realignment (signal warrants or safety/operational deficiency).

SITE EVALUATION

- The access point via Golf Lane meets the City of Stayton standard for access spacing. There are no safety or operational concerns with the proposed access on Golf Lane.
- Preliminary sight distance was measured at the proposed access on Golf Lane and found to meet AASHTO requirements. Prior to occupancy, sight distance at any new or modified access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon
- Half-street improvements are to be constructed along the project frontage consistent with City Collector standards, which require 60-80 feet of right-of-way, bike lanes, planter strips, and sidewalks.

APPENDIX

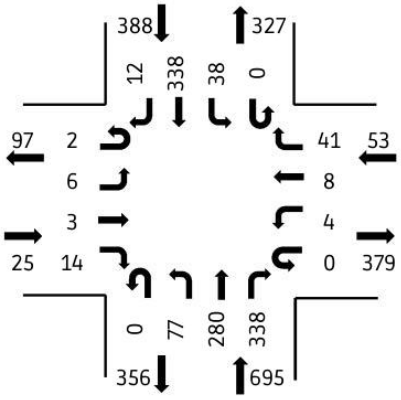
DKS

117 COMMERCIAL STREET NE, SUITE 310, SALEM, OR 97301 • 503.391.8773 • DKSASSOCIATES.COM

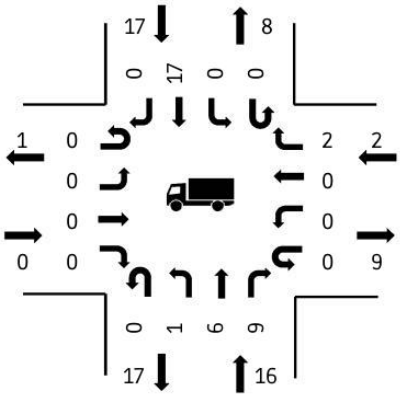
APPENDIX A: TRAFFIC DATA

Location: Cascade Hwy & 22 WB ramps
Date: 5/23/2024
Peak Hour Start: 07:20 AM
Peak 15 Minute Start: 07:50 AM
Peak Hour Factor: 0.8

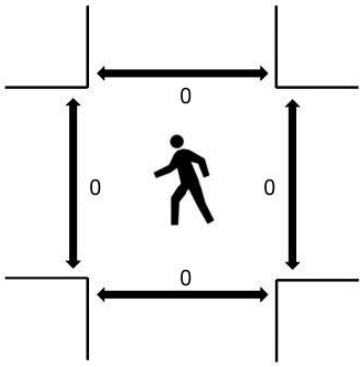
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	2	7	19	0	0	4	9	1	0	0	0	0	0	0	0	0	0	3	0	0		
07:05:00 AM	5	12	21	0	0	5	15	2	0	0	0	0	0	0	0	1	0	1	0	0		
07:10:00 AM	2	17	24	0	0	2	20	1	0	0	0	0	0	0	0	2	0	4	0	0	179	
07:15:00 AM	3	20	21	0	0	5	14	1	0	0	0	0	0	0	0	0	0	3	0	0	201	
07:20:00 AM	2	13	25	0	0	4	20	2	0	0	1	1	0	0	0	1	0	6	0	0	214	
07:25:00 AM	4	17	30	0	0	6	17	0	0	0	0	0	1	0	0	0	1	2	0	0	220	
07:30:00 AM	7	18	34	0	0	3	22	0	0	0	0	0	0	0	0	1	1	2	0	0	241	
07:35:00 AM	4	26	32	0	0	2	26	0	0	0	1	0	0	1	0	1	2	4	0	0	265	
07:40:00 AM	3	29	31	0	0	4	38	0	0	0	0	1	1	1	0	0	0	2	0	0	297	
07:45:00 AM	8	23	16	0	0	2	38	1	0	0	0	0	0	0	0	0	1	2	0	0	300	
07:50:00 AM	15	32	23	0	0	4	39	1	0	0	0	0	2	0	0	1	0	4	0	0	322	
07:55:00 AM	13	27	32	0	0	1	38	1	0	0	1	1	0	0	0	0	3	3	0	0	332	1028
08:00:00 AM	10	32	41	0	0	2	29	3	0	0	0	0	1	0	0	0	0	2	0	0	361	1103
08:05:00 AM	4	26	36	0	0	5	26	0	0	0	1	0	5	0	0	0	0	6	0	0	349	1150
08:10:00 AM	4	20	14	0	0	2	21	4	0	0	1	0	2	0	0	0	0	3	0	0	300	1149
08:15:00 AM	3	17	24	0	0	3	24	0	0	0	1	0	2	0	0	0	0	5	0	0	259	1161
08:20:00 AM	6	21	19	0	0	3	19	0	0	0	1	0	1	0	0	2	1	1	0	0	224	1160
08:25:00 AM	3	16	16	0	0	2	19	0	0	0	0	0	3	0	0	0	0	2	0	0	214	1143
08:30:00 AM	5	16	28	0	0	4	19	1	0	0	1	1	3	0	0	0	2	3	0	0	218	1138
08:35:00 AM	11	17	15	0	0	0	20	2	0	0	1	0	2	0	0	0	0	1	0	0	213	1108
08:40:00 AM	4	15	14	0	0	5	27	1	0	0	1	2	1	0	0	0	0	3	0	0	225	1071
08:45:00 AM	1	12	20	0	0	1	12	1	0	0	0	0	0	0	0	1	0	6	0	0	196	1034
08:50:00 AM	1	4	7	0	0	1	10	2	0	0	1	0	2	0	0	0	0	1	0	0	156	942
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	822

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	2	7	19	0	0	4	8	1	0	0	0	0	0	0	0	0	0	3	0	0		
07:05:00 AM	5	10	21	0	0	5	13	2	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	2	14	23	0	0	2	19	1	0	0	0	0	0	0	0	2	0	4	0	0	167	
07:15:00 AM	3	18	19	0	0	5	14	1	0	0	0	0	0	0	0	0	0	3	0	0	186	
07:20:00 AM	2	12	24	0	0	4	18	2	0	0	1	1	0	0	0	1	0	6	0	0	201	
07:25:00 AM	4	17	30	0	0	6	14	0	0	0	0	0	1	0	0	0	1	2	0	0	209	
07:30:00 AM	7	18	34	0	0	3	22	0	0	0	0	0	0	0	0	1	1	2	0	0	234	
07:35:00 AM	4	26	32	0	0	2	24	0	0	0	1	0	0	1	0	1	2	3	0	0	259	
07:40:00 AM	3	28	30	0	0	4	37	0	0	0	0	1	1	1	0	0	0	1	0	0	290	
07:45:00 AM	8	22	16	0	0	2	37	1	0	0	0	0	0	0	0	0	1	2	0	0	291	
07:50:00 AM	15	31	21	0	0	4	39	1	0	0	0	0	2	0	0	1	0	4	0	0	313	
07:55:00 AM	13	27	31	0	0	1	37	1	0	0	1	1	0	0	0	0	3	3	0	0	325	991
08:00:00 AM	10	32	41	0	0	2	27	3	0	0	0	0	1	0	0	0	0	2	0	0	354	1065
08:05:00 AM	4	24	35	0	0	5	26	0	0	0	1	0	5	0	0	0	0	6	0	0	342	1115
08:10:00 AM	4	20	13	0	0	2	18	4	0	0	1	0	2	0	0	0	0	3	0	0	291	1115
08:15:00 AM	3	17	22	0	0	3	22	0	0	0	1	0	2	0	0	0	0	5	0	0	248	1127
08:20:00 AM	6	19	19	0	0	3	18	0	0	0	1	0	1	0	0	2	1	1	0	0	213	1127
08:25:00 AM	3	15	16	0	0	2	18	0	0	0	0	0	3	0	0	0	0	2	0	0	205	1111
08:30:00 AM	5	16	28	0	0	4	18	1	0	0	1	1	3	0	0	0	2	3	0	0	212	1105
08:35:00 AM	11	16	15	0	0	0	20	2	0	0	1	0	2	0	0	0	0	1	0	0	209	1077
08:40:00 AM	4	14	14	0	0	4	25	1	0	0	1	2	1	0	0	0	0	2	0	0	218	1039
08:45:00 AM	1	11	20	0	0	1	12	1	0	0	0	0	0	0	0	1	0	6	0	0	189	1003
08:50:00 AM	1	4	7	0	0	1	8	2	0	0	1	0	2	0	0	0	0	1	0	0	148	912
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	794

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	1	0	0		
07:10:00 AM	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
07:15:00 AM	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	
07:20:00 AM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
07:25:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
07:35:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	6	
07:40:00 AM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	7	
07:45:00 AM	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
07:50:00 AM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
07:55:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	38
08:00:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7	39
08:05:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	36
08:10:00 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	9	35
08:15:00 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	11	35
08:20:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	34
08:25:00 AM	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	34
08:30:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	35
08:35:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	33
08:40:00 AM	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	7	34
08:45:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	32
08:50:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8	31
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	29

Bike Volumes

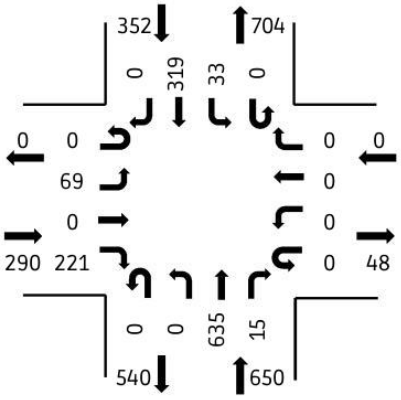
Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Volumes

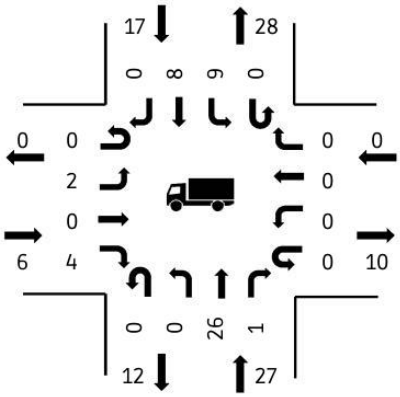
Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
07:00:00 AM	0	0	0	0		
07:05:00 AM	0	0	0	0		
07:10:00 AM	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0
08:00:00 AM	0	0	0	0	0	0
08:05:00 AM	0	0	0	0	0	0
08:10:00 AM	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0

Location: Cascade Hwy & 22 EB ramps
Date: 5/23/2024
Peak Hour Start: 07:25 AM
Peak 15 Minute Start: 07:45 AM
Peak Hour Factor: 0.83

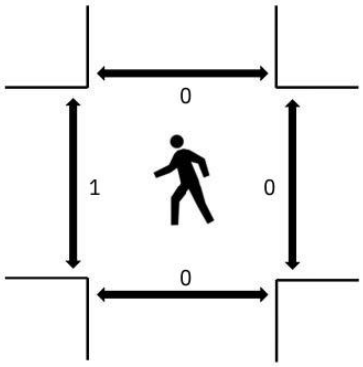
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	32	0	0	0	2	9	0	0	0	2	0	11	0	0	0	0	0	0	0		
07:05:00 AM	0	39	2	0	0	4	13	0	0	0	3	0	10	0	0	0	0	0	0	0		
07:10:00 AM	0	37	1	0	0	2	20	0	0	0	5	0	12	0	0	0	0	0	0	0	204	
07:15:00 AM	0	40	2	0	0	2	13	0	0	0	3	0	12	0	0	0	0	0	0	0	220	
07:20:00 AM	0	43	0	0	0	3	17	0	0	0	1	0	20	0	0	0	0	0	0	0	233	
07:25:00 AM	0	48	0	0	0	3	14	0	0	0	6	0	23	0	0	0	0	0	0	0	250	
07:30:00 AM	0	47	2	0	0	2	21	0	0	0	4	0	16	0	0	0	0	0	0	0	270	
07:35:00 AM	0	65	0	0	0	2	25	0	0	0	4	0	23	0	0	0	0	0	0	0	305	
07:40:00 AM	0	53	0	0	0	2	37	0	0	0	5	0	22	0	0	0	0	0	0	0	330	
07:45:00 AM	0	53	2	0	0	1	35	0	0	0	7	0	33	0	0	0	0	0	0	0	369	
07:50:00 AM	0	48	5	0	0	4	40	0	0	0	10	0	17	0	0	0	0	0	0	0	374	
07:55:00 AM	0	70	0	0	0	3	36	0	0	0	10	0	17	0	0	0	0	0	0	0	391	1175
08:00:00 AM	0	74	2	0	0	3	26	0	0	0	6	0	8	0	0	0	0	0	0	0	379	1238
08:05:00 AM	0	61	1	0	0	3	28	0	0	0	4	0	19	0	0	0	0	0	0	0	371	1283
08:10:00 AM	0	33	1	0	0	4	19	0	0	0	6	0	9	0	0	0	0	0	0	0	307	1278
08:15:00 AM	0	36	1	0	0	4	21	0	0	0	1	0	7	0	0	0	0	0	0	0	258	1276
08:20:00 AM	0	47	1	0	0	2	17	0	0	0	6	0	27	0	0	0	0	0	0	0	242	1292
08:25:00 AM	0	29	3	0	0	5	21	0	0	0	6	0	26	0	0	0	0	0	0	0	260	1288
08:30:00 AM	0	43	2	0	0	2	19	0	0	0	2	0	9	0	0	0	0	0	0	0	267	1273
08:35:00 AM	0	40	1	0	0	8	15	0	0	0	9	0	17	0	0	0	0	0	0	0	257	1244
08:40:00 AM	0	25	1	0	0	4	24	0	0	0	4	0	14	0	0	0	0	0	0	0	239	1197
08:45:00 AM	0	30	0	0	0	2	11	0	0	0	2	0	6	0	0	0	0	0	0	0	213	1117
08:50:00 AM	0	28	3	0	0	2	16	0	0	0	5	0	20	0	0	0	0	0	0	0	197	1067
08:55:00 AM	0	34	3	0	0	0	23	0	0	0	5	0	12	0	0	0	0	0	0	0	202	1008

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	32	0	0	0	2	9	0	0	0	2	0	10	0	0	0	0	0	0	0		
07:05:00 AM	0	37	2	0	0	3	11	0	0	0	2	0	10	0	0	0	0	0	0	0		
07:10:00 AM	0	34	1	0	0	2	19	0	0	0	5	0	11	0	0	0	0	0	0	0	192	
07:15:00 AM	0	34	0	0	0	2	13	0	0	0	3	0	11	0	0	0	0	0	0	0	200	
07:20:00 AM	0	41	0	0	0	2	16	0	0	0	1	0	20	0	0	0	0	0	0	0	215	
07:25:00 AM	0	47	0	0	0	0	14	0	0	0	6	0	20	0	0	0	0	0	0	0	230	
07:30:00 AM	0	45	2	0	0	2	21	0	0	0	4	0	16	0	0	0	0	0	0	0	257	
07:35:00 AM	0	64	0	0	0	2	23	0	0	0	4	0	23	0	0	0	0	0	0	0	293	
07:40:00 AM	0	51	0	0	0	2	36	0	0	0	5	0	22	0	0	0	0	0	0	0	322	
07:45:00 AM	0	49	2	0	0	1	34	0	0	0	6	0	33	0	0	0	0	0	0	0	357	
07:50:00 AM	0	46	5	0	0	4	40	0	0	0	10	0	17	0	0	0	0	0	0	0	363	
07:55:00 AM	0	67	0	0	0	3	35	0	0	0	10	0	17	0	0	0	0	0	0	0	379	1123
08:00:00 AM	0	73	2	0	0	2	25	0	0	0	6	0	8	0	0	0	0	0	0	0	370	1184
08:05:00 AM	0	58	1	0	0	3	28	0	0	0	3	0	19	0	0	0	0	0	0	0	360	1231
08:10:00 AM	0	31	1	0	0	0	19	0	0	0	6	0	8	0	0	0	0	0	0	0	293	1224
08:15:00 AM	0	34	0	0	0	3	20	0	0	0	1	0	7	0	0	0	0	0	0	0	242	1226
08:20:00 AM	0	44	1	0	0	2	16	0	0	0	6	0	27	0	0	0	0	0	0	0	226	1242
08:25:00 AM	0	26	3	0	0	4	20	0	0	0	5	0	23	0	0	0	0	0	0	0	242	1236
08:30:00 AM	0	43	2	0	0	1	19	0	0	0	2	0	7	0	0	0	0	0	0	0	251	1220
08:35:00 AM	0	39	0	0	0	8	15	0	0	0	9	0	16	0	0	0	0	0	0	0	242	1191
08:40:00 AM	0	24	1	0	0	3	23	0	0	0	4	0	13	0	0	0	0	0	0	0	229	1143
08:45:00 AM	0	30	0	0	0	2	11	0	0	0	1	0	5	0	0	0	0	0	0	0	204	1067
08:50:00 AM	0	27	2	0	0	1	15	0	0	0	5	0	19	0	0	0	0	0	0	0	186	1014
08:55:00 AM	0	32	3	0	0	0	23	0	0	0	5	0	11	0	0	0	0	0	0	0	192	956

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
07:05:00 AM	0	2	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	12	
07:15:00 AM	0	6	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	20	
07:20:00 AM	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
07:25:00 AM	0	1	0	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	20	
07:30:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
07:35:00 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
07:40:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
07:45:00 AM	0	4	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	12	
07:50:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
07:55:00 AM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12	52
08:00:00 AM	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	54
08:05:00 AM	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	11	52
08:10:00 AM	0	2	0	0	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	14	54
08:15:00 AM	0	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16	50
08:20:00 AM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16	50
08:25:00 AM	0	3	0	0	0	1	1	0	0	0	1	0	3	0	0	0	0	0	0	0	18	52
08:30:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	16	53
08:35:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	15	53
08:40:00 AM	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	10	54
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	9	50
08:50:00 AM	0	1	1	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	11	53
08:55:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	10	52

Bike Volumes

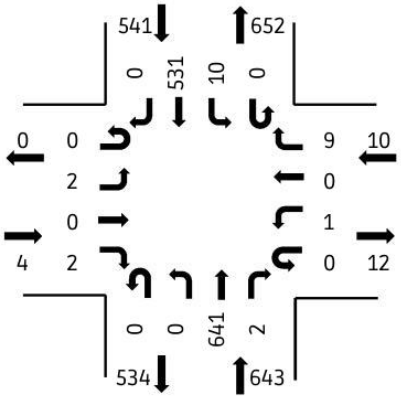
Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Volumes

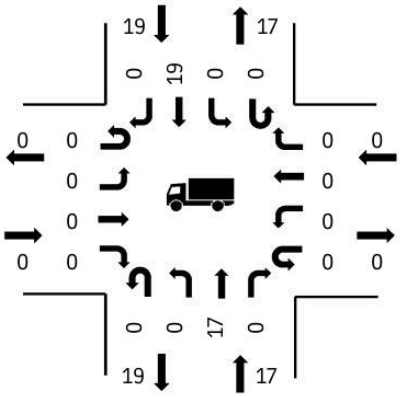
Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
07:00:00 AM	0	0	0	0		
07:05:00 AM	0	0	0	0		
07:10:00 AM	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	
07:35:00 AM	0	0	1	0	1	
07:40:00 AM	0	0	0	0	1	
07:45:00 AM	0	0	0	0	1	
07:50:00 AM	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	1
08:00:00 AM	0	0	0	0	0	1
08:05:00 AM	0	0	0	0	0	1
08:10:00 AM	0	0	0	0	0	1
08:15:00 AM	0	0	0	0	0	1
08:20:00 AM	0	0	0	0	0	1
08:25:00 AM	0	0	0	0	0	1
08:30:00 AM	0	0	0	0	0	1
08:35:00 AM	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0
08:55:00 AM	0	0	1	0	1	1

Location: Cascade Hwy & Golf Ln
Date: 5/23/2024
Peak Hour Start: 07:25 AM
Peak 15 Minute Start: 07:45 AM
Peak Hour Factor: 0.82

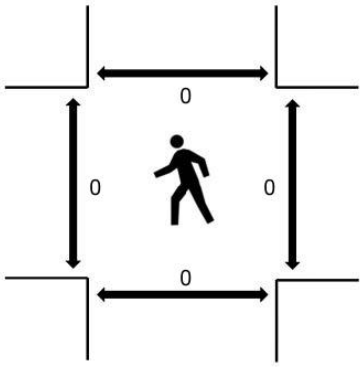
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	32	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	39	0	0	0	1	23	0	0	0	0	0	0	0	0	0	0	2	0	0		
07:10:00 AM	0	39	0	0	0	1	30	0	0	0	0	0	0	0	0	0	0	0	0	0	187	
07:15:00 AM	0	40	1	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	202	
07:20:00 AM	1	41	2	0	0	0	35	0	0	0	0	0	0	0	0	1	0	0	0	0	217	
07:25:00 AM	0	55	1	0	0	2	36	0	0	0	1	0	1	0	0	1	0	2	0	0	246	
07:30:00 AM	0	41	0	0	0	1	36	0	0	0	0	0	0	0	0	0	0	1	0	0	258	
07:35:00 AM	0	63	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	289	
07:40:00 AM	0	55	0	0	0	0	60	0	0	0	0	0	0	0	0	0	0	1	0	0	306	
07:45:00 AM	0	62	0	0	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	356	
07:50:00 AM	0	56	0	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	358	
07:55:00 AM	0	66	1	0	0	0	54	0	0	0	0	0	1	0	0	0	0	1	0	0	365	1104
08:00:00 AM	0	80	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	349	1165
08:05:00 AM	0	47	0	0	0	1	46	0	0	0	0	0	0	0	0	0	0	1	0	0	331	1195
08:10:00 AM	0	37	0	0	0	1	27	0	0	0	1	0	0	0	0	0	0	1	0	0	275	1192
08:15:00 AM	0	32	0	0	0	2	25	0	0	0	0	0	0	0	0	0	0	1	0	0	222	1185
08:20:00 AM	0	47	0	0	0	3	42	0	0	0	0	0	0	0	0	0	0	1	0	0	220	1198
08:25:00 AM	0	31	0	0	0	1	45	1	0	0	0	0	1	0	0	0	0	1	0	0	233	1179
08:30:00 AM	0	45	0	0	0	2	26	0	0	0	1	0	0	0	0	1	0	2	0	0	250	1177
08:35:00 AM	0	34	0	0	0	0	33	0	0	0	2	0	0	0	0	0	0	0	0	0	226	1135
08:40:00 AM	0	26	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	208	1081
08:45:00 AM	0	29	0	0	0	2	17	0	0	0	0	0	0	0	0	0	0	1	0	0	180	1001
08:50:00 AM	0	34	1	0	0	0	35	0	0	0	0	0	0	0	0	1	0	1	0	0	183	960
08:55:00 AM	0	34	0	0	0	1	34	0	0	0	0	0	0	0	0	0	0	0	0	0	190	906

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	32	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	37	0	0	0	1	20	0	0	0	0	0	0	0	0	0	0	2	0	0		
07:10:00 AM	0	36	0	0	0	1	27	0	0	0	0	0	0	0	0	0	0	0	0	0	175	
07:15:00 AM	0	35	1	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	185	
07:20:00 AM	1	39	2	0	0	0	33	0	0	0	0	0	0	0	0	1	0	0	0	0	201	
07:25:00 AM	0	55	1	0	0	2	33	0	0	0	1	0	1	0	0	1	0	2	0	0	233	
07:30:00 AM	0	41	0	0	0	1	35	0	0	0	0	0	0	0	0	0	0	1	0	0	250	
07:35:00 AM	0	63	0	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	282	
07:40:00 AM	0	53	0	0	0	0	59	0	0	0	0	0	0	0	0	0	0	1	0	0	299	
07:45:00 AM	0	59	0	0	0	0	65	0	0	0	0	0	0	0	0	0	0	0	0	0	345	
07:50:00 AM	0	55	0	0	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	0	347	
07:55:00 AM	0	65	1	0	0	0	53	0	0	0	0	0	1	0	0	0	0	1	0	0	355	1062
08:00:00 AM	0	79	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	341	1121
08:05:00 AM	0	44	0	0	0	1	46	0	0	0	0	0	0	0	0	0	0	1	0	0	323	1153
08:10:00 AM	0	35	0	0	0	1	26	0	0	0	1	0	0	0	0	0	0	1	0	0	266	1153
08:15:00 AM	0	30	0	0	0	2	24	0	0	0	0	0	0	0	0	0	0	1	0	0	213	1149
08:20:00 AM	0	45	0	0	0	3	40	0	0	0	0	0	0	0	0	0	0	1	0	0	210	1162
08:25:00 AM	0	30	0	0	0	1	40	1	0	0	0	0	1	0	0	0	0	1	0	0	220	1140
08:30:00 AM	0	45	0	0	0	2	24	0	0	0	1	0	0	0	0	1	0	2	0	0	238	1137
08:35:00 AM	0	32	0	0	0	0	32	0	0	0	2	0	0	0	0	0	0	0	0	0	215	1095
08:40:00 AM	0	26	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	201	1042
08:45:00 AM	0	29	0	0	0	2	16	0	0	0	0	0	0	0	0	0	0	1	0	0	174	966
08:50:00 AM	0	33	1	0	0	0	33	0	0	0	0	0	0	0	0	1	0	1	0	0	177	925
08:55:00 AM	0	32	0	0	0	1	33	0	0	0	0	0	0	0	0	0	0	0	0	0	183	870

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
07:15:00 AM	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
07:20:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
07:25:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
07:30:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
07:35:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
07:40:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
07:45:00 AM	0	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
07:50:00 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
07:55:00 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	42
08:00:00 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8	44
08:05:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	42
08:10:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	39
08:15:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	36
08:20:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	10	36
08:25:00 AM	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	13	39
08:30:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	12	40
08:35:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	40
08:40:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7	39
08:45:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	35
08:50:00 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	35
08:55:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	36

Bike Volumes

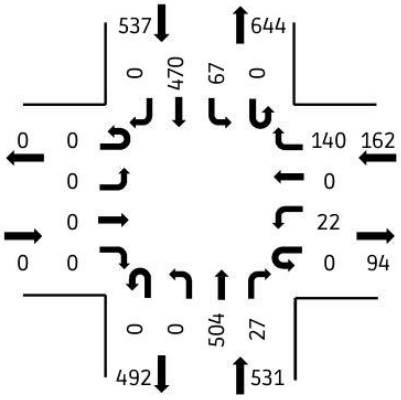
Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Volumes

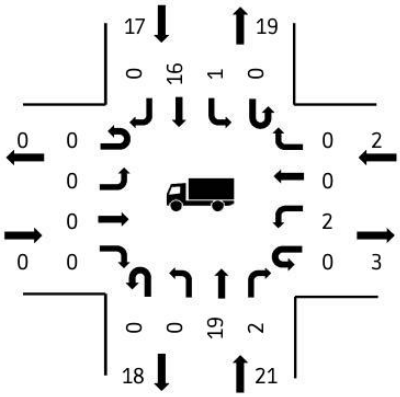
Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
07:00:00 AM	0	0	0	0		
07:05:00 AM	0	0	0	0		
07:10:00 AM	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0
08:00:00 AM	0	0	0	0	0	0
08:05:00 AM	0	0	0	0	0	0
08:10:00 AM	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0

Location: Cascade Hwy & Whitney St
Date: 5/23/2024
Peak Hour Start: 07:25 AM
Peak 15 Minute Start: 07:45 AM
Peak Hour Factor: 0.8

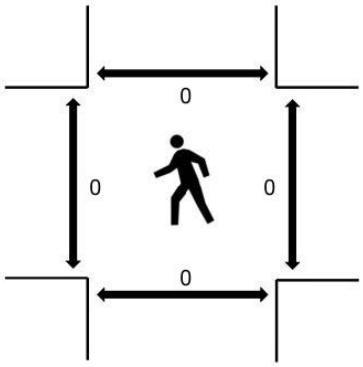
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	24	1	0	0	1	19	0	0	0	0	0	0	0	0	2	0	5	0	0		
07:05:00 AM	0	35	1	0	0	0	20	0	0	0	0	0	0	0	0	0	0	7	0	0		
07:10:00 AM	0	29	0	0	0	1	28	0	0	0	0	0	0	0	0	3	0	8	0	0	184	
07:15:00 AM	0	40	2	0	0	2	25	0	0	0	0	0	0	0	0	1	0	1	0	0	203	
07:20:00 AM	0	34	1	0	0	6	28	0	0	0	0	0	0	0	0	1	0	11	0	0	221	
07:25:00 AM	0	43	3	0	0	5	36	0	0	0	0	0	0	0	0	3	0	10	0	0	252	
07:30:00 AM	0	33	1	0	0	2	32	0	0	0	0	0	0	0	0	2	0	9	0	0	260	
07:35:00 AM	0	45	0	0	0	6	39	0	0	0	0	0	0	0	0	1	0	19	0	0	289	
07:40:00 AM	0	44	2	0	0	6	56	0	0	0	0	0	0	0	0	0	0	10	0	0	307	
07:45:00 AM	0	49	3	0	0	9	53	0	0	0	0	0	0	0	0	4	0	13	0	0	359	
07:50:00 AM	0	56	1	0	0	3	58	0	0	0	0	0	0	0	0	2	0	12	0	0	381	
07:55:00 AM	0	44	1	0	0	6	50	0	0	0	0	0	0	0	0	3	0	19	0	0	386	1129
08:00:00 AM	0	56	5	0	0	3	34	0	0	0	0	0	0	0	0	1	0	18	0	0	372	1194
08:05:00 AM	0	38	4	0	0	8	34	0	0	0	0	0	0	0	0	3	0	10	0	0	337	1228
08:10:00 AM	0	27	2	0	0	5	21	0	0	0	0	0	0	0	0	0	0	6	0	0	275	1220
08:15:00 AM	0	27	3	0	0	3	26	0	0	0	0	0	0	0	0	2	0	9	0	0	228	1219
08:20:00 AM	0	42	2	0	0	11	31	0	0	0	0	0	0	0	0	1	0	5	0	0	223	1230
08:25:00 AM	0	18	0	0	0	7	40	0	0	0	0	0	0	0	0	2	0	11	0	0	240	1208
08:30:00 AM	0	40	3	0	0	1	25	0	0	0	0	0	0	0	0	2	0	7	0	0	248	1207
08:35:00 AM	0	25	1	0	0	7	24	0	0	0	0	0	0	0	0	0	0	9	0	0	222	1163
08:40:00 AM	0	22	0	0	0	6	31	0	0	0	0	0	0	0	0	4	0	3	0	0	210	1111
08:45:00 AM	0	25	0	0	0	2	13	0	0	0	0	0	0	0	0	1	0	4	0	0	177	1025
08:50:00 AM	0	32	3	0	0	5	35	0	0	0	0	0	0	0	0	1	0	2	0	0	189	971
08:55:00 AM	0	28	1	0	0	3	26	0	0	0	0	0	0	0	0	4	0	7	0	0	192	917

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	24	1	0	0	1	18	0	0	0	0	0	0	0	0	2	0	5	0	0		
07:05:00 AM	0	33	1	0	0	0	17	0	0	0	0	0	0	0	0	0	0	7	0	0		
07:10:00 AM	0	26	0	0	0	1	27	0	0	0	0	0	0	0	0	3	0	8	0	0	174	
07:15:00 AM	0	35	1	0	0	2	23	0	0	0	0	0	0	0	0	1	0	1	0	0	186	
07:20:00 AM	0	32	1	0	0	6	26	0	0	0	0	0	0	0	0	1	0	11	0	0	205	
07:25:00 AM	0	41	3	0	0	5	33	0	0	0	0	0	0	0	0	1	0	10	0	0	233	
07:30:00 AM	0	33	1	0	0	2	32	0	0	0	0	0	0	0	0	2	0	9	0	0	249	
07:35:00 AM	0	45	0	0	0	6	36	0	0	0	0	0	0	0	0	1	0	19	0	0	279	
07:40:00 AM	0	42	1	0	0	6	54	0	0	0	0	0	0	0	0	0	0	10	0	0	299	
07:45:00 AM	0	46	3	0	0	9	52	0	0	0	0	0	0	0	0	4	0	13	0	0	347	
07:50:00 AM	0	54	1	0	0	3	56	0	0	0	0	0	0	0	0	2	0	12	0	0	368	
07:55:00 AM	0	43	1	0	0	5	50	0	0	0	0	0	0	0	0	3	0	19	0	0	376	1082
08:00:00 AM	0	56	5	0	0	3	32	0	0	0	0	0	0	0	0	1	0	18	0	0	364	1146
08:05:00 AM	0	35	4	0	0	8	34	0	0	0	0	0	0	0	0	3	0	10	0	0	330	1182
08:10:00 AM	0	25	1	0	0	5	20	0	0	0	0	0	0	0	0	0	0	6	0	0	266	1174
08:15:00 AM	0	25	3	0	0	3	25	0	0	0	0	0	0	0	0	2	0	9	0	0	218	1178
08:20:00 AM	0	40	2	0	0	11	30	0	0	0	0	0	0	0	0	1	0	5	0	0	213	1190
08:25:00 AM	0	15	0	0	0	4	37	0	0	0	0	0	0	0	0	2	0	11	0	0	225	1166
08:30:00 AM	0	40	3	0	0	1	23	0	0	0	0	0	0	0	0	2	0	7	0	0	234	1163
08:35:00 AM	0	23	1	0	0	7	23	0	0	0	0	0	0	0	0	0	0	9	0	0	208	1119
08:40:00 AM	0	22	0	0	0	6	29	0	0	0	0	0	0	0	0	3	0	3	0	0	202	1069
08:45:00 AM	0	25	0	0	0	2	12	0	0	0	0	0	0	0	0	1	0	4	0	0	170	986
08:50:00 AM	0	31	3	0	0	5	33	0	0	0	0	0	0	0	0	1	0	2	0	0	182	933
08:55:00 AM	0	26	1	0	0	3	25	0	0	0	0	0	0	0	0	4	0	7	0	0	185	878

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
07:15:00 AM	0	5	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
07:20:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
07:25:00 AM	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	19	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
07:35:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
07:40:00 AM	0	2	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
07:45:00 AM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
07:50:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
07:55:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	47
08:00:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8	48
08:05:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	46
08:10:00 AM	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	46
08:15:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	41
08:20:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	40
08:25:00 AM	0	3	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	15	42
08:30:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	14	44
08:35:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14	44
08:40:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	8	42
08:45:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	39
08:50:00 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7	38
08:55:00 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	39

Bike Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

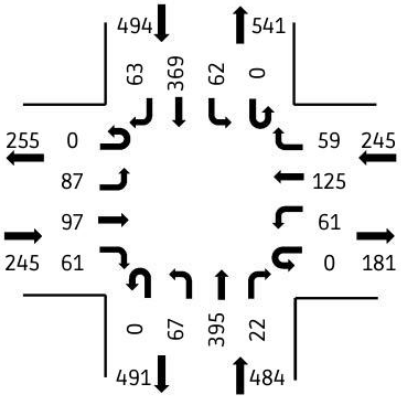
Pedestrian Volumes

Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
07:00:00 AM	0	0	0	0		
07:05:00 AM	0	0	0	0		
07:10:00 AM	0	0	0	1	1	
07:15:00 AM	0	0	0	0	1	
07:20:00 AM	0	0	0	0	1	
07:25:00 AM	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	1
08:00:00 AM	0	0	0	0	0	1
08:05:00 AM	0	0	0	0	0	1
08:10:00 AM	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0

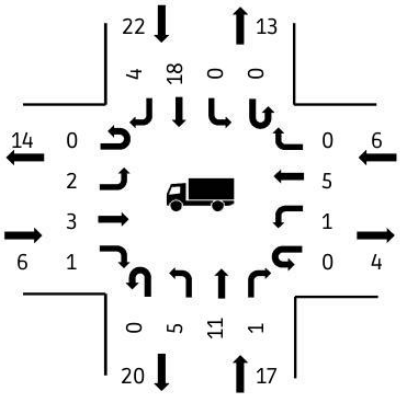
RallyTraffic

Location: Cascade Hwy & Fern Ridge Rd
Date: 6/11/2024
Peak Hour Start: 07:25 AM
Peak 15 Minute Start: 07:40 AM
Peak Hour Factor: 0.77

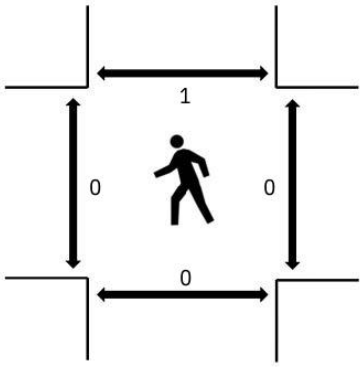
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	2	18	3	0	0	2	15	2	0	0	2	7	4	0	0	1	5	6	0	0		
07:05:00 AM	3	23	0	0	0	2	14	3	0	0	3	1	1	0	0	3	0	9	0	0		
07:10:00 AM	1	32	0	0	0	0	20	3	0	0	4	3	3	0	0	3	4	4	0	0	206	
07:15:00 AM	5	21	3	0	0	3	10	5	0	0	4	4	1	0	0	2	11	10	0	0	218	
07:20:00 AM	3	32	1	0	0	1	17	2	0	0	3	2	5	0	0	9	10	7	0	0	248	
07:25:00 AM	2	30	1	0	0	2	33	7	0	0	7	4	4	0	0	5	9	6	0	0	281	
07:30:00 AM	7	23	1	0	0	2	22	6	0	0	1	8	4	0	0	1	10	5	0	0	292	
07:35:00 AM	6	32	1	0	0	5	30	5	0	0	9	7	3	0	0	9	19	7	0	0	333	
07:40:00 AM	7	37	3	0	0	5	41	7	0	0	2	11	3	0	0	9	20	0	0	0	368	
07:45:00 AM	10	32	1	0	0	2	43	3	0	0	9	16	10	0	0	5	10	8	0	0	427	
07:50:00 AM	8	45	4	0	0	15	49	9	0	0	14	9	4	0	0	8	10	6	0	0	475	
07:55:00 AM	5	40	4	0	0	7	40	5	0	0	9	3	6	0	0	5	12	6	0	0	472	1327
08:00:00 AM	9	33	1	0	0	7	23	4	0	0	12	15	7	0	0	8	9	5	0	0	456	1393
08:05:00 AM	3	35	3	0	0	4	27	4	0	0	6	7	4	0	0	4	5	5	0	0	382	1438
08:10:00 AM	3	29	1	0	0	6	18	3	0	0	9	8	4	0	0	5	10	4	0	0	340	1461
08:15:00 AM	5	28	1	0	0	4	17	4	0	0	4	6	9	0	0	0	4	3	0	0	292	1467
08:20:00 AM	2	31	1	0	0	3	26	6	0	0	5	3	3	0	0	2	7	4	0	0	278	1468
08:25:00 AM	2	30	4	0	0	0	19	3	0	0	3	5	8	0	0	3	8	6	0	0	269	1449
08:30:00 AM	4	19	0	0	0	6	10	2	0	0	3	7	3	0	0	2	4	5	0	0	249	1424
08:35:00 AM	5	21	0	0	0	5	21	1	0	0	1	4	8	0	0	4	8	2	0	0	236	1371
08:40:00 AM	6	22	1	0	0	5	16	3	0	0	4	6	3	0	0	3	7	1	0	0	222	1303
08:45:00 AM	6	27	3	0	0	3	24	1	0	0	6	1	0	0	0	4	5	0	0	0	237	1234
08:50:00 AM	5	27	4	0	0	7	35	4	0	0	5	9	9	0	0	6	8	1	0	0	277	1173
08:55:00 AM	5	20	4	0	0	6	28	2	0	0	8	4	5	0	0	4	4	3	0	0	293	1124

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	2	17	2	0	0	2	15	2	0	0	2	7	4	0	0	1	5	6	0	0		
07:05:00 AM	3	22	0	0	0	2	13	3	0	0	3	1	1	0	0	3	0	8	0	0		
07:10:00 AM	1	31	0	0	0	0	19	2	0	0	4	3	3	0	0	3	3	4	0	0	197	
07:15:00 AM	5	19	3	0	0	3	9	4	0	0	4	4	1	0	0	2	11	10	0	0	207	
07:20:00 AM	3	32	1	0	0	1	16	2	0	0	3	2	5	0	0	9	9	7	0	0	238	
07:25:00 AM	2	30	0	0	0	2	31	7	0	0	6	4	4	0	0	5	9	6	0	0	271	
07:30:00 AM	7	23	1	0	0	2	21	4	0	0	1	8	4	0	0	1	10	5	0	0	283	
07:35:00 AM	6	30	1	0	0	5	29	5	0	0	9	7	3	0	0	8	19	7	0	0	322	
07:40:00 AM	7	35	3	0	0	5	41	6	0	0	2	11	3	0	0	9	17	0	0	0	355	
07:45:00 AM	10	31	1	0	0	2	41	3	0	0	8	15	10	0	0	5	9	8	0	0	411	
07:50:00 AM	8	45	4	0	0	15	48	9	0	0	14	9	4	0	0	8	10	6	0	0	462	
07:55:00 AM	5	39	4	0	0	7	40	5	0	0	9	3	6	0	0	5	12	6	0	0	464	1287
08:00:00 AM	9	32	1	0	0	7	20	4	0	0	12	14	7	0	0	8	9	5	0	0	449	1350
08:05:00 AM	3	34	3	0	0	4	25	3	0	0	6	6	4	0	0	4	5	5	0	0	371	1393
08:10:00 AM	3	28	1	0	0	6	16	3	0	0	9	8	3	0	0	5	9	4	0	0	325	1415
08:15:00 AM	5	27	1	0	0	4	15	4	0	0	4	6	9	0	0	0	4	3	0	0	279	1422
08:20:00 AM	2	30	1	0	0	3	24	6	0	0	5	3	3	0	0	2	7	4	0	0	267	1422
08:25:00 AM	2	30	4	0	0	0	17	2	0	0	3	5	8	0	0	3	8	6	0	0	260	1404
08:30:00 AM	4	16	0	0	0	6	10	2	0	0	2	7	3	0	0	2	4	5	0	0	239	1378
08:35:00 AM	5	21	0	0	0	5	20	1	0	0	1	4	8	0	0	4	8	2	0	0	228	1328
08:40:00 AM	6	21	1	0	0	5	15	3	0	0	4	6	3	0	0	3	7	1	0	0	215	1264
08:45:00 AM	6	27	3	0	0	3	22	1	0	0	6	1	0	0	0	4	5	0	0	0	232	1199
08:50:00 AM	5	27	4	0	0	7	35	4	0	0	4	9	9	0	0	6	8	1	0	0	272	1138
08:55:00 AM	5	19	4	0	0	6	28	2	0	0	8	4	5	0	0	4	4	3	0	0	289	1089

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0		
07:10:00 AM	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	11	
07:15:00 AM	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	12	
07:20:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	11	
07:25:00 AM	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	10	
07:30:00 AM	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	10	
07:35:00 AM	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	13	
07:40:00 AM	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	15	
07:45:00 AM	0	1	0	0	0	0	2	0	0	0	1	1	0	0	0	0	1	0	0	0	17	
07:50:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
07:55:00 AM	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	46
08:00:00 AM	0	1	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	9	48
08:05:00 AM	0	1	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	13	50
08:10:00 AM	0	1	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	15	50
08:15:00 AM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	14	50
08:20:00 AM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	12	51
08:25:00 AM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	10	50
08:30:00 AM	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	10	50
08:35:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	47
08:40:00 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	43
08:45:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	39
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	39
08:55:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	37

Bike Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

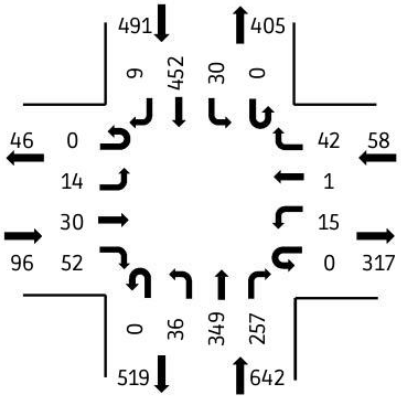
Pedestrian Volumes

Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
07:00:00 AM	0	0	0	0		
07:05:00 AM	0	0	0	0		
07:10:00 AM	1	1	0	0	2	
07:15:00 AM	0	0	0	0	2	
07:20:00 AM	0	0	0	0	2	
07:25:00 AM	0	0	0	0	0	
07:30:00 AM	0	1	0	0	1	
07:35:00 AM	0	0	0	0	1	
07:40:00 AM	0	0	0	0	1	
07:45:00 AM	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	3
08:00:00 AM	0	0	0	0	0	3
08:05:00 AM	0	0	0	0	0	3
08:10:00 AM	0	0	0	0	0	1
08:15:00 AM	0	0	0	0	0	1
08:20:00 AM	0	0	0	0	0	1
08:25:00 AM	0	0	0	0	0	1
08:30:00 AM	0	0	0	0	0	0
08:35:00 AM	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0

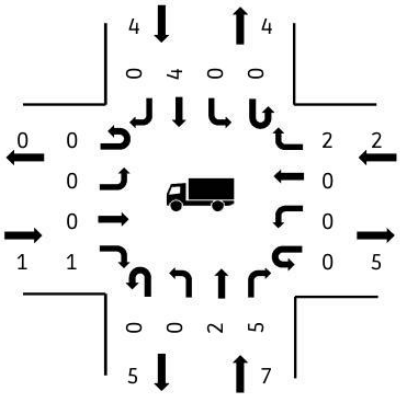
RallyTraffic

Location: Cascade Hwy & 22 WB ramps
Date: 5/30/2024
Peak Hour Start: 04:45 PM
Peak 15 Minute Start: 05:10 PM
Peak Hour Factor: 0.9

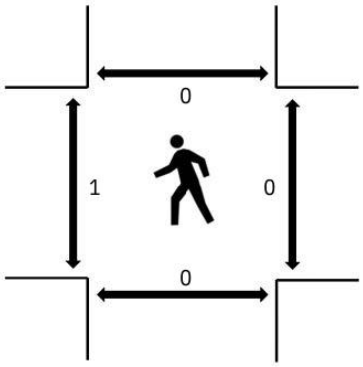
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	5	41	17	0	0	2	32	2	0	0	0	3	4	0	0	1	0	4	0	0		
04:05:00 PM	1	36	26	0	0	4	22	0	0	0	1	5	4	0	0	2	0	4	0	0		
04:10:00 PM	1	25	31	0	0	2	40	0	0	0	0	2	2	0	0	1	0	5	0	0	325	
04:15:00 PM	1	27	12	0	0	3	33	1	0	0	0	3	2	0	0	0	0	5	0	0	301	
04:20:00 PM	2	39	20	0	0	1	26	4	0	0	0	0	2	0	0	0	0	7	0	0	297	
04:25:00 PM	4	43	25	0	0	0	38	5	0	0	1	0	2	1	0	0	0	2	0	0	309	
04:30:00 PM	7	23	23	0	0	1	22	0	0	0	1	2	10	0	0	1	3	2	0	0	317	
04:35:00 PM	3	32	17	0	0	3	30	1	0	0	2	1	7	0	0	0	0	9	0	0	321	
04:40:00 PM	1	32	17	0	0	1	27	2	0	0	3	0	6	0	0	1	1	5	0	0	296	
04:45:00 PM	5	26	15	0	0	3	30	0	0	0	1	0	9	0	0	3	0	4	0	0	297	
04:50:00 PM	4	33	17	0	0	3	28	0	0	0	0	2	5	0	0	1	0	4	0	0	289	
04:55:00 PM	1	26	25	0	0	2	31	1	0	0	1	0	4	0	0	1	0	8	0	0	293	1223
05:00:00 PM	4	25	17	0	0	2	26	1	0	0	0	4	4	0	0	4	0	2	0	0	286	1201
05:05:00 PM	3	25	31	0	0	3	37	1	0	0	4	2	4	0	0	0	0	3	0	0	302	1209
05:10:00 PM	4	38	20	0	0	5	36	0	0	0	4	7	3	0	0	0	0	1	0	0	320	1218
05:15:00 PM	3	25	28	0	0	0	33	1	0	0	2	3	6	0	0	1	0	3	0	0	336	1236
05:20:00 PM	2	42	32	0	0	2	42	0	0	0	2	0	5	0	0	2	0	4	0	0	356	1268
05:25:00 PM	2	23	22	0	0	0	51	1	0	0	0	2	2	0	0	1	0	2	0	0	344	1253
05:30:00 PM	2	28	16	0	0	1	49	2	0	0	0	3	6	0	0	0	0	1	0	0	347	1266
05:35:00 PM	2	36	21	0	0	6	39	1	0	0	0	4	3	0	0	1	1	5	0	0	333	1280
05:40:00 PM	4	22	13	0	0	3	50	1	0	0	0	3	1	0	0	1	0	5	0	0	330	1287
05:45:00 PM	1	21	21	0	0	1	33	0	0	0	0	1	3	0	0	0	0	11	0	0	314	1283
05:50:00 PM	2	14	17	0	0	1	36	0	0	0	3	0	3	0	0	1	0	3	0	0	275	1266
05:55:00 PM	2	28	19	0	0	1	37	0	0	0	0	3	4	0	0	0	0	2	0	0	268	1262

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	5	41	17	0	0	2	32	2	0	0	0	2	4	0	0	1	0	4	0	0		
04:05:00 PM	1	35	26	0	0	3	22	0	0	0	1	5	3	0	0	2	0	4	0	0		
04:10:00 PM	1	24	30	0	0	2	39	0	0	0	0	2	2	0	0	1	0	5	0	0	318	
04:15:00 PM	1	27	11	0	0	3	32	1	0	0	0	2	1	0	0	0	0	5	0	0	291	
04:20:00 PM	2	39	20	0	0	1	25	4	0	0	0	0	2	0	0	0	0	7	0	0	289	
04:25:00 PM	4	41	25	0	0	0	38	5	0	0	1	0	2	1	0	0	0	2	0	0	302	
04:30:00 PM	7	23	22	0	0	1	22	0	0	0	1	2	10	0	0	1	3	2	0	0	313	
04:35:00 PM	3	31	17	0	0	3	29	1	0	0	2	1	7	0	0	0	0	9	0	0	316	
04:40:00 PM	1	32	17	0	0	1	27	2	0	0	3	0	6	0	0	1	1	5	0	0	293	
04:45:00 PM	5	26	14	0	0	3	30	0	0	0	1	0	8	0	0	3	0	4	0	0	293	
04:50:00 PM	4	33	17	0	0	3	28	0	0	0	0	2	5	0	0	1	0	3	0	0	286	
04:55:00 PM	1	26	25	0	0	2	31	1	0	0	1	0	4	0	0	1	0	8	0	0	290	1203
05:00:00 PM	4	25	17	0	0	2	26	1	0	0	0	4	4	0	0	4	0	2	0	0	285	1182
05:05:00 PM	3	25	30	0	0	3	37	1	0	0	4	2	4	0	0	0	0	3	0	0	301	1192
05:10:00 PM	4	37	19	0	0	5	34	0	0	0	4	7	3	0	0	0	0	1	0	0	315	1200
05:15:00 PM	3	24	27	0	0	0	32	1	0	0	2	3	6	0	0	1	0	3	0	0	328	1219
05:20:00 PM	2	42	32	0	0	2	42	0	0	0	2	0	5	0	0	2	0	4	0	0	349	1252
05:25:00 PM	2	23	21	0	0	0	50	1	0	0	0	2	2	0	0	1	0	2	0	0	339	1237
05:30:00 PM	2	28	16	0	0	1	49	2	0	0	0	3	6	0	0	0	0	1	0	0	345	1251
05:35:00 PM	2	36	21	0	0	6	39	1	0	0	0	4	3	0	0	1	1	5	0	0	331	1267
05:40:00 PM	4	22	13	0	0	3	50	1	0	0	0	3	1	0	0	1	0	4	0	0	329	1273
05:45:00 PM	1	21	21	0	0	1	33	0	0	0	0	1	3	0	0	0	0	11	0	0	313	1271
05:50:00 PM	2	14	17	0	0	1	36	0	0	0	3	0	3	0	0	1	0	3	0	0	274	1255
05:55:00 PM	2	28	19	0	0	1	36	0	0	0	0	3	4	0	0	0	0	2	0	0	267	1250

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0		
04:05:00 PM	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
04:10:00 PM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
04:15:00 PM	1	0	1	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	12	
04:20:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
04:25:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
04:30:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:35:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
04:45:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	22
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21
05:05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	18
05:10:00 PM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	19
05:15:00 PM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	17
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	16
05:25:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	16
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	14
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
05:55:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12

Bike Volumes

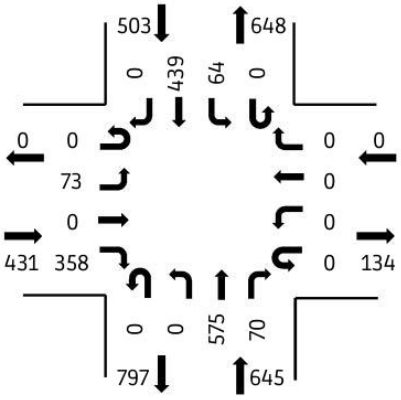
Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 WB ramps)					WB (22 WB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:25:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Pedestrian Volumes

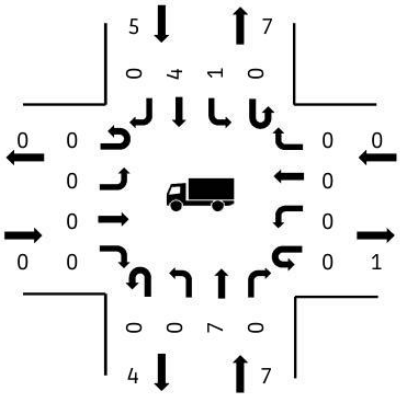
Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	
04:40:00 PM	0	0	1	0	1	
04:45:00 PM	0	0	1	0	2	
04:50:00 PM	0	0	0	0	2	
04:55:00 PM	0	0	0	0	1	2
05:00:00 PM	0	0	0	0	0	2
05:05:00 PM	0	0	0	0	0	2
05:10:00 PM	0	0	0	0	0	2
05:15:00 PM	0	0	0	0	0	2
05:20:00 PM	0	0	0	0	0	2
05:25:00 PM	0	0	0	0	0	2
05:30:00 PM	0	0	0	0	0	2
05:35:00 PM	0	0	0	0	0	2
05:40:00 PM	0	0	0	0	0	1
05:45:00 PM	0	0	0	0	0	0
05:50:00 PM	0	0	0	0	0	0
05:55:00 PM	0	0	2	0	2	2

Location: Cascade Hwy & 22 EB ramps
Date: 5/30/2024
Peak Hour Start: 04:40 PM
Peak 15 Minute Start: 05:15 PM
Peak Hour Factor: 0.9

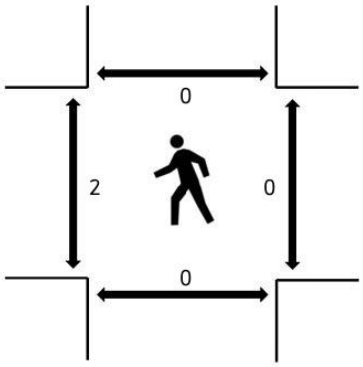
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	50	6	0	0	6	30	0	0	0	11	0	28	0	0	0	0	0	0	0		
04:05:00 PM	0	61	1	0	0	8	22	0	0	0	6	0	27	0	0	0	0	0	0	0		
04:10:00 PM	0	54	4	0	0	4	38	0	0	0	3	0	18	0	0	0	0	0	0	0	377	
04:15:00 PM	0	41	6	0	0	3	32	0	0	0	3	0	24	0	0	0	0	0	0	0	355	
04:20:00 PM	0	55	7	0	0	3	24	0	0	0	9	0	29	0	0	0	0	0	0	0	357	
04:25:00 PM	0	59	5	0	0	3	36	0	0	0	7	0	33	0	0	0	0	0	0	0	379	
04:30:00 PM	0	43	7	0	0	3	30	0	0	0	8	0	27	0	0	0	0	0	0	0	388	
04:35:00 PM	0	51	4	0	0	3	31	0	0	0	6	0	34	0	0	0	0	0	0	0	390	
04:40:00 PM	0	43	7	0	0	4	34	0	0	0	6	0	35	0	0	0	0	0	0	0	376	
04:45:00 PM	0	43	8	0	0	6	35	0	0	0	6	0	23	0	0	0	0	0	0	0	379	
04:50:00 PM	0	44	9	0	0	4	30	0	0	0	11	0	28	0	0	0	0	0	0	0	376	
04:55:00 PM	0	38	9	0	0	6	31	0	0	0	6	0	26	0	0	0	0	0	0	0	363	1495
05:00:00 PM	0	39	4	0	0	2	32	0	0	0	6	0	35	0	0	0	0	0	0	0	360	1482
05:05:00 PM	0	54	4	0	0	4	37	0	0	0	6	0	27	0	0	0	0	0	0	0	366	1489
05:10:00 PM	0	56	4	0	0	3	35	0	0	0	7	0	20	0	0	0	0	0	0	0	375	1493
05:15:00 PM	0	58	7	0	0	5	33	0	0	0	3	0	35	0	0	0	0	0	0	0	398	1525
05:20:00 PM	0	67	8	0	0	4	47	0	0	0	6	0	25	0	0	0	0	0	0	0	423	1555
05:25:00 PM	0	42	7	0	0	11	42	0	0	0	3	0	35	0	0	0	0	0	0	0	438	1552
05:30:00 PM	0	38	1	0	0	12	43	0	0	0	9	0	30	0	0	0	0	0	0	0	430	1567
05:35:00 PM	0	53	2	0	0	3	40	0	0	0	4	0	39	0	0	0	0	0	0	0	414	1579
05:40:00 PM	0	35	8	0	0	3	50	0	0	0	3	0	25	0	0	0	0	0	0	0	398	1574
05:45:00 PM	0	36	6	0	0	4	31	0	0	0	6	0	27	0	0	0	0	0	0	0	375	1563
05:50:00 PM	0	30	5	0	0	4	37	0	0	0	5	0	20	0	0	0	0	0	0	0	335	1538
05:55:00 PM	0	40	5	0	0	4	34	0	0	0	5	0	34	0	0	0	0	0	0	0	333	1544

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	50	6	0	0	6	30	0	0	0	11	0	28	0	0	0	0	0	0	0		
04:05:00 PM	0	59	1	0	0	8	21	0	0	0	6	0	27	0	0	0	0	0	0	0		
04:10:00 PM	0	51	4	0	0	3	38	0	0	0	3	0	17	0	0	0	0	0	0	0	369	
04:15:00 PM	0	40	6	0	0	2	31	0	0	0	3	0	24	0	0	0	0	0	0	0	344	
04:20:00 PM	0	54	7	0	0	3	23	0	0	0	9	0	29	0	0	0	0	0	0	0	347	
04:25:00 PM	0	58	5	0	0	3	36	0	0	0	6	0	33	0	0	0	0	0	0	0	372	
04:30:00 PM	0	43	7	0	0	3	30	0	0	0	8	0	27	0	0	0	0	0	0	0	384	
04:35:00 PM	0	50	4	0	0	3	30	0	0	0	6	0	34	0	0	0	0	0	0	0	386	
04:40:00 PM	0	43	7	0	0	4	34	0	0	0	6	0	35	0	0	0	0	0	0	0	374	
04:45:00 PM	0	42	8	0	0	6	34	0	0	0	6	0	23	0	0	0	0	0	0	0	375	
04:50:00 PM	0	44	9	0	0	4	30	0	0	0	11	0	28	0	0	0	0	0	0	0	374	
04:55:00 PM	0	38	9	0	0	6	31	0	0	0	6	0	26	0	0	0	0	0	0	0	361	1476
05:00:00 PM	0	39	4	0	0	2	32	0	0	0	6	0	35	0	0	0	0	0	0	0	360	1463
05:05:00 PM	0	53	4	0	0	4	37	0	0	0	6	0	27	0	0	0	0	0	0	0	365	1472
05:10:00 PM	0	54	4	0	0	3	33	0	0	0	7	0	20	0	0	0	0	0	0	0	370	1477
05:15:00 PM	0	56	7	0	0	5	32	0	0	0	3	0	35	0	0	0	0	0	0	0	390	1509
05:20:00 PM	0	67	8	0	0	4	47	0	0	0	6	0	25	0	0	0	0	0	0	0	416	1541
05:25:00 PM	0	41	7	0	0	10	42	0	0	0	3	0	35	0	0	0	0	0	0	0	433	1538
05:30:00 PM	0	38	1	0	0	12	43	0	0	0	9	0	30	0	0	0	0	0	0	0	428	1553
05:35:00 PM	0	53	2	0	0	3	40	0	0	0	4	0	39	0	0	0	0	0	0	0	412	1567
05:40:00 PM	0	35	8	0	0	3	50	0	0	0	3	0	25	0	0	0	0	0	0	0	398	1562
05:45:00 PM	0	36	6	0	0	4	31	0	0	0	6	0	26	0	0	0	0	0	0	0	374	1552
05:50:00 PM	0	30	5	0	0	4	37	0	0	0	5	0	20	0	0	0	0	0	0	0	334	1527
05:55:00 PM	0	40	5	0	0	4	33	0	0	0	5	0	34	0	0	0	0	0	0	0	331	1532

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	3	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8	
04:15:00 PM	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
04:20:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
04:25:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:35:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:45:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	19
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
05:05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17
05:10:00 PM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	16
05:15:00 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	16
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	14
05:25:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	14
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	14
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	11
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
05:55:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12

Bike Volumes

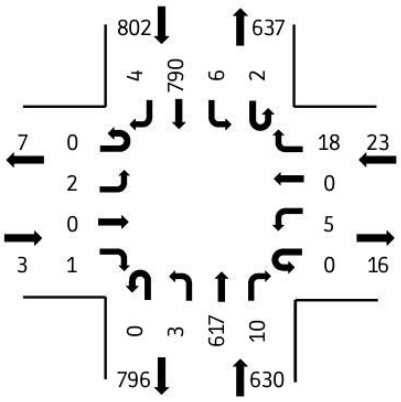
Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (22 EB ramps)					WB (22 EB ramps)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Pedestrian Volumes

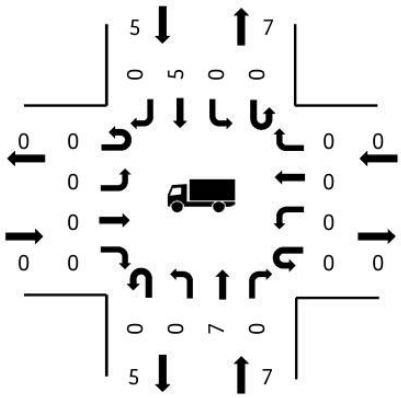
Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	
04:40:00 PM	0	0	1	0	1	
04:45:00 PM	0	0	1	0	2	
04:50:00 PM	0	0	0	0	2	
04:55:00 PM	0	0	0	0	1	2
05:00:00 PM	0	0	0	0	0	2
05:05:00 PM	0	0	0	0	0	2
05:10:00 PM	0	0	0	0	0	2
05:15:00 PM	0	0	0	0	0	2
05:20:00 PM	0	0	0	0	0	2
05:25:00 PM	0	0	0	0	0	2
05:30:00 PM	0	0	0	0	0	2
05:35:00 PM	0	0	0	0	0	2
05:40:00 PM	0	0	0	0	0	1
05:45:00 PM	0	0	0	0	0	0
05:50:00 PM	0	0	0	0	0	0
05:55:00 PM	2	0	2	0	4	4

Location: Cascade Hwy & Golf Ln
Date: 5/30/2024
Peak Hour Start: 04:45 PM
Peak 15 Minute Start: 05:15 PM
Peak Hour Factor: 0.9

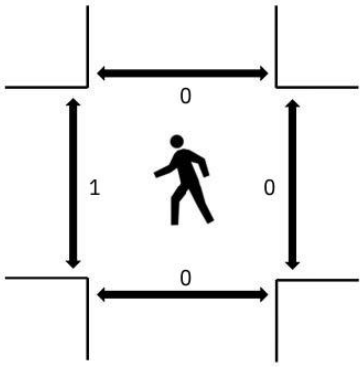
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	52	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	62	0	0	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	51	0	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	324	
04:15:00 PM	0	52	2	0	0	0	55	1	0	0	0	0	0	0	0	0	0	0	0	0	329	
04:20:00 PM	0	62	1	0	0	0	52	1	0	0	0	0	0	0	0	2	0	0	0	0	336	
04:25:00 PM	0	56	1	0	0	0	70	0	0	0	1	0	0	0	0	1	0	2	0	0	359	
04:30:00 PM	1	44	0	0	0	0	64	0	3	0	0	0	0	0	0	1	0	1	0	0	363	
04:35:00 PM	0	55	0	0	0	0	64	0	1	0	1	0	0	0	0	0	0	1	0	0	367	
04:40:00 PM	0	48	0	0	0	4	65	0	0	0	0	0	0	0	0	0	0	0	0	0	353	
04:45:00 PM	0	55	0	0	0	0	57	1	0	0	0	0	0	0	0	1	0	1	0	0	354	
04:50:00 PM	0	50	1	0	0	1	57	0	0	0	0	0	0	0	0	0	0	0	0	0	341	
04:55:00 PM	0	41	1	0	0	0	56	1	0	0	0	0	0	0	0	0	0	3	0	0	326	1362
05:00:00 PM	1	45	0	0	0	1	67	0	0	0	0	0	1	0	0	0	0	1	0	0	327	1373
05:05:00 PM	1	63	1	0	0	0	63	0	0	0	0	0	0	0	0	1	0	0	0	0	347	1391
05:10:00 PM	0	54	1	0	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	0	355	1393
05:15:00 PM	1	60	0	0	0	3	63	0	0	0	0	0	0	0	0	1	0	4	0	0	371	1415
05:20:00 PM	0	68	1	0	0	0	71	1	1	0	0	0	0	0	0	0	0	3	0	0	387	1442
05:25:00 PM	0	49	1	0	0	1	77	0	0	0	1	0	0	0	0	0	0	0	0	0	406	1440
05:30:00 PM	0	41	1	0	0	0	73	0	0	0	0	0	0	0	0	1	0	2	0	0	392	1444
05:35:00 PM	0	46	2	0	0	0	76	0	1	0	1	0	0	0	0	1	0	1	0	0	375	1450
05:40:00 PM	0	45	1	0	0	0	75	1	0	0	0	0	0	0	0	0	0	3	0	0	371	1458
05:45:00 PM	1	39	0	0	0	0	58	0	0	0	0	0	0	0	0	0	0	1	0	0	352	1442
05:50:00 PM	0	33	0	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	315	1424
05:55:00 PM	0	53	0	0	0	0	66	0	0	0	0	0	0	0	0	0	0	0	0	0	309	1441

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	52	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	60	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	48	0	0	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0	317	
04:15:00 PM	0	51	2	0	0	0	54	1	0	0	0	0	0	0	0	0	0	0	0	0	320	
04:20:00 PM	0	61	1	0	0	0	51	1	0	0	0	0	0	0	0	2	0	0	0	0	328	
04:25:00 PM	0	56	0	0	0	0	70	0	0	0	1	0	0	0	0	1	0	1	0	0	353	
04:30:00 PM	1	44	0	0	0	0	64	0	3	0	0	0	0	0	0	1	0	1	0	0	359	
04:35:00 PM	0	54	0	0	0	0	63	0	1	0	1	0	0	0	0	0	0	1	0	0	363	
04:40:00 PM	0	48	0	0	0	4	65	0	0	0	0	0	0	0	0	0	0	0	0	0	351	
04:45:00 PM	0	54	0	0	0	0	56	1	0	0	0	0	0	0	0	1	0	1	0	0	350	
04:50:00 PM	0	50	1	0	0	1	57	0	0	0	0	0	0	0	0	0	0	0	0	0	339	
04:55:00 PM	0	41	1	0	0	0	56	1	0	0	0	0	0	0	0	0	0	3	0	0	324	1345
05:00:00 PM	1	45	0	0	0	1	67	0	0	0	0	0	1	0	0	0	0	1	0	0	327	1356
05:05:00 PM	1	61	1	0	0	0	63	0	0	0	0	0	0	0	0	1	0	0	0	0	345	1375
05:10:00 PM	0	53	1	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0	350	1378
05:15:00 PM	1	58	0	0	0	3	62	0	0	0	0	0	0	0	0	1	0	4	0	0	363	1399
05:20:00 PM	0	68	1	0	0	0	71	1	1	0	0	0	0	0	0	0	0	3	0	0	381	1428
05:25:00 PM	0	48	1	0	0	1	77	0	0	0	1	0	0	0	0	0	0	0	0	0	402	1427
05:30:00 PM	0	41	1	0	0	0	73	0	0	0	0	0	0	0	0	1	0	2	0	0	391	1431
05:35:00 PM	0	46	2	0	0	0	76	0	1	0	1	0	0	0	0	1	0	1	0	0	374	1439
05:40:00 PM	0	45	1	0	0	0	74	1	0	0	0	0	0	0	0	0	0	3	0	0	370	1446
05:45:00 PM	1	39	0	0	0	0	57	0	0	0	0	0	0	0	0	0	0	1	0	0	350	1431
05:50:00 PM	0	33	0	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	313	1413
05:55:00 PM	0	53	0	0	0	0	65	0	0	0	0	0	0	0	0	0	0	0	0	0	307	1429

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
04:15:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
04:20:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
04:25:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	6	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:35:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:45:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
05:05:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16
05:10:00 PM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	15
05:15:00 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	16
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	14
05:25:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	13
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
05:40:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
05:45:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11
05:55:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12

Bike Volumes

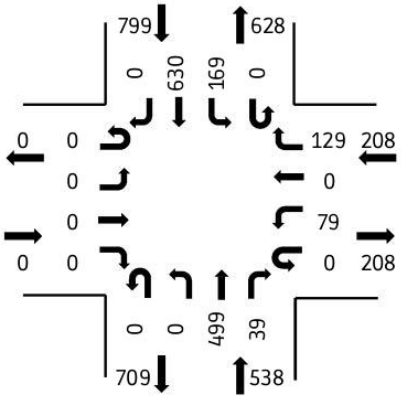
Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Golf Ln)					WB (Golf Ln)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Pedestrian Volumes

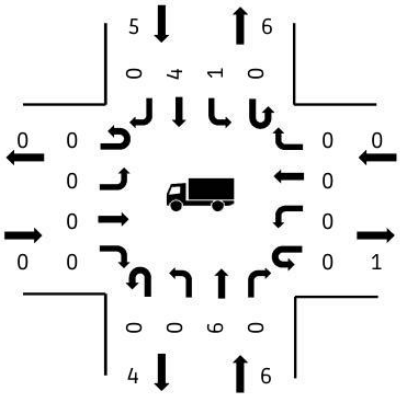
Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	
04:40:00 PM	0	0	1	0	1	
04:45:00 PM	0	0	1	0	2	
04:50:00 PM	0	0	0	0	2	
04:55:00 PM	0	0	0	0	1	2
05:00:00 PM	0	0	0	0	0	2
05:05:00 PM	0	0	0	0	0	2
05:10:00 PM	0	0	0	0	0	2
05:15:00 PM	0	0	0	0	0	2
05:20:00 PM	0	0	0	0	0	2
05:25:00 PM	0	0	0	0	0	2
05:30:00 PM	0	0	0	0	0	2
05:35:00 PM	0	0	0	0	0	2
05:40:00 PM	0	0	0	0	0	1
05:45:00 PM	0	0	0	0	0	0
05:50:00 PM	0	0	0	2	2	2
05:55:00 PM	0	0	0	0	2	2

Location: Cascade Hwy & Whitney St
Date: 5/30/2024
Peak Hour Start: 04:45 PM
Peak 15 Minute Start: 05:15 PM
Peak Hour Factor: 0.93

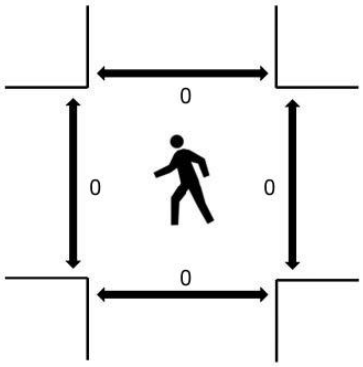
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	35	8	0	0	10	50	0	0	0	0	0	0	0	0	9	0	13	0	0		
04:05:00 PM	0	50	2	0	0	11	32	0	0	0	0	0	0	0	0	10	0	12	0	0		
04:10:00 PM	0	36	1	0	0	17	48	0	0	0	0	0	0	0	0	8	0	17	0	0	369	
04:15:00 PM	0	40	4	0	0	11	39	0	0	0	0	0	0	0	0	4	0	10	0	0	352	
04:20:00 PM	0	47	7	0	0	16	41	0	0	0	0	0	0	0	0	7	0	18	0	0	371	
04:25:00 PM	0	43	2	0	0	10	60	0	0	0	0	0	0	0	0	6	0	14	0	0	379	
04:30:00 PM	0	36	3	0	0	14	37	0	0	0	0	0	0	0	0	5	0	12	0	0	378	
04:35:00 PM	0	46	2	0	0	15	47	0	0	0	0	0	0	0	0	8	0	8	0	0	368	
04:40:00 PM	0	44	4	0	0	18	56	0	0	0	0	0	0	0	0	7	0	4	0	0	366	
04:45:00 PM	0	43	4	0	0	9	41	0	0	0	0	0	0	0	0	2	0	12	0	0	370	
04:50:00 PM	0	42	1	0	0	12	54	0	0	0	0	0	0	0	0	10	0	11	0	0	374	
04:55:00 PM	0	33	2	0	0	12	43	0	0	0	0	0	0	0	0	6	0	9	0	0	346	1460
05:00:00 PM	0	36	1	0	0	13	53	0	0	0	0	0	0	0	0	6	0	10	0	0	354	1454
05:05:00 PM	0	49	9	0	0	13	50	0	0	0	0	0	0	0	0	3	0	14	0	0	362	1475
05:10:00 PM	0	45	4	0	0	17	38	0	0	0	0	0	0	0	0	8	0	13	0	0	382	1473
05:15:00 PM	0	46	5	0	0	15	49	0	0	0	0	0	0	0	0	10	0	11	0	0	399	1501
05:20:00 PM	0	56	4	0	0	11	60	0	0	0	0	0	0	0	0	2	0	13	0	0	407	1511
05:25:00 PM	0	38	1	0	0	19	60	0	0	0	0	0	0	0	0	7	0	10	0	0	417	1511
05:30:00 PM	0	31	2	0	0	18	54	0	0	0	0	0	0	0	0	9	0	10	0	0	405	1528
05:35:00 PM	0	44	0	0	0	18	66	0	0	0	0	0	0	0	0	7	0	7	0	0	401	1544
05:40:00 PM	0	36	6	0	0	12	62	0	0	0	0	0	0	0	0	9	0	9	0	0	400	1545
05:45:00 PM	0	32	3	0	0	14	41	0	0	0	0	0	0	0	0	10	0	7	0	0	383	1541
05:50:00 PM	0	27	4	0	0	13	48	0	0	0	0	0	0	0	0	5	0	6	0	0	344	1514
05:55:00 PM	0	17	1	0	0	2	16	0	0	0	0	0	0	0	0	0	0	7	0	0	253	1452

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	35	8	0	0	10	50	0	0	0	0	0	0	0	0	9	0	13	0	0		
04:05:00 PM	0	48	2	0	0	10	32	0	0	0	0	0	0	0	0	10	0	12	0	0		
04:10:00 PM	0	35	1	0	0	17	47	0	0	0	0	0	0	0	0	7	0	16	0	0	362	
04:15:00 PM	0	39	4	0	0	10	39	0	0	0	0	0	0	0	0	4	0	10	0	0	343	
04:20:00 PM	0	46	7	0	0	16	40	0	0	0	0	0	0	0	0	7	0	18	0	0	363	
04:25:00 PM	0	42	2	0	0	10	60	0	0	0	0	0	0	0	0	6	0	14	0	0	374	
04:30:00 PM	0	36	3	0	0	14	37	0	0	0	0	0	0	0	0	5	0	12	0	0	375	
04:35:00 PM	0	45	2	0	0	15	46	0	0	0	0	0	0	0	0	8	0	8	0	0	365	
04:40:00 PM	0	44	4	0	0	18	56	0	0	0	0	0	0	0	0	7	0	4	0	0	364	
04:45:00 PM	0	42	4	0	0	9	40	0	0	0	0	0	0	0	0	2	0	12	0	0	366	
04:50:00 PM	0	42	1	0	0	12	54	0	0	0	0	0	0	0	0	10	0	11	0	0	372	
04:55:00 PM	0	33	2	0	0	12	43	0	0	0	0	0	0	0	0	6	0	9	0	0	344	1444
05:00:00 PM	0	36	1	0	0	13	53	0	0	0	0	0	0	0	0	6	0	10	0	0	354	1438
05:05:00 PM	0	47	9	0	0	13	50	0	0	0	0	0	0	0	0	3	0	14	0	0	360	1460
05:10:00 PM	0	44	4	0	0	17	36	0	0	0	0	0	0	0	0	8	0	13	0	0	377	1459
05:15:00 PM	0	44	5	0	0	15	48	0	0	0	0	0	0	0	0	10	0	11	0	0	391	1486
05:20:00 PM	0	56	4	0	0	11	60	0	0	0	0	0	0	0	0	2	0	13	0	0	401	1498
05:25:00 PM	0	38	1	0	0	19	60	0	0	0	0	0	0	0	0	7	0	10	0	0	414	1499
05:30:00 PM	0	31	2	0	0	18	54	0	0	0	0	0	0	0	0	9	0	10	0	0	405	1516
05:35:00 PM	0	44	0	0	0	17	66	0	0	0	0	0	0	0	0	7	0	7	0	0	400	1533
05:40:00 PM	0	36	6	0	0	12	62	0	0	0	0	0	0	0	0	9	0	9	0	0	399	1534
05:45:00 PM	0	32	3	0	0	14	40	0	0	0	0	0	0	0	0	8	0	7	0	0	379	1529
05:50:00 PM	0	27	4	0	0	13	48	0	0	0	0	0	0	0	0	5	0	6	0	0	341	1502
05:55:00 PM	0	17	1	0	0	2	16	0	0	0	0	0	0	0	0	0	0	7	0	0	250	1440

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	7	
04:15:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
04:20:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
04:25:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
04:35:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:45:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
05:05:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15
05:10:00 PM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	14
05:15:00 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	15
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	13
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
05:35:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
05:45:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	4	12
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12

Bike Volumes

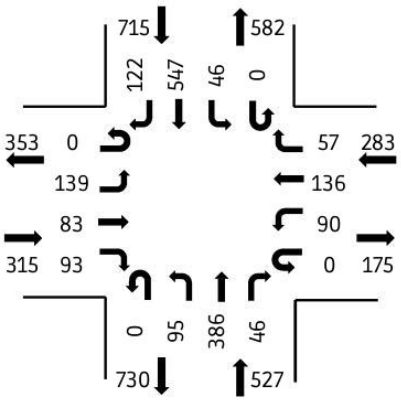
Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Whitney St)					WB (Whitney St)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Pedestrian Volumes

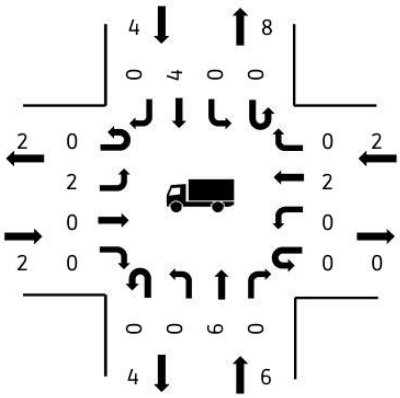
Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	
04:30:00 PM	0	0	0	0	0	
04:35:00 PM	0	0	0	0	0	
04:40:00 PM	0	0	0	0	0	
04:45:00 PM	0	0	0	0	0	
04:50:00 PM	0	0	0	0	0	
04:55:00 PM	0	0	0	0	0	0
05:00:00 PM	0	0	0	0	0	0
05:05:00 PM	0	0	0	0	0	0
05:10:00 PM	0	0	0	0	0	0
05:15:00 PM	0	0	0	0	0	0
05:20:00 PM	0	0	0	0	0	0
05:25:00 PM	0	0	0	0	0	0
05:30:00 PM	0	0	0	0	0	0
05:35:00 PM	0	0	0	0	0	0
05:40:00 PM	0	0	0	0	0	0
05:45:00 PM	0	0	0	0	0	0
05:50:00 PM	0	0	0	0	0	0
05:55:00 PM	0	0	0	0	0	0

Location: Cascade Hwy & Fern Ridge Rd
Date: 5/30/2024
Peak Hour Start: 04:55 PM
Peak 15 Minute Start: 05:15 PM
Peak Hour Factor: 0.9

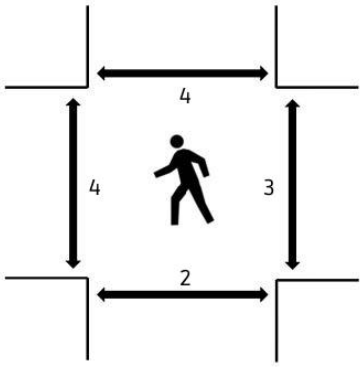
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	8	28	7	0	0	12	30	8	0	0	16	11	12	0	0	6	8	8	0	0		
04:05:00 PM	12	33	6	0	0	3	47	8	0	0	8	14	10	0	0	9	7	4	0	0		
04:10:00 PM	14	44	5	0	0	1	39	13	0	0	7	4	5	0	0	3	8	6	0	0	464	
04:15:00 PM	10	32	7	0	0	1	36	13	0	0	4	7	14	0	0	9	8	6	0	0	457	
04:20:00 PM	7	25	7	0	0	0	28	10	0	0	11	9	9	0	0	11	22	16	0	0	451	
04:25:00 PM	4	43	4	0	0	3	45	7	0	0	12	9	9	0	0	11	11	6	0	0	466	
04:30:00 PM	8	31	2	0	0	2	34	11	0	0	7	13	7	0	0	5	9	11	0	0	459	
04:35:00 PM	10	33	3	0	0	3	46	9	0	0	7	7	8	0	0	4	11	8	0	0	453	
04:40:00 PM	8	36	5	0	0	6	43	9	0	0	8	8	9	0	0	5	14	7	0	0	447	
04:45:00 PM	5	30	3	0	0	4	42	8	0	0	6	8	13	0	0	3	16	6	0	0	451	
04:50:00 PM	10	36	4	0	0	5	41	7	0	0	11	8	4	0	0	5	6	4	0	0	443	
04:55:00 PM	5	32	2	0	0	4	44	10	0	0	8	9	5	0	0	7	11	3	0	0	425	1802
05:00:00 PM	7	20	6	0	0	8	32	10	0	0	11	6	16	0	0	6	12	9	0	0	424	1791
05:05:00 PM	6	35	3	0	0	4	43	12	0	0	7	3	5	0	0	4	8	2	0	0	415	1762
05:10:00 PM	10	25	5	0	0	1	25	6	0	0	17	6	4	0	0	6	12	9	0	0	401	1739
05:15:00 PM	12	42	5	0	0	5	52	5	0	0	13	8	6	0	0	5	11	7	0	0	429	1763
05:20:00 PM	3	48	5	0	0	0	53	10	0	0	13	13	9	0	0	10	11	1	0	0	473	1784
05:25:00 PM	15	38	1	0	0	4	39	11	0	0	18	6	9	0	0	9	10	5	0	0	512	1785
05:30:00 PM	5	32	3	0	0	4	47	11	0	0	13	13	10	0	0	17	11	5	0	0	512	1816
05:35:00 PM	3	24	2	0	0	3	50	10	0	0	15	6	6	0	0	11	11	2	0	0	479	1810
05:40:00 PM	10	36	6	0	0	3	54	15	0	0	7	4	7	0	0	4	12	3	0	0	475	1813
05:45:00 PM	8	29	5	0	0	4	59	9	0	0	8	6	8	0	0	4	12	5	0	0	461	1826
05:50:00 PM	11	25	3	0	0	6	49	13	0	0	9	3	8	0	0	7	15	6	0	0	473	1840
05:55:00 PM	9	19	8	0	0	3	36	2	0	0	9	10	7	0	0	7	11	3	0	0	436	1824

Car Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	8	25	7	0	0	12	29	8	0	0	16	11	12	0	0	6	8	8	0	0		
04:05:00 PM	12	33	6	0	0	3	47	8	0	0	8	14	10	0	0	8	7	4	0	0		
04:10:00 PM	14	43	5	0	0	1	39	13	0	0	7	4	5	0	0	3	8	5	0	0	457	
04:15:00 PM	10	30	7	0	0	1	35	12	0	0	4	7	14	0	0	9	8	6	0	0	450	
04:20:00 PM	7	24	7	0	0	0	28	10	0	0	11	9	9	0	0	11	22	16	0	0	444	
04:25:00 PM	4	43	4	0	0	3	44	7	0	0	12	9	9	0	0	11	11	6	0	0	460	
04:30:00 PM	8	30	2	0	0	2	34	11	0	0	5	13	7	0	0	5	9	11	0	0	454	
04:35:00 PM	10	33	3	0	0	3	46	9	0	0	7	7	8	0	0	4	10	8	0	0	448	
04:40:00 PM	8	35	5	0	0	6	43	9	0	0	8	8	9	0	0	5	14	7	0	0	442	
04:45:00 PM	5	30	3	0	0	4	41	8	0	0	6	7	13	0	0	3	16	6	0	0	447	
04:50:00 PM	10	36	4	0	0	5	40	7	0	0	11	8	4	0	0	5	6	4	0	0	439	
04:55:00 PM	5	32	2	0	0	4	44	10	0	0	8	9	5	0	0	7	11	3	0	0	422	1781
05:00:00 PM	7	20	6	0	0	8	32	10	0	0	11	6	16	0	0	6	11	9	0	0	422	1773
05:05:00 PM	6	35	3	0	0	4	43	12	0	0	7	3	5	0	0	4	8	2	0	0	414	1745
05:10:00 PM	10	23	5	0	0	1	25	6	0	0	17	6	4	0	0	6	12	9	0	0	398	1722
05:15:00 PM	12	40	5	0	0	5	51	5	0	0	13	8	6	0	0	5	11	7	0	0	424	1747
05:20:00 PM	3	47	5	0	0	0	51	10	0	0	12	13	9	0	0	10	11	1	0	0	464	1765
05:25:00 PM	15	38	1	0	0	4	38	11	0	0	18	6	9	0	0	9	10	5	0	0	504	1766
05:30:00 PM	5	31	3	0	0	4	47	11	0	0	12	13	10	0	0	17	11	5	0	0	505	1798
05:35:00 PM	3	24	2	0	0	3	50	10	0	0	15	6	6	0	0	11	10	2	0	0	475	1792
05:40:00 PM	10	36	6	0	0	3	54	15	0	0	7	4	7	0	0	4	12	3	0	0	472	1796
05:45:00 PM	8	29	5	0	0	4	59	9	0	0	8	6	8	0	0	4	12	5	0	0	460	1811
05:50:00 PM	11	25	3	0	0	6	49	13	0	0	9	3	8	0	0	7	15	6	0	0	473	1826
05:55:00 PM	9	19	8	0	0	3	36	2	0	0	9	10	7	0	0	7	10	3	0	0	435	1809

Truck Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0		
04:10:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	8	
04:15:00 PM	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	8	
04:20:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
04:25:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
04:30:00 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	5	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	
04:40:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
04:45:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	4	
04:50:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	22
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	19
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17
05:10:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	17
05:15:00 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	16
05:20:00 PM	0	1	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	9	19
05:25:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	19
05:30:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7	18
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	18
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	17
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	15

Bike Volumes

Time	NB (Cascade Hwy)					SB (Cascade Hwy)					EB (Fern Ridge Rd)					WB (Fern Ridge Rd)					Totals	
Time	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pedestrian Volumes

Time	Pedestrians				Totals	
Time	NB	SB	EB	WB	15min	1hr
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	0	0	
04:15:00 PM	0	0	0	0	0	
04:20:00 PM	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	
04:30:00 PM	1	0	0	0	1	
04:35:00 PM	0	0	0	0	1	
04:40:00 PM	0	0	0	0	1	
04:45:00 PM	0	0	0	0	0	
04:50:00 PM	0	0	0	0	0	
04:55:00 PM	0	0	0	0	0	1
05:00:00 PM	0	0	0	0	0	1
05:05:00 PM	0	0	0	0	0	1
05:10:00 PM	0	0	0	0	0	1
05:15:00 PM	0	0	0	0	0	1
05:20:00 PM	0	0	0	0	0	1
05:25:00 PM	0	0	0	0	0	1
05:30:00 PM	0	0	0	0	0	0
05:35:00 PM	0	1	0	0	1	1
05:40:00 PM	0	2	2	0	5	5
05:45:00 PM	0	1	0	0	6	6
05:50:00 PM	2	0	2	3	12	13
05:55:00 PM	0	0	0	0	8	13

APPENDIX B: HCM REPORTS - EXISTING

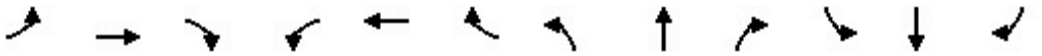
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	3	15	4	9	44	84	307	370	41	361	13
Future Vol, veh/h	6	3	15	4	9	44	84	307	370	41	361	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	-	-	-	25	250	-	300	250	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	5	1	2	3	0	5	0
Mvmt Flow	8	4	19	5	11	55	105	384	463	51	451	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1180	1147	451	1167	1163	384	467	0	0	384	0	0
Stage 1	553	553	-	594	594	-	-	-	-	-	-	-
Stage 2	627	594	-	573	569	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.25	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.345	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	169	201	613	172	196	657	1100	-	-	1186	-	-
Stage 1	521	518	-	495	496	-	-	-	-	-	-	-
Stage 2	475	496	-	508	509	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	174	613	147	170	657	1100	-	-	1186	-	-
Mov Cap-2 Maneuver	132	174	-	147	170	-	-	-	-	-	-	-
Stage 1	472	496	-	448	449	-	-	-	-	-	-	-
Stage 2	384	449	-	468	487	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	15.3	1	0.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1100	-	-	132	432	162	657	1186	-	-
HCM Lane V/C Ratio	0.095	-	-	0.057	0.052	0.1	0.084	0.043	-	-
HCM Control Delay (s)	8.6	-	-	33.9	13.8	29.7	11	8.2	-	-
HCM Lane LOS	A	-	-	D	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	0.2	0.3	0.3	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	0	240	0	0	0	0	686	16	36	344	0
Future Volume (vph)	75	0	240	0	0	0	0	686	16	36	344	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5					5.7		4.5	5.7	
Lane Util. Factor		1.00	1.00					1.00		1.00	1.00	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					1.00		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1614	1458					1676		1309	1699	
Flt Permitted		0.95	1.00					1.00		0.12	1.00	
Satd. Flow (perm)		1614	1458					1676		161	1699	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	90	0	289	0	0	0	0	827	19	43	414	0
RTOR Reduction (vph)	0	0	241	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	90	48	0	0	0	0	845	0	43	414	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	0%	4%	7%	27%	3%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8							2		
Actuated Green, G (s)		10.1	10.1					29.8		40.8	40.8	
Effective Green, g (s)		10.1	10.1					29.8		40.8	40.8	
Actuated g/C Ratio		0.17	0.17					0.49		0.67	0.67	
Clearance Time (s)		4.5	4.5					5.7		4.5	5.7	
Vehicle Extension (s)		2.5	2.5					4.8		2.5	4.8	
Lane Grp Cap (vph)		266	241					817		229	1134	
v/s Ratio Prot								c0.50		0.02	c0.24	
v/s Ratio Perm		0.06	0.03							0.11		
v/c Ratio		0.34	0.20					1.03		0.19	0.37	
Uniform Delay, d1		22.5	22.0					15.7		9.6	4.5	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.6	0.3					40.8		0.3	0.4	
Delay (s)		23.1	22.3					56.5		9.9	4.8	
Level of Service		C	C					E		A	A	
Approach Delay (s)		22.5			0.0			56.5			5.3	
Approach LOS		C			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	14.7
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	1	0	10	0	690	2	11	573	0
Future Vol, veh/h	2	0	2	1	0	10	0	690	2	11	573	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	75	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	4	0
Mvmt Flow	2	0	2	1	0	12	0	841	2	13	699	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1573	1568	699	1568	1567	842	699	0	0	843	0	0
Stage 1	725	725	-	842	842	-	-	-	-	-	-	-
Stage 2	848	843	-	726	725	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	90	112	443	91	112	367	907	-	-	802	-	-
Stage 1	420	433	-	362	383	-	-	-	-	-	-	-
Stage 2	359	382	-	419	433	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	86	110	443	89	110	367	907	-	-	802	-	-
Mov Cap-2 Maneuver	208	230	-	89	110	-	-	-	-	-	-	-
Stage 1	420	426	-	362	383	-	-	-	-	-	-	-
Stage 2	347	382	-	410	426	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	18.2	0	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	907	-	-	283	286	802	-	-
HCM Lane V/C Ratio	-	-	-	0.017	0.047	0.017	-	-
HCM Control Delay (s)	0	-	-	17.9	18.2	9.6	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	150	542	40	72	504
Future Volume (vph)	24	150	542	40	72	504
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0	5.7		4.5	5.7
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1525	1488	1664		1630	1699
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1525	1488	1664		1630	1699
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	30	188	678	50	90	630
RTOR Reduction (vph)	0	163	2	0	0	0
Lane Group Flow (vph)	30	25	726	0	90	630
Heavy Vehicles (%)	9%	0%	4%	7%	2%	3%
Turn Type	Prot	Prot	NA		Prot	NA
Protected Phases	4	4	6		5	2
Permitted Phases						
Actuated Green, G (s)	9.0	9.0	37.6		7.1	49.2
Effective Green, g (s)	9.0	9.0	37.6		7.1	49.2
Actuated g/C Ratio	0.13	0.13	0.55		0.10	0.71
Clearance Time (s)	5.0	5.0	5.7		4.5	5.7
Vehicle Extension (s)	2.5	2.5	4.8		2.5	4.8
Lane Grp Cap (vph)	199	194	908		167	1213
v/s Ratio Prot	c0.02	0.02	c0.44		0.06	c0.37
v/s Ratio Perm						
v/c Ratio	0.15	0.13	0.80		0.54	0.52
Uniform Delay, d1	26.6	26.5	12.6		29.3	4.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.2	5.6		2.6	0.7
Delay (s)	26.8	26.7	18.3		31.9	5.2
Level of Service	C	C	B		C	A
Approach Delay (s)	26.7		18.3			8.5
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	15.2
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	105	66	66	135	64	72	427	24	67	399	68
Future Volume (vph)	94	105	66	66	135	64	72	427	24	67	399	68
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1593		1629	1622		1539	1684		1662	1628	
Flt Permitted	0.31	1.00		0.52	1.00		0.20	1.00		0.25	1.00	
Satd. Flow (perm)	539	1593		888	1622		318	1684		430	1628	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	122	136	86	86	175	83	94	555	31	87	518	88
RTOR Reduction (vph)	0	16	0	0	0	0	0	2	0	0	4	0
Lane Group Flow (vph)	122	206	0	86	258	0	94	584	0	87	602	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	3%	2%	2%	4%	0%	8%	3%	5%	0%	5%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	37.2	26.5		31.2	23.5		58.7	50.4		55.1	48.6	
Effective Green, g (s)	37.2	26.5		31.2	23.5		58.7	50.4		55.1	48.6	
Actuated g/C Ratio	0.34	0.24		0.28	0.21		0.53	0.45		0.50	0.44	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	286	380		301	344		259	766		286	714	
v/s Ratio Prot	c0.04	0.13		0.02	c0.16		c0.03	0.35		0.02	c0.37	
v/s Ratio Perm	0.10			0.06			0.16			0.13		
v/c Ratio	0.43	0.54		0.29	0.75		0.36	0.76		0.30	0.84	
Uniform Delay, d1	27.2	36.8		30.3	40.9		17.0	25.2		17.2	27.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.2		0.4	8.5		0.6	4.8		0.4	9.3	
Delay (s)	28.0	38.1		30.6	49.4		17.7	30.0		17.6	36.9	
Level of Service	C	D		C	D		B	C		B	D	
Approach Delay (s)		34.5			44.7			28.3			34.5	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.8	Sum of lost time (s)	19.7
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

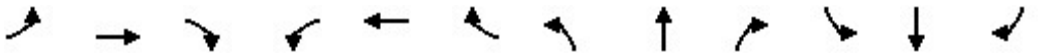
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	32	52	14	1	45	39	377	278	32	477	10
Future Vol, veh/h	15	32	52	14	1	45	39	377	278	32	477	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	-	-	-	25	250	-	300	250	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	0	5	0	1	2	0	1	0
Mvmt Flow	17	36	58	16	1	50	43	419	309	36	530	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1133	1108	530	1161	1119	420	541	0	0	420	0	0
Stage 1	602	602	-	506	506	-	-	-	-	-	-	-
Stage 2	531	506	-	655	613	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.22	7.1	6.5	6.25	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.318	3.5	4	3.345	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	182	212	549	174	209	627	1038	-	-	1150	-	-
Stage 1	490	492	-	552	543	-	-	-	-	-	-	-
Stage 2	536	543	-	458	486	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	158	197	549	127	194	626	1038	-	-	1149	-	-
Mov Cap-2 Maneuver	158	197	-	127	194	-	-	-	-	-	-	-
Stage 1	470	477	-	529	520	-	-	-	-	-	-	-
Stage 2	472	520	-	367	471	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.8	17.6	0.5	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1038	-	-	158	327	130	626	1149	-	-
HCM Lane V/C Ratio	0.042	-	-	0.105	0.285	0.128	0.08	0.031	-	-
HCM Control Delay (s)	8.6	-	-	30.5	20.3	36.7	11.2	8.2	-	-
HCM Lane LOS	A	-	-	D	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	1.2	0.4	0.3	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	0	394	0	0	0	0	615	72	69	474	0
Future Volume (vph)	79	0	394	0	0	0	0	615	72	69	474	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5					5.7		4.5	5.7	
Lane Util. Factor		1.00	1.00					1.00		1.00	1.00	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.99		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1662	1488					1705		1630	1733	
Flt Permitted		0.95	1.00					1.00		0.12	1.00	
Satd. Flow (perm)		1662	1488					1705		203	1733	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	88	0	438	0	0	0	0	683	80	77	527	0
RTOR Reduction (vph)	0	0	273	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	88	165	0	0	0	0	759	0	77	527	0
Confl. Peds. (#/hr)									2	2		
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8							2		
Actuated Green, G (s)		11.8	11.8					29.7		41.2	41.2	
Effective Green, g (s)		11.8	11.8					29.7		41.2	41.2	
Actuated g/C Ratio		0.19	0.19					0.47		0.65	0.65	
Clearance Time (s)		4.5	4.5					5.7		4.5	5.7	
Vehicle Extension (s)		2.5	2.5					4.8		2.5	4.8	
Lane Grp Cap (vph)		310	277					801		290	1129	
v/s Ratio Prot								c0.44		0.03	c0.30	
v/s Ratio Perm		0.05	c0.11							0.14		
v/c Ratio		0.28	0.59					0.95		0.27	0.47	
Uniform Delay, d1		22.1	23.5					16.0		9.0	5.5	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.4	2.9					20.3		0.4	0.6	
Delay (s)		22.4	26.4					36.3		9.3	6.1	
Level of Service		C	C					D		A	A	
Approach Delay (s)		25.7			0.0			36.3			6.5	
Approach LOS		C			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	14.7
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	6	0	19	3	666	11	9	855	4
Future Vol, veh/h	2	0	2	6	0	19	3	666	11	9	855	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	75	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	2	0	2	7	0	21	3	740	12	10	950	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1735	1731	952	1726	1727	747	954	0	0	753	0	0
Stage 1	972	972	-	753	753	-	-	-	-	-	-	-
Stage 2	763	759	-	973	974	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	70	89	317	71	90	416	729	-	-	866	-	-
Stage 1	306	333	-	405	420	-	-	-	-	-	-	-
Stage 2	400	418	-	306	333	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	66	87	317	70	88	416	729	-	-	865	-	-
Mov Cap-2 Maneuver	182	205	-	70	88	-	-	-	-	-	-	-
Stage 1	305	329	-	403	418	-	-	-	-	-	-	-
Stage 2	378	416	-	300	329	-	-	-	-	-	-	-

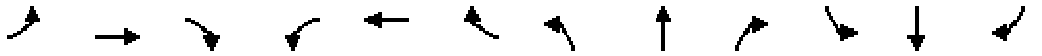
Approach	EB	WB	NB	SB
HCM Control Delay, s	20.9	27.2	0	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	729	-	-	231	190	865	-	-
HCM Lane V/C Ratio	0.005	-	-	0.019	0.146	0.012	-	-
HCM Control Delay (s)	10	-	-	20.9	27.2	9.2	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	85	139	541	42	183	680
Future Volume (vph)	85	139	541	42	183	680
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0	5.7		4.5	5.7
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1662	1488	1717		1646	1733
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1662	1488	1717		1646	1733
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	91	149	582	45	197	731
RTOR Reduction (vph)	0	126	3	0	0	0
Lane Group Flow (vph)	91	23	624	0	197	731
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	0%	0%	1%	0%	1%	1%
Turn Type	Prot	Prot	NA		Prot	NA
Protected Phases	4	4	6		5	2
Permitted Phases						
Actuated Green, G (s)	10.3	10.3	31.7		10.6	46.8
Effective Green, g (s)	10.3	10.3	31.7		10.6	46.8
Actuated g/C Ratio	0.15	0.15	0.47		0.16	0.69
Clearance Time (s)	5.0	5.0	5.7		4.5	5.7
Vehicle Extension (s)	2.5	2.5	4.8		2.5	4.8
Lane Grp Cap (vph)	252	226	802		257	1196
v/s Ratio Prot	c0.05	0.02	c0.36		c0.12	0.42
v/s Ratio Perm						
v/c Ratio	0.36	0.10	0.78		0.77	0.61
Uniform Delay, d1	25.8	24.8	15.1		27.4	5.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.1	5.5		12.3	1.3
Delay (s)	26.4	24.9	20.6		39.7	6.9
Level of Service	C	C	C		D	A
Approach Delay (s)	25.5		20.6			13.9
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	15.2
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	90	100	97	147	62	103	417	50	50	591	132
Future Volume (vph)	150	90	100	97	147	62	103	417	50	50	591	132
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1645	1587		1658	1637		1662	1686		1660	1680	
Flt Permitted	0.29	1.00		0.47	1.00		0.12	1.00		0.38	1.00	
Satd. Flow (perm)	497	1587		824	1637		204	1686		669	1680	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	167	100	111	108	163	69	114	463	56	56	657	147
RTOR Reduction (vph)	0	30	0	0	0	0	0	3	0	0	6	0
Lane Group Flow (vph)	167	181	0	108	232	0	114	516	0	56	798	0
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Heavy Vehicles (%)	1%	0%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	33.8	23.7		28.2	20.9		74.7	67.2		66.1	62.9	
Effective Green, g (s)	33.8	23.7		28.2	20.9		74.7	67.2		66.1	62.9	
Actuated g/C Ratio	0.28	0.20		0.23	0.17		0.62	0.55		0.55	0.52	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	234	310		242	282		216	935		391	872	
v/s Ratio Prot	c0.06	0.11		0.03	c0.14		c0.03	0.31		0.00	c0.47	
v/s Ratio Perm	0.14			0.08			0.29			0.07		
v/c Ratio	0.71	0.58		0.45	0.82		0.53	0.55		0.14	0.91	
Uniform Delay, d1	35.8	44.2		38.2	48.3		20.0	17.3		13.5	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.2	2.3		1.0	17.0		1.8	0.9		0.1	14.2	
Delay (s)	45.0	46.6		39.2	65.3		21.8	18.2		13.7	40.8	
Level of Service	D	D		D	E		C	B		B	D	
Approach Delay (s)		45.9			57.0			18.8			39.0	
Approach LOS		D			E			B			D	

Intersection Summary			
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	19.7
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX C: HCM REPORTS – FUTURE NO-BUILD

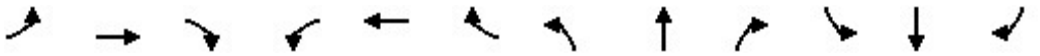
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	3	16	5	9	46	87	321	389	43	376	14
Future Vol, veh/h	6	3	16	5	9	46	87	321	389	43	376	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	-	-	-	25	250	-	300	250	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	5	1	2	3	0	5	0
Mvmt Flow	8	4	20	6	11	58	109	401	486	54	470	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1232	1197	470	1218	1215	401	488	0	0	401	0	0
Stage 1	578	578	-	619	619	-	-	-	-	-	-	-
Stage 2	654	619	-	599	596	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.25	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.345	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	155	187	598	159	183	643	1080	-	-	1169	-	-
Stage 1	505	504	-	480	483	-	-	-	-	-	-	-
Stage 2	459	483	-	492	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	119	160	598	135	157	643	1080	-	-	1169	-	-
Mov Cap-2 Maneuver	119	160	-	135	157	-	-	-	-	-	-	-
Stage 1	454	481	-	432	434	-	-	-	-	-	-	-
Stage 2	366	434	-	450	472	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.7	16.1	1	0.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1080	-	-	119	418	148	643	1169	-	-
HCM Lane V/C Ratio	0.101	-	-	0.063	0.057	0.118	0.089	0.046	-	-
HCM Control Delay (s)	8.7	-	-	37.3	14.1	32.6	11.1	8.2	-	-
HCM Lane LOS	A	-	-	E	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	0.2	0.4	0.3	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	0	251	0	0	0	0	719	20	37	360	0
Future Volume (vph)	78	0	251	0	0	0	0	719	20	37	360	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5					5.7		4.5	5.7	
Lane Util. Factor		1.00	1.00					1.00		1.00	1.00	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					1.00		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1614	1458					1674		1309	1699	
Flt Permitted		0.95	1.00					1.00		0.12	1.00	
Satd. Flow (perm)		1614	1458					1674		161	1699	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	94	0	302	0	0	0	0	866	24	45	434	0
RTOR Reduction (vph)	0	0	252	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	94	50	0	0	0	0	889	0	45	434	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	0%	4%	7%	27%	3%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8							2		
Actuated Green, G (s)		10.2	10.2					29.7		40.8	40.8	
Effective Green, g (s)		10.2	10.2					29.7		40.8	40.8	
Actuated g/C Ratio		0.17	0.17					0.49		0.67	0.67	
Clearance Time (s)		4.5	4.5					5.7		4.5	5.7	
Vehicle Extension (s)		2.5	2.5					4.8		2.5	4.8	
Lane Grp Cap (vph)		269	243					812		231	1132	
v/s Ratio Prot								c0.53		0.02	c0.26	
v/s Ratio Perm		0.06	0.03							0.11		
v/c Ratio		0.35	0.21					1.09		0.19	0.38	
Uniform Delay, d1		22.6	22.0					15.8		11.0	4.6	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.6	0.3					60.7		0.3	0.4	
Delay (s)		23.1	22.3					76.4		11.3	5.0	
Level of Service		C	C					E		B	A	
Approach Delay (s)		22.5			0.0			76.4			5.6	
Approach LOS		C			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	14.7
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	1	0	10	0	727	2	11	600	0
Future Vol, veh/h	2	0	2	1	0	10	0	727	2	11	600	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	75	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	4	0
Mvmt Flow	2	0	2	1	0	12	0	887	2	13	732	0

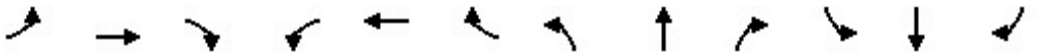
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1652	1647	732	1647	1646	888	732	0	0	889	0	0
Stage 1	758	758	-	888	888	-	-	-	-	-	-	-
Stage 2	894	889	-	759	758	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	79	100	424	80	100	345	882	-	-	771	-	-
Stage 1	402	418	-	341	365	-	-	-	-	-	-	-
Stage 2	338	364	-	402	418	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	98	424	78	98	345	882	-	-	771	-	-
Mov Cap-2 Maneuver	194	217	-	78	98	-	-	-	-	-	-	-
Stage 1	402	411	-	341	365	-	-	-	-	-	-	-
Stage 2	326	364	-	393	411	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	19.4	0	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	882	-	-	266	263	771	-	-
HCM Lane V/C Ratio	-	-	-	0.018	0.051	0.017	-	-
HCM Control Delay (s)	0	-	-	18.8	19.4	9.8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	165	564	42	79	524
Future Volume (vph)	25	165	564	42	79	524
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0	5.7		4.5	5.7
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1525	1488	1663		1630	1699
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1525	1488	1663		1630	1699
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	31	206	705	52	99	655
RTOR Reduction (vph)	0	179	2	0	0	0
Lane Group Flow (vph)	31	27	756	0	99	655
Heavy Vehicles (%)	9%	0%	4%	7%	2%	3%
Turn Type	Prot	Prot	NA		Prot	NA
Protected Phases	4	4	6		5	2
Permitted Phases						
Actuated Green, G (s)	9.0	9.0	36.8		7.2	48.5
Effective Green, g (s)	9.0	9.0	36.8		7.2	48.5
Actuated g/C Ratio	0.13	0.13	0.54		0.11	0.71
Clearance Time (s)	5.0	5.0	5.7		4.5	5.7
Vehicle Extension (s)	2.5	2.5	4.8		2.5	4.8
Lane Grp Cap (vph)	201	196	897		172	1208
v/s Ratio Prot	c0.02	0.02	c0.45		0.06	c0.39
v/s Ratio Perm						
v/c Ratio	0.15	0.14	0.84		0.58	0.54
Uniform Delay, d1	26.2	26.2	13.3		29.0	4.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.2	7.9		3.8	0.8
Delay (s)	26.5	26.4	21.2		32.8	5.5
Level of Service	C	C	C		C	A
Approach Delay (s)	26.4		21.2			9.1
Approach LOS	C		C			A

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	15.2
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	110	69	75	143	67	75	444	28	70	415	71
Future Volume (vph)	98	110	69	75	143	67	75	444	28	70	415	71
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1593		1629	1622		1539	1682		1662	1628	
Flt Permitted	0.29	1.00		0.43	1.00		0.19	1.00		0.21	1.00	
Satd. Flow (perm)	503	1593		733	1622		309	1682		367	1628	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	127	143	90	97	186	87	97	577	36	91	539	92
RTOR Reduction (vph)	0	16	0	0	0	0	0	2	0	0	4	0
Lane Group Flow (vph)	127	217	0	97	273	0	97	611	0	91	627	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	3%	2%	2%	4%	0%	8%	3%	5%	0%	5%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	35.7	24.5		33.3	23.3		59.7	51.3		59.3	51.1	
Effective Green, g (s)	35.7	24.5		33.3	23.3		59.7	51.3		59.3	51.1	
Actuated g/C Ratio	0.31	0.22		0.29	0.20		0.53	0.45		0.52	0.45	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	268	343		293	332		253	758		284	731	
v/s Ratio Prot	c0.05	0.14		0.03	c0.17		c0.03	0.36		0.02	c0.38	
v/s Ratio Perm	0.10			0.07			0.17			0.14		
v/c Ratio	0.47	0.63		0.33	0.82		0.38	0.81		0.32	0.86	
Uniform Delay, d1	29.8	40.5		30.5	43.2		17.8	26.9		17.2	28.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	3.3		0.5	14.7		0.7	6.6		0.5	10.1	
Delay (s)	30.7	43.8		31.0	58.0		18.5	33.5		17.7	38.1	
Level of Service	C	D		C	E		B	C		B	D	
Approach Delay (s)		39.2			50.9			31.5			35.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	113.7	Sum of lost time (s)	19.7
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

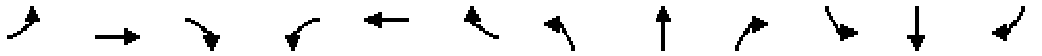
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	33	54	18	1	47	41	393	293	33	497	10
Future Vol, veh/h	16	33	54	18	1	47	41	393	293	33	497	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	-	-	-	25	250	-	300	250	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	0	5	0	1	2	0	1	0
Mvmt Flow	18	37	60	20	1	52	46	437	326	37	552	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1182	1156	552	1210	1167	438	563	0	0	438	0	0
Stage 1	626	626	-	530	530	-	-	-	-	-	-	-
Stage 2	556	530	-	680	637	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.22	7.1	6.5	6.25	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.318	3.5	4	3.345	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	168	198	533	161	195	612	1019	-	-	1133	-	-
Stage 1	475	480	-	536	530	-	-	-	-	-	-	-
Stage 2	519	530	-	444	475	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	144	183	533	114	180	611	1019	-	-	1132	-	-
Mov Cap-2 Maneuver	144	183	-	114	180	-	-	-	-	-	-	-
Stage 1	454	464	-	511	506	-	-	-	-	-	-	-
Stage 2	452	506	-	351	459	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.7	20.4	0.5	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1019	-	-	144	309	116	611	1132	-	-
HCM Lane V/C Ratio	0.045	-	-	0.123	0.313	0.182	0.085	0.032	-	-
HCM Control Delay (s)	8.7	-	-	33.5	21.9	42.8	11.4	8.3	-	-
HCM Lane LOS	A	-	-	D	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.3	0.6	0.3	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	0	414	0	0	0	0	645	76	72	497	0
Future Volume (vph)	82	0	414	0	0	0	0	645	76	72	497	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5					5.7		4.5	5.7	
Lane Util. Factor		1.00	1.00					1.00		1.00	1.00	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.99		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1662	1488					1705		1630	1733	
Flt Permitted		0.95	1.00					1.00		0.12	1.00	
Satd. Flow (perm)		1662	1488					1705		199	1733	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	91	0	460	0	0	0	0	717	84	80	552	0
RTOR Reduction (vph)	0	0	251	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	91	209	0	0	0	0	797	0	80	552	0
Confl. Peds. (#/hr)									2	2		
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8							2		
Actuated Green, G (s)		13.5	13.5					29.9		41.4	41.4	
Effective Green, g (s)		13.5	13.5					29.9		41.4	41.4	
Actuated g/C Ratio		0.21	0.21					0.46		0.64	0.64	
Clearance Time (s)		4.5	4.5					5.7		4.5	5.7	
Vehicle Extension (s)		2.5	2.5					4.8		2.5	4.8	
Lane Grp Cap (vph)		344	308					783		280	1102	
v/s Ratio Prot								c0.47		0.03	c0.32	
v/s Ratio Perm		0.05	c0.14							0.15		
v/c Ratio		0.26	0.68					1.02		0.29	0.50	
Uniform Delay, d1		21.6	23.8					17.6		10.7	6.3	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.3	5.3					36.6		0.4	0.7	
Delay (s)		21.9	29.1					54.2		11.1	7.0	
Level of Service		C	C					D		B	A	
Approach Delay (s)		27.9			0.0			54.2			7.5	
Approach LOS		C			A			D			A	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	65.1	Sum of lost time (s)	14.7
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	6	0	20	4	699	11	9	898	4
Future Vol, veh/h	2	0	2	6	0	20	4	699	11	9	898	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	75	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	2	0	2	7	0	22	4	777	12	10	998	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1822	1818	1000	1813	1814	784	1002	0	0	790	0	0
Stage 1	1020	1020	-	792	792	-	-	-	-	-	-	-
Stage 2	802	798	-	1021	1022	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	60	79	298	61	79	396	699	-	-	839	-	-
Stage 1	288	317	-	385	404	-	-	-	-	-	-	-
Stage 2	381	401	-	288	316	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	56	77	298	60	77	396	699	-	-	838	-	-
Mov Cap-2 Maneuver	169	193	-	60	77	-	-	-	-	-	-	-
Stage 1	286	313	-	382	401	-	-	-	-	-	-	-
Stage 2	358	398	-	282	312	-	-	-	-	-	-	-

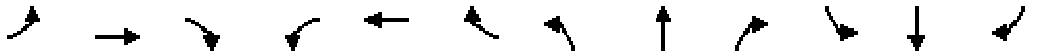
Approach	EB	WB	NB	SB
HCM Control Delay, s	22	29.9	0.1	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	699	-	-	216	173	838	-	-
HCM Lane V/C Ratio	0.006	-	-	0.021	0.167	0.012	-	-
HCM Control Delay (s)	10.2	-	-	22	29.9	9.3	-	-
HCM Lane LOS	B	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	88	151	563	44	199	707
Future Volume (vph)	88	151	563	44	199	707
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0	5.7		4.5	5.7
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1662	1488	1717		1646	1733
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1662	1488	1717		1646	1733
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	95	162	605	47	214	760
RTOR Reduction (vph)	0	137	3	0	0	0
Lane Group Flow (vph)	95	25	649	0	214	760
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	0%	0%	1%	0%	1%	1%
Turn Type	Prot	Prot	NA		Prot	NA
Protected Phases	4	4	6		5	2
Permitted Phases						
Actuated Green, G (s)	10.4	10.4	32.5		10.6	47.6
Effective Green, g (s)	10.4	10.4	32.5		10.6	47.6
Actuated g/C Ratio	0.15	0.15	0.47		0.15	0.69
Clearance Time (s)	5.0	5.0	5.7		4.5	5.7
Vehicle Extension (s)	2.5	2.5	4.8		2.5	4.8
Lane Grp Cap (vph)	251	225	812		253	1200
v/s Ratio Prot	c0.06	0.02	c0.38		c0.13	0.44
v/s Ratio Perm						
v/c Ratio	0.38	0.11	0.80		0.85	0.63
Uniform Delay, d1	26.2	25.2	15.3		28.3	5.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.2	6.3		21.8	1.5
Delay (s)	26.9	25.3	21.6		50.0	7.2
Level of Service	C	C	C		D	A
Approach Delay (s)	25.9		21.6			16.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	15.2
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	97	104	107	155	64	107	434	59	52	615	137
Future Volume (vph)	156	97	104	107	155	64	107	434	59	52	615	137
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.96		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1645	1589		1658	1638		1662	1682		1661	1680	
Flt Permitted	0.26	1.00		0.45	1.00		0.11	1.00		0.36	1.00	
Satd. Flow (perm)	456	1589		783	1638		195	1682		622	1680	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	173	108	116	119	172	71	119	482	66	58	683	152
RTOR Reduction (vph)	0	29	0	0	0	0	0	4	0	0	6	0
Lane Group Flow (vph)	173	195	0	119	243	0	119	544	0	58	829	0
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Heavy Vehicles (%)	1%	0%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	34.4	24.7		28.2	21.6		75.7	69.2		69.3	66.0	
Effective Green, g (s)	34.4	24.7		28.2	21.6		75.7	69.2		69.3	66.0	
Actuated g/C Ratio	0.28	0.20		0.23	0.17		0.61	0.56		0.56	0.53	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	220	317		225	286		196	942		376	897	
v/s Ratio Prot	c0.06	0.12		0.03	0.15		c0.03	0.32		0.00	c0.49	
v/s Ratio Perm	c0.16			0.09			0.34			0.08		
v/c Ratio	0.79	0.62		0.53	0.85		0.61	0.58		0.15	0.92	
Uniform Delay, d1	37.8	45.1		40.3	49.4		21.2	17.7		13.3	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.2	3.0		1.7	20.1		4.4	1.0		0.1	15.1	
Delay (s)	54.0	48.1		42.0	69.5		25.6	18.7		13.4	41.5	
Level of Service	D	D		D	E		C	B		B	D	
Approach Delay (s)		50.6			60.4			19.9			39.7	
Approach LOS		D			E			B			D	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	19.7
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	34	58	8	4	0
Future Vol, veh/h	0	34	58	8	4	0
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	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	48	82	11	6	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	181	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	813	1083	1628	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	772	1083	1628	-	-	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	6.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1628	-	1083	-	-
HCM Lane V/C Ratio	0.05	-	0.044	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

APPENDIX D: HCM REPORTS – FUTURE BUILD

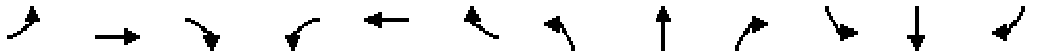
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	3	16	6	9	46	87	324	407	43	377	14
Future Vol, veh/h	6	3	16	6	9	46	87	324	407	43	377	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	-	-	-	25	250	-	300	250	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	5	1	2	3	0	5	0
Mvmt Flow	8	4	20	8	11	58	109	405	509	54	471	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1237	1202	471	1223	1220	405	489	0	0	405	0	0
Stage 1	579	579	-	623	623	-	-	-	-	-	-	-
Stage 2	658	623	-	600	597	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.25	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.345	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	154	186	597	158	182	639	1079	-	-	1165	-	-
Stage 1	504	504	-	477	481	-	-	-	-	-	-	-
Stage 2	457	481	-	491	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	118	160	597	134	156	639	1079	-	-	1165	-	-
Mov Cap-2 Maneuver	118	160	-	134	156	-	-	-	-	-	-	-
Stage 1	453	481	-	429	432	-	-	-	-	-	-	-
Stage 2	364	432	-	449	472	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.8	16.6	0.9	0.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	118	417	146	639	1165	-	-
HCM Lane V/C Ratio	0.101	-	-	0.064	0.057	0.128	0.09	0.046	-	-
HCM Control Delay (s)	8.7	-	-	37.6	14.2	33.3	11.2	8.2	-	-
HCM Lane LOS	A	-	-	E	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	0.2	0.4	0.3	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	0	257	0	0	0	0	740	22	37	362	0
Future Volume (vph)	78	0	257	0	0	0	0	740	22	37	362	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5					5.7		4.5	5.7	
Lane Util. Factor		1.00	1.00					1.00		1.00	1.00	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					1.00		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1614	1458					1674		1309	1699	
Flt Permitted		0.95	1.00					1.00		0.12	1.00	
Satd. Flow (perm)		1614	1458					1674		161	1699	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	94	0	310	0	0	0	0	892	27	45	436	0
RTOR Reduction (vph)	0	0	258	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	94	52	0	0	0	0	918	0	45	436	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	0%	4%	7%	27%	3%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8							2		
Actuated Green, G (s)		10.2	10.2					29.7		40.8	40.8	
Effective Green, g (s)		10.2	10.2					29.7		40.8	40.8	
Actuated g/C Ratio		0.17	0.17					0.49		0.67	0.67	
Clearance Time (s)		4.5	4.5					5.7		4.5	5.7	
Vehicle Extension (s)		2.5	2.5					4.8		2.5	4.8	
Lane Grp Cap (vph)		269	243					812		231	1132	
v/s Ratio Prot								c0.55		0.02	c0.26	
v/s Ratio Perm		0.06	0.04							0.11		
v/c Ratio		0.35	0.21					1.13		0.19	0.39	
Uniform Delay, d1		22.6	22.0					15.8		11.2	4.6	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.6	0.3					74.0		0.3	0.4	
Delay (s)		23.1	22.4					89.7		11.5	5.0	
Level of Service		C	C					F		B	A	
Approach Delay (s)		22.5			0.0			89.7			5.6	
Approach LOS		C			A			F			A	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	14.7
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	31	1	0	10	9	727	2	11	600	8
Future Vol, veh/h	25	0	31	1	0	10	9	727	2	11	600	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	75	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	4	0
Mvmt Flow	30	0	38	1	0	12	11	887	2	13	732	10

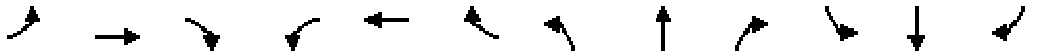
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1679	1674	737	1692	1678	888	742	0	0	889	0	0
Stage 1	763	763	-	910	910	-	-	-	-	-	-	-
Stage 2	916	911	-	782	768	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	76	97	422	75	96	345	874	-	-	771	-	-
Stage 1	400	416	-	332	356	-	-	-	-	-	-	-
Stage 2	329	356	-	390	414	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	72	94	422	67	93	345	874	-	-	771	-	-
Mov Cap-2 Maneuver	188	211	-	67	93	-	-	-	-	-	-	-
Stage 1	395	409	-	328	351	-	-	-	-	-	-	-
Stage 2	313	351	-	349	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.7	20.2	0.1	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	874	-	-	271	251	771	-	-
HCM Lane V/C Ratio	0.013	-	-	0.252	0.053	0.017	-	-
HCM Control Delay (s)	9.2	-	-	22.7	20.2	9.8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	0.2	0.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	165	573	42	79	553
Future Volume (vph)	25	165	573	42	79	553
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0	5.7		4.5	5.7
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1525	1488	1664		1630	1699
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1525	1488	1664		1630	1699
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	31	206	716	52	99	691
RTOR Reduction (vph)	0	179	2	0	0	0
Lane Group Flow (vph)	31	27	767	0	99	691
Heavy Vehicles (%)	9%	0%	4%	7%	2%	3%
Turn Type	Prot	Prot	NA		Prot	NA
Protected Phases	4	4	6		5	2
Permitted Phases						
Actuated Green, G (s)	9.0	9.0	36.8		7.2	48.5
Effective Green, g (s)	9.0	9.0	36.8		7.2	48.5
Actuated g/C Ratio	0.13	0.13	0.54		0.11	0.71
Clearance Time (s)	5.0	5.0	5.7		4.5	5.7
Vehicle Extension (s)	2.5	2.5	4.8		2.5	4.8
Lane Grp Cap (vph)	201	196	897		172	1208
v/s Ratio Prot	c0.02	0.02	c0.46		0.06	c0.41
v/s Ratio Perm						
v/c Ratio	0.15	0.14	0.85		0.58	0.57
Uniform Delay, d1	26.2	26.2	13.4		29.0	4.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.2	8.7		3.8	1.0
Delay (s)	26.5	26.4	22.1		32.8	5.8
Level of Service	C	C	C		C	A
Approach Delay (s)	26.4		22.1			9.2
Approach LOS	C		C			A

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	15.2
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	110	69	75	143	69	75	449	28	75	433	77
Future Volume (vph)	100	110	69	75	143	69	75	449	28	75	433	77
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1593		1629	1621		1539	1682		1662	1627	
Flt Permitted	0.27	1.00		0.42	1.00		0.18	1.00		0.22	1.00	
Satd. Flow (perm)	455	1593		724	1621		292	1682		385	1627	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	130	143	90	97	186	90	97	583	36	97	562	100
RTOR Reduction (vph)	0	17	0	0	0	0	0	2	0	0	4	0
Lane Group Flow (vph)	130	216	0	97	276	0	97	617	0	97	658	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	3%	2%	2%	4%	0%	8%	3%	5%	0%	5%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	36.9	25.3		33.7	23.7		64.6	56.0		64.0	55.7	
Effective Green, g (s)	36.9	25.3		33.7	23.7		64.6	56.0		64.0	55.7	
Actuated g/C Ratio	0.31	0.21		0.28	0.20		0.54	0.47		0.54	0.47	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	254	337		280	322		248	789		295	759	
v/s Ratio Prot	c0.05	0.14		0.03	c0.17		c0.03	0.37		0.02	c0.40	
v/s Ratio Perm	0.11			0.07			0.18			0.15		
v/c Ratio	0.51	0.64		0.35	0.86		0.39	0.78		0.33	0.87	
Uniform Delay, d1	31.9	42.9		32.9	46.2		18.3	26.5		17.2	28.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	3.7		0.5	19.3		0.7	5.4		0.5	10.5	
Delay (s)	33.2	46.5		33.4	65.5		19.0	31.9		17.6	39.0	
Level of Service	C	D		C	E		B	C		B	D	
Approach Delay (s)		41.8			57.2			30.2			36.3	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	119.3	Sum of lost time (s)	19.7
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	52	17	0	4	0
Future Vol, veh/h	0	52	17	0	4	0
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	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	63	20	0	5	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	45	5	5	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	970	1084	1630	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	958	1084	1630	-	-	-
Mov Cap-2 Maneuver	958	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	7.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1630	-	1084	-	-
HCM Lane V/C Ratio	0.013	-	0.058	-	-
HCM Control Delay (s)	7.2	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

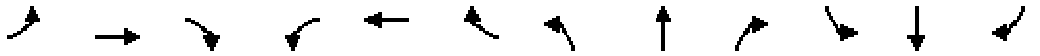
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	33	54	21	1	47	41	395	304	33	500	10
Future Vol, veh/h	16	33	54	21	1	47	41	395	304	33	500	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	200	-	-	-	-	25	250	-	300	250	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	2	0	0	5	0	1	2	0	1	0
Mvmt Flow	18	37	60	23	1	52	46	439	338	37	556	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1188	1162	556	1216	1173	440	567	0	0	440	0	0
Stage 1	630	630	-	532	532	-	-	-	-	-	-	-
Stage 2	558	532	-	684	641	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.22	7.1	6.5	6.25	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.318	3.5	4	3.345	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	167	197	531	159	194	611	1015	-	-	1131	-	-
Stage 1	473	478	-	535	529	-	-	-	-	-	-	-
Stage 2	518	529	-	442	473	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	143	182	531	112	179	610	1015	-	-	1130	-	-
Mov Cap-2 Maneuver	143	182	-	112	179	-	-	-	-	-	-	-
Stage 1	452	462	-	510	505	-	-	-	-	-	-	-
Stage 2	451	505	-	349	457	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.8	22.2	0.5	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1015	-	-	143	307	114	610	1130	-	-
HCM Lane V/C Ratio	0.045	-	-	0.124	0.315	0.214	0.086	0.032	-	-
HCM Control Delay (s)	8.7	-	-	33.7	22	45	11.5	8.3	-	-
HCM Lane LOS	A	-	-	D	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.3	0.8	0.3	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	0	434	0	0	0	0	658	78	72	503	0
Future Volume (vph)	82	0	434	0	0	0	0	658	78	72	503	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5					5.7		4.5	5.7	
Lane Util. Factor		1.00	1.00					1.00		1.00	1.00	
Frpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00		1.00	1.00	
Frt		1.00	0.85					0.99		1.00	1.00	
Flt Protected		0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)		1662	1488					1705		1630	1733	
Flt Permitted		0.95	1.00					1.00		0.11	1.00	
Satd. Flow (perm)		1662	1488					1705		194	1733	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	91	0	482	0	0	0	0	731	87	80	559	0
RTOR Reduction (vph)	0	0	253	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	91	229	0	0	0	0	814	0	80	559	0
Confl. Peds. (#/hr)									2	2		
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8							2		
Actuated Green, G (s)		14.0	14.0					30.8		42.4	42.4	
Effective Green, g (s)		14.0	14.0					30.8		42.4	42.4	
Actuated g/C Ratio		0.21	0.21					0.46		0.64	0.64	
Clearance Time (s)		4.5	4.5					5.7		4.5	5.7	
Vehicle Extension (s)		2.5	2.5					4.8		2.5	4.8	
Lane Grp Cap (vph)		349	312					788		276	1103	
v/s Ratio Prot								c0.48		0.03	c0.32	
v/s Ratio Perm		0.05	c0.15							0.15		
v/c Ratio		0.26	0.73					1.03		0.29	0.51	
Uniform Delay, d1		22.0	24.6					17.9		11.3	6.5	
Progression Factor		1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2		0.3	8.2					40.7		0.4	0.7	
Delay (s)		22.3	32.8					58.6		11.7	7.2	
Level of Service		C	C					E		B	A	
Approach Delay (s)		31.1			0.0			58.6			7.8	
Approach LOS		C			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	66.6	Sum of lost time (s)	14.7
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	0	21	6	0	20	36	699	11	9	898	30
Future Vol, veh/h	17	0	21	6	0	20	36	699	11	9	898	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	75	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	19	0	23	7	0	22	40	777	12	10	998	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1909	1905	1015	1910	1915	784	1031	0	0	790	0	0
Stage 1	1035	1035	-	864	864	-	-	-	-	-	-	-
Stage 2	874	870	-	1046	1051	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	52	69	292	52	68	396	682	-	-	839	-	-
Stage 1	282	312	-	352	374	-	-	-	-	-	-	-
Stage 2	347	372	-	278	306	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	46	64	292	45	63	396	682	-	-	838	-	-
Mov Cap-2 Maneuver	149	177	-	45	63	-	-	-	-	-	-	-
Stage 1	265	308	-	331	352	-	-	-	-	-	-	-
Stage 2	308	350	-	253	302	-	-	-	-	-	-	-

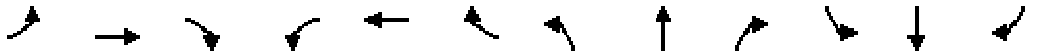
Approach	EB	WB	NB	SB
HCM Control Delay, s	27.2	37	0.5	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	682	-	-	204	141	838	-	-
HCM Lane V/C Ratio	0.059	-	-	0.207	0.205	0.012	-	-
HCM Control Delay (s)	10.6	-	-	27.2	37	9.3	-	-
HCM Lane LOS	B	-	-	D	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.7	0	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	88	151	595	44	199	726
Future Volume (vph)	88	151	595	44	199	726
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0	5.7		4.5	5.7
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1662	1488	1718		1646	1733
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1662	1488	1718		1646	1733
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	95	162	640	47	214	781
RTOR Reduction (vph)	0	138	3	0	0	0
Lane Group Flow (vph)	95	24	684	0	214	781
Confl. Bikes (#/hr)		2				
Heavy Vehicles (%)	0%	0%	1%	0%	1%	1%
Turn Type	Prot	Prot	NA		Prot	NA
Protected Phases	4	4	6		5	2
Permitted Phases						
Actuated Green, G (s)	10.5	10.5	34.6		10.6	49.7
Effective Green, g (s)	10.5	10.5	34.6		10.6	49.7
Actuated g/C Ratio	0.15	0.15	0.49		0.15	0.70
Clearance Time (s)	5.0	5.0	5.7		4.5	5.7
Vehicle Extension (s)	2.5	2.5	4.8		2.5	4.8
Lane Grp Cap (vph)	246	220	838		246	1214
v/s Ratio Prot	c0.06	0.02	c0.40		c0.13	0.45
v/s Ratio Perm						
v/c Ratio	0.39	0.11	0.82		0.87	0.64
Uniform Delay, d1	27.3	26.1	15.5		29.5	5.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.2	6.9		26.0	1.5
Delay (s)	28.0	26.3	22.4		55.5	7.3
Level of Service	C	C	C		E	A
Approach Delay (s)	26.9		22.4			17.7
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	70.9	Sum of lost time (s)	15.2
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	97	104	107	155	70	107	454	59	55	628	140
Future Volume (vph)	162	97	104	107	155	70	107	454	59	55	628	140
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.95		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1645	1589		1658	1633		1662	1684		1661	1680	
Flt Permitted	0.25	1.00		0.44	1.00		0.10	1.00		0.34	1.00	
Satd. Flow (perm)	436	1589		773	1633		180	1684		595	1680	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	180	108	116	119	172	78	119	504	66	61	698	156
RTOR Reduction (vph)	0	29	0	0	0	0	0	3	0	0	6	0
Lane Group Flow (vph)	180	195	0	119	250	0	119	567	0	61	848	0
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Heavy Vehicles (%)	1%	0%	0%	0%	2%	0%	0%	2%	0%	0%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	34.9	25.3		28.9	22.3		77.8	71.2		71.4	68.0	
Effective Green, g (s)	34.9	25.3		28.9	22.3		77.8	71.2		71.4	68.0	
Actuated g/C Ratio	0.28	0.20		0.23	0.18		0.62	0.56		0.57	0.54	
Clearance Time (s)	4.5	5.0		4.5	5.0		4.5	5.7		4.5	5.7	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	212	318		223	288		188	950		365	905	
v/s Ratio Prot	c0.06	0.12		0.03	0.15		c0.03	0.34		0.00	c0.50	
v/s Ratio Perm	c0.17			0.09			0.36			0.09		
v/c Ratio	0.85	0.61		0.53	0.87		0.63	0.60		0.17	0.94	
Uniform Delay, d1	40.0	46.0		41.3	50.5		22.3	18.1		13.5	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.4	3.0		1.9	22.8		6.0	1.2		0.2	16.8	
Delay (s)	65.5	49.0		43.2	73.3		28.3	19.2		13.7	43.9	
Level of Service	E	D		D	E		C	B		B	D	
Approach Delay (s)		56.3			63.6			20.8			41.9	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	126.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	34	58	8	4	0
Future Vol, veh/h	0	34	58	8	4	0
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	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	48	82	11	6	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	181	6	6	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	813	1083	1628	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	772	1083	1628	-	-	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	6.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1628	-	1083	-	-
HCM Lane V/C Ratio	0.05	-	0.044	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

APPENDIX E: QUEUING REPORTS

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:10	7:10	7:10	7:10	7:10	7:10
Total Time (min)	13	13	13	13	13	13
Time Recorded (min)	10	10	10	10	10	10
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	467	444	412	414	400	427
Vehs Exited	434	413	410	403	422	417
Starting Vehs	92	82	83	90	98	89
Ending Vehs	125	113	85	101	76	100
Travel Distance (mi)	335	318	303	308	305	314
Travel Time (hr)	19.8	16.2	15.3	15.2	15.4	16.4
Total Delay (hr)	8.0	5.0	4.6	4.4	4.7	5.3
Total Stops	677	552	522	485	535	553
Fuel Used (gal)	12.7	11.8	10.8	11.1	11.1	11.5

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	467	444	412	414	400	427
Vehs Exited	434	413	410	403	422	417
Starting Vehs	92	82	83	90	98	89
Ending Vehs	125	113	85	101	76	100
Travel Distance (mi)	335	318	303	308	305	314
Travel Time (hr)	19.8	16.2	15.3	15.2	15.4	16.4
Total Delay (hr)	8.0	5.0	4.6	4.4	4.7	5.3
Total Stops	677	552	522	485	535	553
Fuel Used (gal)	12.7	11.8	10.8	11.1	11.1	11.5

Intersection: 1: Cascade Hwy & Sublimity Blvd/Santiam Hwy Westbound Ramp

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	LT	R	L	L
Maximum Queue (ft)	19	42	30	46	30	21
Average Queue (ft)	10	26	14	32	14	7
95th Queue (ft)	29	50	38	59	39	27
Link Distance (ft)		640	1184			
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200			25	250	250
Storage Blk Time (%)			4	7		
Queuing Penalty (veh)			2	1		

Intersection: 2: Santiam Hwy Eastbound Ramp & Cascade Hwy

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	68	129	252	58	108
Average Queue (ft)	44	69	171	28	62
95th Queue (ft)	76	182	274	66	119
Link Distance (ft)	918		470		815
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		550		275	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Cascade Hwy & Golf Ln

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	10	31	6	18
Average Queue (ft)	4	15	1	6
95th Queue (ft)	17	40	11	25
Link Distance (ft)		263		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			75	75
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Cascade Hwy & Whitney St

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	78	103	221	128	137
Average Queue (ft)	53	68	160	87	101
95th Queue (ft)	91	113	248	135	163
Link Distance (ft)		674	1290		429
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150			200	
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 5: Shaff Rd/Fern Ridge Rd & Cascade Hwy

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	112	159	107	178	90	218	108	430
Average Queue (ft)	73	95	53	99	59	140	35	331
95th Queue (ft)	127	174	121	191	99	235	153	647
Link Distance (ft)		806		960		1174		1290
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	200		200		250		350	
Storage Blk Time (%)		0		2		1		11
Queuing Penalty (veh)		1		2		1		5

Zone Summary

Zone wide Queuing Penalty: 11

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:20	7:20	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	2205	2270	2227	2200	2260	2232
Vehs Exited	2223	2268	2227	2208	2236	2232
Starting Vehs	84	74	78	67	64	70
Ending Vehs	66	76	78	59	88	70
Travel Distance (mi)	1669	1701	1647	1641	1704	1672
Travel Time (hr)	84.1	88.3	82.9	82.7	86.3	84.9
Total Delay (hr)	25.4	28.4	24.8	25.2	26.3	26.0
Total Stops	2879	2921	2773	2742	2781	2819
Fuel Used (gal)	60.7	62.7	60.3	59.8	62.0	61.1

Interval #0 Information Seeding

Start Time	7:20
End Time	7:30
Total Time (min)	10

Volumes adjusted by Growth Factors, Anti PHF.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	727	734	722	738	703	727
Vehs Exited	694	685	688	676	648	679
Starting Vehs	84	74	78	67	64	70
Ending Vehs	117	123	112	129	119	120
Travel Distance (mi)	520	525	501	503	501	510
Travel Time (hr)	29.4	30.3	27.6	27.9	27.5	28.5
Total Delay (hr)	11.1	11.8	9.9	10.2	9.8	10.6
Total Stops	1137	1053	971	952	905	1003
Fuel Used (gal)	19.7	20.0	18.8	19.0	18.7	19.2

Interval #2 Information Recording

Start Time	7:45
End Time	8:30
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1478	1536	1505	1462	1557	1509
Vehs Exited	1529	1583	1539	1532	1588	1553
Starting Vehs	117	123	112	129	119	120
Ending Vehs	66	76	78	59	88	70
Travel Distance (mi)	1148	1176	1146	1137	1204	1162
Travel Time (hr)	54.8	58.0	55.3	54.8	58.9	56.4
Total Delay (hr)	14.3	16.6	14.9	14.9	16.5	15.5
Total Stops	1742	1868	1802	1790	1876	1812
Fuel Used (gal)	41.0	42.7	41.5	40.8	43.4	41.9

Intersection: 1: Cascade Hwy & Sublimity Blvd/Santiam Hwy Westbound Ramp

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	L	R	L	R
Maximum Queue (ft)	28	37	54	55	66	33	49	3
Average Queue (ft)	5	11	15	31	21	1	10	0
95th Queue (ft)	20	30	46	58	52	24	35	0
Link Distance (ft)		640	1184					
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	200			25	250	300	250	350
Storage Blk Time (%)			3	6				
Queuing Penalty (veh)			2	1				

Intersection: 2: Santiam Hwy Eastbound Ramp & Cascade Hwy

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	115	93	392	70	130
Average Queue (ft)	43	23	190	21	44
95th Queue (ft)	85	76	341	56	105
Link Distance (ft)	918		470		815
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			1		
Storage Bay Dist (ft)		550		275	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Cascade Hwy & Golf Ln

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	TR	L
Maximum Queue (ft)	27	40	38	29
Average Queue (ft)	3	13	2	4
95th Queue (ft)	18	37	28	21
Link Distance (ft)		263	429	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				75
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 4: Cascade Hwy & Whitney St

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	98	166	444	108	231
Average Queue (ft)	21	81	174	45	90
95th Queue (ft)	61	140	342	83	174
Link Distance (ft)		674	1290		429
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150			200	
Storage Blk Time (%)		0			0
Queuing Penalty (veh)		0			0

Intersection: 5: Shaff Rd/Fern Ridge Rd & Cascade Hwy

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	133	241	147	292	243	360	208	536
Average Queue (ft)	56	81	46	116	54	160	48	195
95th Queue (ft)	112	159	99	219	140	296	157	412
Link Distance (ft)		806		960		1174		1290
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	200		200		250		350	
Storage Blk Time (%)	0	0		3	0	3		3
Queuing Penalty (veh)	0	1		2	0	3		2

Zone Summary

Zone wide Queuing Penalty: 13

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:10	7:10	7:10	7:10	7:10	7:10
Total Time (min)	13	13	13	13	13	13
Time Recorded (min)	10	10	10	10	10	10
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	473	525	474	480	457	480
Vehs Exited	468	495	454	477	431	465
Starting Vehs	103	90	93	103	86	96
Ending Vehs	108	120	113	106	112	111
Travel Distance (mi)	351	373	340	347	324	347
Travel Time (hr)	19.0	20.6	18.1	18.2	17.0	18.6
Total Delay (hr)	6.7	7.5	6.0	6.0	5.5	6.3
Total Stops	657	713	591	618	559	627
Fuel Used (gal)	13.3	14.1	12.4	12.7	11.7	12.8

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	473	525	474	480	457	480
Vehs Exited	468	495	454	477	431	465
Starting Vehs	103	90	93	103	86	96
Ending Vehs	108	120	113	106	112	111
Travel Distance (mi)	351	373	340	347	324	347
Travel Time (hr)	19.0	20.6	18.1	18.2	17.0	18.6
Total Delay (hr)	6.7	7.5	6.0	6.0	5.5	6.3
Total Stops	657	713	591	618	559	627
Fuel Used (gal)	13.3	14.1	12.4	12.7	11.7	12.8

Intersection: 1: Cascade Hwy & Sublimity Blvd/Santiam Hwy Westbound Ramp

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	LT	R	L	L
Maximum Queue (ft)	32	67	30	61	28	27
Average Queue (ft)	14	31	11	29	12	8
95th Queue (ft)	40	71	34	68	39	28
Link Distance (ft)		640	1184			
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200			25	250	250
Storage Blk Time (%)			4	6		
Queuing Penalty (veh)			2	1		

Intersection: 2: Santiam Hwy Eastbound Ramp & Cascade Hwy

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	78	133	307	46	140
Average Queue (ft)	50	86	187	27	72
95th Queue (ft)	89	152	357	57	166
Link Distance (ft)	918		470		815
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			2		
Storage Bay Dist (ft)		550		275	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Cascade Hwy & Golf Ln

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	16	31	11	11	17
Average Queue (ft)	5	17	2	2	6
95th Queue (ft)	21	40	15	20	24
Link Distance (ft)	969	263		429	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			75		75
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Cascade Hwy & Whitney St

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	78	97	253	149	188
Average Queue (ft)	54	75	201	106	114
95th Queue (ft)	93	115	313	169	204
Link Distance (ft)		674	1290		429
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150			200	
Storage Blk Time (%)		0		1	1
Queuing Penalty (veh)		0		6	1

Intersection: 5: Shaff Rd/Fern Ridge Rd & Cascade Hwy

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	136	155	146	206	118	260	117	420
Average Queue (ft)	83	101	90	148	63	174	46	329
95th Queue (ft)	151	176	167	219	143	291	159	491
Link Distance (ft)		806		960		1174		1290
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	200		200		250		350	
Storage Blk Time (%)		0		3		2		7
Queuing Penalty (veh)		1		4		2		4

Zone Summary

Zone wide Queuing Penalty: 22

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:20	7:20	7:20	7:20	7:20	7:20
End Time	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	2368	2249	2205	2242	2334	2275
Vehs Exited	2360	2249	2208	2266	2316	2278
Starting Vehs	90	76	73	95	67	74
Ending Vehs	98	76	70	71	85	75
Travel Distance (mi)	1779	1701	1661	1698	1745	1717
Travel Time (hr)	95.0	88.6	82.9	85.6	88.6	88.1
Total Delay (hr)	32.2	28.5	24.3	25.7	26.7	27.5
Total Stops	3470	3094	2720	2879	2994	3032
Fuel Used (gal)	65.8	62.7	60.5	61.8	63.6	62.9

Interval #0 Information Seeding

Start Time	7:20
End Time	7:30
Total Time (min)	10

Volumes adjusted by Growth Factors, Anti PHF.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	745	728	713	685	710	713
Vehs Exited	704	683	678	681	669	685
Starting Vehs	90	76	73	95	67	74
Ending Vehs	131	121	108	99	108	110
Travel Distance (mi)	539	528	511	487	499	513
Travel Time (hr)	31.9	31.7	27.0	26.2	26.8	28.7
Total Delay (hr)	12.9	13.0	9.0	8.9	9.1	10.6
Total Stops	1260	1183	901	890	879	1022
Fuel Used (gal)	20.8	20.5	19.0	18.3	18.5	19.4

Interval #2 Information Recording

Start Time	7:45
End Time	8:30
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1623	1521	1492	1557	1624	1563
Vehs Exited	1656	1566	1530	1585	1647	1598
Starting Vehs	131	121	108	99	108	110
Ending Vehs	98	76	70	71	85	75
Travel Distance (mi)	1240	1172	1150	1211	1246	1204
Travel Time (hr)	63.1	56.9	55.9	59.4	61.8	59.4
Total Delay (hr)	19.3	15.5	15.4	16.7	17.7	16.9
Total Stops	2210	1911	1819	1989	2115	2005
Fuel Used (gal)	45.0	42.2	41.5	43.6	45.2	43.5

Intersection: 1: Cascade Hwy & Sublimity Blvd/Santiam Hwy Westbound Ramp

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	L	R	L
Maximum Queue (ft)	28	28	58	56	58	79	48
Average Queue (ft)	5	9	16	30	20	3	9
95th Queue (ft)	21	25	49	60	50	41	32
Link Distance (ft)		640	1184				
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200			25	250	300	250
Storage Blk Time (%)			4	5			
Queuing Penalty (veh)			2	1			

Intersection: 2: Santiam Hwy Eastbound Ramp & Cascade Hwy

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	115	109	429	83	134
Average Queue (ft)	47	23	209	21	46
95th Queue (ft)	91	78	406	59	106
Link Distance (ft)	918		470		815
Upstream Blk Time (%)			1		
Queuing Penalty (veh)			6		
Storage Bay Dist (ft)		550		275	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Cascade Hwy & Golf Ln

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	123	39	33	97	32	4
Average Queue (ft)	36	11	5	11	6	0
95th Queue (ft)	91	35	24	92	24	3
Link Distance (ft)	969	263		429		470
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			75		75	
Storage Blk Time (%)				1		
Queuing Penalty (veh)				0		

Intersection: 4: Cascade Hwy & Whitney St

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	85	152	406	131	194
Average Queue (ft)	18	79	165	50	94
95th Queue (ft)	55	132	321	96	164
Link Distance (ft)		674	1290		429
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150			200	
Storage Blk Time (%)		0			0
Queuing Penalty (veh)		0			0

Intersection: 5: Shaff Rd/Fern Ridge Rd & Cascade Hwy

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	147	183	139	256	207	387	208	394
Average Queue (ft)	55	87	45	119	52	164	47	199
95th Queue (ft)	112	156	107	214	120	304	118	338
Link Distance (ft)		806		960		1174		1290
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	200		200		250		350	
Storage Blk Time (%)	0	0		2		2		1
Queuing Penalty (veh)	1	0		1		2		1

Zone Summary

Zone wide Queuing Penalty: 14

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:20	4:20	4:20	4:20	4:20	4:20
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	2944	2841	2835	2835	2906	2873
Vehs Exited	2971	2848	2829	2834	2875	2868
Starting Vehs	122	93	107	107	111	102
Ending Vehs	95	86	113	108	142	104
Travel Distance (mi)	2145	2092	2066	2079	2116	2100
Travel Time (hr)	127.7	114.9	111.5	115.0	116.8	117.2
Total Delay (hr)	51.6	40.8	38.3	41.3	41.6	42.7
Total Stops	4227	3807	3687	3859	3891	3897
Fuel Used (gal)	82.5	78.6	76.7	78.8	79.1	79.1

Interval #0 Information Seeding

Start Time	4:20
End Time	4:30
Total Time (min)	10

Volumes adjusted by Growth Factors, Anti PHF.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	872	804	801	799	780	809
Vehs Exited	831	767	777	755	751	775
Starting Vehs	122	93	107	107	111	102
Ending Vehs	163	130	131	151	140	142
Travel Distance (mi)	613	558	567	562	537	567
Travel Time (hr)	39.6	32.3	32.0	32.8	29.5	33.2
Total Delay (hr)	17.9	12.5	11.9	12.8	10.4	13.1
Total Stops	1295	1118	1028	1098	946	1095
Fuel Used (gal)	24.1	21.5	21.2	21.6	19.9	21.6

Interval #2 Information Recording

Start Time	4:45
End Time	5:30
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2072	2037	2034	2036	2126	2060
Vehs Exited	2140	2081	2052	2079	2124	2097
Starting Vehs	163	130	131	151	140	142
Ending Vehs	95	86	113	108	142	104
Travel Distance (mi)	1532	1533	1499	1517	1579	1532
Travel Time (hr)	88.1	82.6	79.5	82.3	87.3	84.0
Total Delay (hr)	33.7	28.3	26.4	28.5	31.2	29.6
Total Stops	2932	2689	2659	2761	2945	2796
Fuel Used (gal)	58.4	57.1	55.5	57.2	59.2	57.5

Intersection: 1: Cascade Hwy & Sublimity Blvd/Santiam Hwy Westbound Ramp

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	L	R	L
Maximum Queue (ft)	40	63	57	60	45	32	45
Average Queue (ft)	10	26	20	32	15	1	13
95th Queue (ft)	30	50	52	60	41	23	38
Link Distance (ft)		640	1184				
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200			25	250	300	250
Storage Blk Time (%)			7	6			
Queuing Penalty (veh)			3	1			

Intersection: 2: Santiam Hwy Eastbound Ramp & Cascade Hwy

Movement	EB	EB	NB	SB	SB
Directions Served	LT	R	TR	L	T
Maximum Queue (ft)	100	276	377	75	180
Average Queue (ft)	49	104	175	30	66
95th Queue (ft)	88	219	317	58	144
Link Distance (ft)	918		470		815
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		550		275	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Cascade Hwy & Golf Ln

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	70	61	48	6	33	10
Average Queue (ft)	24	21	18	0	4	1
95th Queue (ft)	56	49	44	4	21	6
Link Distance (ft)	969	263		429		470
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			75		75	
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 4: Cascade Hwy & Whitney St

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	103	155	391	185	247
Average Queue (ft)	46	77	199	101	124
95th Queue (ft)	87	131	334	166	213
Link Distance (ft)		674	1290		429
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150			200	
Storage Blk Time (%)		0		0	1
Queuing Penalty (veh)		0		2	2

Intersection: 5: Shaff Rd/Fern Ridge Rd & Cascade Hwy

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	219	321	225	360	212	377	374	639
Average Queue (ft)	120	131	90	170	77	182	81	346
95th Queue (ft)	214	254	187	302	162	307	277	594
Link Distance (ft)		806		960		1174		1290
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	200		200		250		350	
Storage Blk Time (%)	5	2	0	9		2		9
Queuing Penalty (veh)	10	3	0	9		3		5

Zone Summary

Zone wide Queuing Penalty: 40

APPENDIX F: CRASH DATA

013 Lat	014 Long	117 Severity	000 Crash Id	002 Year	005 Region	007 County1	008 Jurisdiction	015 Street Name
44.81870004	-122.7943326	Minor Injury (B)	1847246	2019	2	Marion	Sublimity	NORTH SANTIAM
44.81869722	-122.7943278	PDO	1805699	2018	2	Marion	Sublimity	NORTH SANTIAM
44.81869548	-122.7943359	PDO	1863335	2019	2	Marion	Sublimity	NORTH SANTIAM
44.81869254	-122.7943342	PDO	1873569	2019	2	Marion	Sublimity	NORTH SANTIAM
44.81869603	-122.7943253	Minor Injury (B)	1843689	2019	2	Marion	Sublimity	NORTH SANTIAM
44.81869722	-122.7943278	Possible Injury (C)	1782099	2018	2	Marion	Sublimity	NORTH SANTIAM
44.81871891	-122.7939208	Possible Injury (C)	1845291	2019	2	Marion		NORTH SANTIAM
44.81869962	-122.7943375	PDO	1895810	2020	2	Marion	Sublimity	NORTH SANTIAM
44.81869472	-122.7943337	PDO	1897397	2020	2	Marion	Sublimity	NORTH SANTIAM
44.81869722	-122.7943278	Serious Injury (A)	1787368	2018	2	Marion	Sublimity	NORTH SANTIAM
44.81869646	-122.7943285	Minor Injury (B)	2002835	2022	2	Marion	Sublimity	NORTH SANTIAM
44.81869646	-122.7943285	Minor Injury (B)	1982223	2022	2	Marion	Sublimity	NORTH SANTIAM
44.81633889	-122.7942528	PDO	1806637	2018	2	Marion		NORTH SANTIAM
44.81633333	-122.7942444	PDO	1806880	2018	2	Marion		NORTH SANTIAM
44.81633381	-122.7942489	PDO	1862793	2019	2	Marion		NORTH SANTIAM
44.81633378	-122.7942452	PDO	1864930	2019	2	Marion		NORTH SANTIAM
44.81633623	-122.7942582	PDO	1865825	2019	2	Marion		NORTH SANTIAM
44.81633325	-122.7942445	PDO	2003074	2022	2	Marion		NORTH SANTIAM
44.81633325	-122.7942445	Minor Injury (B)	1976366	2022	2	Marion		NORTH SANTIAM
44.81633333	-122.7942444	PDO	1818009	2018	2	Marion		NORTH SANTIAM
44.81633531	-122.7942459	Minor Injury (B)	1965202	2022	2	Marion		NORTH SANTIAM
44.81633325	-122.7942445	Possible Injury (C)	1827976	2019	2	Marion		NORTH SANTIAM
44.81632866	-122.7942461	Possible Injury (C)	1882113	2020	2	Marion		NORTH SANTIAM
44.81633637	-122.7942502	Minor Injury (B)	1924721	2021	2	Marion		CASCADE HWY SE
44.81633325	-122.7942445	Minor Injury (B)	1985258	2022	2	Marion		CASCADE HWY SE
44.81632637	-122.7942471	PDO	1898989	2020	2	Marion		NORTH SANTIAM
44.81633465	-122.794249	PDO	1897371	2020	2	Marion		NORTH SANTIAM
44.81633581	-122.7942434	PDO	1895802	2020	2	Marion		NORTH SANTIAM
44.816336	-122.7942462	PDO	1954561	2021	2	Marion		NORTH SANTIAM
44.81633515	-122.7942403	Minor Injury (B)	1929956	2021	2	Marion		NORTH SANTIAM
44.81633435	-122.7942436	Possible Injury (C)	1923539	2021	2	Marion		NORTH SANTIAM
44.81633325	-122.7942445	PDO	2003594	2022	2	Marion		NORTH SANTIAM
44.81633325	-122.7942445	PDO	1994693	2022	2	Marion		NORTH SANTIAM
44.81633333	-122.7942472	PDO	1811907	2018	2	Marion		NORTH SANTIAM
44.81632973	-122.7946608	PDO	1980364	2022	2	Marion		NORTH SANTIAM
44.81356919	-122.7942973	Possible Injury (C)	1917270	2021	2	Marion	Stayton	CASCADE HWY
44.81356944	-122.7943	PDO	1804536	2018	2	Marion	Stayton	CASCADE HWY
44.813573	-122.7943	PDO	1902144	2020	2	Marion	Stayton	CASCADE HWY
44.8135706	-122.7942997	PDO	1946450	2021	2	Marion	Stayton	CASCADE HWY
44.8135711	-122.7943053	Possible Injury (C)	1892107	2020	2	Marion	Stayton	CASCADE HWY
44.81356389	-122.7938556	PDO	1805411	2018	2	Marion	Stayton	WHITNEY ST
44.81310111	-122.7943027	PDO	1952144	2021	2	Marion	Stayton	CASCADE HWY
44.80978611	-122.7942667	PDO	1809311	2018	2	Marion	Stayton	SHAFF RD
44.80978601	-122.7942654	Possible Injury (C)	1839109	2019	2	Marion	Stayton	CASCADE HWY
44.80979034	-122.7942628	PDO	1871161	2019	2	Marion	Stayton	CASCADE HWY
44.80978805	-122.7942669	PDO	1865120	2019	2	Marion	Stayton	CASCADE HWY
44.80978674	-122.7942697	PDO	1943129	2021	2	Marion	Stayton	FERN RIDGE RD
44.80979001	-122.7942684	PDO	1903451	2020	2	Marion	Stayton	FERN RIDGE RD
44.80942482	-122.7942681	Possible Injury (C)	1971372	2022	2	Marion	Stayton	1ST AVE
44.81013056	-122.794275	Possible Injury (C)	1776412	2018	2	Marion	Stayton	CASCADE HWY
44.80978611	-122.7942639	Minor Injury (B)	1792539	2018	2	Marion	Stayton	CASCADE HWY
44.80978847	-122.7942679	PDO	1902097	2020	2	Marion	Stayton	CASCADE HWY
44.80978789	-122.7942631	PDO	1953644	2021	2	Marion	Stayton	FERN RIDGE RD
44.80978611	-122.7942639	PDO	1803040	2018	2	Marion	Stayton	FERN RIDGE RD
44.80944444	-122.7942694	PDO	1804626	2018	2	Marion	Stayton	1ST AVE
44.80978724	-122.7942652	Possible Injury (C)	1888738	2020	2	Marion	Stayton	FERN RIDGE RD
44.80942222	-122.7942694	Possible Injury (C)	1792514	2018	2	Marion	Stayton	1ST AVE
44.80932883	-122.7942691	Possible Injury (C)	1831554	2019	2	Marion	Stayton	1ST AVE

021 Road Characteristics	022 Off Roadway Flag	036 Crash Cause 1	114 Road Departure Flag	118 Intersection Flag
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	IMP-TURN	No	Yes
STRGHT	FALSE	F AVOID	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	VIEW OBS	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	PAS-STOP	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	TRUE	OTHER	No	Yes
INTER	FALSE	DIS SIG	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	TOO-FAST	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	CARELESS	No	Yes
STRGHT	FALSE	F AVOID	No	Yes
INTER	FALSE	INATTENT	No	Yes
INTER	FALSE	DIS SIG	No	Yes
INTER	FALSE	DIS SIG	No	Yes
INTER	TRUE	IMP-TURN	No	Yes
INTER	FALSE	F AVOID	No	Yes
STRGHT	FALSE	IMP LN C	No	Yes
STRGHT	FALSE	F AVOID	No	Yes
INTER	FALSE	TOO-FAST	No	Yes
INTER	FALSE	INATTENT	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
INTER	FALSE	DIS SIG	No	Yes
INTER	FALSE	F AVOID	No	Yes
STRGHT	FALSE	F AVOID	No	Yes
STRGHT	FALSE	TOO-CLOS	No	Yes
INTER	FALSE	F AVOID	No	Yes
INTER	FALSE	DIS SIG	No	Yes
INTER	FALSE	DIS SIG	No	Yes
INTER	FALSE	NO-YIELD	No	Yes
STRGHT	FALSE	MECH-DEF	No	Yes
INTER	FALSE	DIS SIG	No	Yes
STRGHT	FALSE	INATTENT	No	Yes
STRGHT	FALSE	CARELESS	No	Yes

119 State Highway Flag1	126 Bike / Ped Related	127 Driveway Flag	128 Jurisdiction Complete	011 Hwy No	001 CRASH Date
Yes	Neither	No	Sublimity	162	11/12/2019
Yes	Neither	No	Sublimity	162	4/30/2018
Yes	Neither	No	Sublimity	162	6/14/2019
Yes	Neither	No	Sublimity	162	12/14/2019
Yes	Neither	No	Sublimity	162	9/21/2019
Yes	Neither	No	Sublimity	162	4/22/2018
Yes	Neither	No	Marion County	162	10/15/2019
Yes	Neither	No	Sublimity	162	1/8/2020
Yes	Neither	No	Sublimity	162	2/10/2020
Yes	Neither	No	Sublimity	162	7/2/2018
Yes	Neither	No	Sublimity	162	12/27/2022
Yes	Neither	No	Sublimity	162	10/18/2022
Yes	Neither	No	Marion County	162	5/17/2018
Yes	Neither	No	Marion County	162	6/11/2018
Yes	Neither	No	Marion County	162	5/31/2019
Yes	Neither	No	Marion County	162	7/12/2019
Yes	Neither	No	Marion County	162	7/25/2019
Yes	Neither	No	Marion County	162	12/23/2022
Yes	Neither	No	Marion County	162	9/8/2022
Yes	Neither	No	Marion County	162	10/16/2018
Yes	Neither	No	Marion County	162	4/18/2022
Yes	Neither	No	Marion County	162	1/17/2019
Yes	Neither	No	Marion County	162	4/23/2020
No	Neither	No	Marion County		7/21/2021
No	Neither	No	Marion County		6/10/2022
Yes	Neither	No	Marion County	162	3/17/2020
Yes	Neither	No	Marion County	162	2/9/2020
Yes	Neither	No	Marion County	162	1/8/2020
Yes	Neither	No	Marion County	162	10/22/2021
Yes	Neither	No	Marion County	162	10/22/2021
Yes	Neither	No	Marion County	162	6/17/2021
Yes	Neither	No	Marion County	162	11/17/2022
Yes	Neither	No	Marion County	162	10/17/2022
Yes	Neither	No	Marion County	162	9/21/2018
Yes	Neither	No	Marion County	162	3/16/2022
No	Neither	No	Stayton		4/1/2021
No	Neither	No	Stayton		3/2/2018
No	Neither	No	Stayton		7/12/2020
No	Neither	No	Stayton		5/21/2021
No	Neither	No	Stayton		11/23/2020
No	Neither	No	Stayton		4/16/2018
No	Neither	No	Stayton		8/25/2021
No	Neither	No	Stayton		8/22/2018
No	Neither	No	Stayton		7/19/2019
No	Neither	No	Stayton		10/30/2019
No	Neither	No	Stayton		7/17/2019
No	Neither	No	Stayton		3/10/2021
No	Neither	No	Stayton		8/3/2020
No	Neither	No	Stayton		6/29/2022
No	Neither	No	Stayton		1/19/2018
No	Neither	No	Stayton		9/14/2018
No	Neither	No	Stayton		7/4/2020
No	Neither	No	Stayton		9/3/2021
No	Neither	No	Stayton		1/1/2018
No	Neither	No	Stayton		3/7/2018
No	Neither	No	Stayton		9/11/2020
No	Neither	No	Stayton		9/13/2018
No	Neither	No	Stayton		3/19/2019

APPENDIX G: SEASONAL ADJUSTMENT FACTOR SPREADSHEET

Seasonal Adjustment Using ATR #24-005

		Month	2022	2021	2020	2019	2018	2017		
Weekday	**Peak**	July or August	25487	25871	*	26620	26440	25341		
Traffic	**Counts**	May	23652	24841	*	24215	23985	23351		
Percent	**Peak**	July or August	117	116	*	116	116	116	116	Seasonal Adjustment
ADT	**Counts**	May	108	111	*	106	105	107	107	1.08

APPENDIX H: SIGNAL WARRANT CALCULATIONS

Traffic Signal Warrant Analysis

Analysis Volumes

Hour	Major (N/S) Casacde Hwy	Minor (EB) Golf Ln		Major Ped Crossing
12 am - 1 am	41	0		0
1 am - 2 am	43	0		0
2 am - 3 am	34	0		0
3 am - 4 am	83	8		0
4 am - 5 am	172	8		0
5 am - 6 am	389	16		0
6 am - 7 am	647	8		0
7 am - 8 am	1023	31		0
8 am - 9 am	1047	47		0
9 am - 10 am	989	47		0
10 am - 11 am	1092	31		0
11 am - 12 pm	1143	62		0
12 pm - 1 pm	1220	62		0
1 pm - 2 pm	1229	54		0
2 pm - 3 pm	1444	31		0
3 pm - 4 pm	1452	16		0
4 pm - 5 pm	1515	8		0
5 pm - 6 pm	1520	31		0
6 pm - 7 pm	929	23		0
7 pm - 8 pm	728	0		0
8 pm - 9 pm	614	31		0
9 pm - 10 pm	384	0		0
10 pm - 11 pm	161	0		0
11 pm - 12 am	103	23		0

Roadway Characteristics

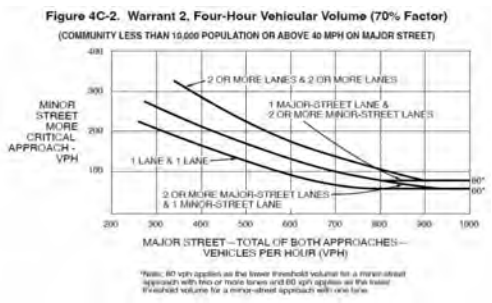
		Lanes	
Major:	N/S	1	
Minor:	E/W	1	
Use APM Reduction?		No	
EB RT Lane Capacity			vph
Reduction:		0	
WB RT Lane Capacity			vph
Reduction:		0	
Above 40 mph on Major Street?		No	
Isolated community with population less than 10,000?		Yes	
Use 70% Factor			

WARRANT #1

	Volume Criteria Major	Minor	# of Hours	8 Hours Met?
Condition A (70%)	350	105	0	FALSE
Condition B (70%)	525	53	3	FALSE
Condition A (56%)	280	84	0	FALSE
Condition B (56%)	420	42	5	

No

WARRANT #2 No 2 of 4 hours met



APPENDIX I: SITE PLAN

LAND USE

GROSS PLANNING AREA:

GROSS AREA	914,760 SF = 21.0 ACRES
TRACT A	33,600 SF = – 0.77 ACRES
	881,160 SF = 20.23 ACRES

PLANNING TO BE DEVELOPED:

TOTAL	881,160 SF = 20.23 ACRES
PLAT ROADS	248,400 SF = –5.70 ACRES
NET PLANNING AREA	632,760 SF = 14.53 ACRES

NET PLANNING AREA:

92 LOTS / 14.53 ACRES = 6.33 LOTS PER ACRE

632,760 SF / 92 LOTS = 6,880 SF AVERAGE LOT SIZE

SMALLEST LOT SIZE: 6,000 SF
LARGEST LOT SIZE: 13,950 SF

NORTH SANTIAM PAVING COMPANY
41203 KINGSTON–LYONS DRIVE, P.O. BOX 516
STAYTON, OREGON 97383
(503) 769–3436
LEWIS@NSPOR.COM
CONSTRUCTION • ENGINEERING • SURVEYING

GOLF LANE ROAD SUBDIVISION

CITY OF STAYTON MARION COUNTY, OREGON
NW 1/4 SEC. 3 T9S R1W WM TAX MAP 091W03B TAX LOT 1500

PRELIMINARY LAYOUT OPTION 3

REGISTERED PROFESSIONAL ENGINEER
88054PE
OREGON
JANUARY 31, 2012
LEWIS D. WARNER
EXPIRES: 6-30-2024

PLOT DATE: 2/7/2024
REVISIONS:
DRAWN BY: LDW
CHECKED BY: LDW
JOB No: 23110
SCALE: 1" = 50'

SHEET C1

Exhibit I – Pre-Application Conference Notes

City of Stayton
Preapplication Meeting
April 4, 2024
2:00 p.m.

KDS Golf Lane SE Annexation

Applicant: KSD Properties, LLC, 500 SW Sublimity BLVD, Sublimity, OR 97385

Staff: Jennifer Siciliano, Community and Economic Development Director, Public Works Director, City Engineer, and Fire Department

Project Description: Annex a 21-acre property, taxlot 091W03B001500, for residential use.

Comprehensive Plan Map Designation: Residential
Zoning District: Low or Medium Density Residential

The following comments are intended for discussion purposes only and may not include all applicable code requirements.

Applicable Stayton Land Use and Development Code (code) provisions:

17.12.210 ANNEXATIONS
2. METHOD OF ADOPTION
a. Major Annexations.

1) A Major Annexation is an annexation that meets one or more of the following characteristics.

i. Consists of two or more parcels, except proposed annexations that consist of contiguous parcels in the same ownership.
ii. The area proposed for annexation exceeds 1 acre, except a health hazard annexation.

2) describes the approval procedure which has not been amended since Senate Bill 1573 passed. The bill states:

" ... the legislative body of the city shall annex the territory without submitting the proposal to the electors of the city if:
(a) The territory is included within an urban growth boundary adopted by the city or Metro, as defined in ORS 197.015;
(b) The territory is, or upon annexation of the territory into the city will be, subject to the acknowledged comprehensive plan of the city;
(c) At least one lot or parcel within the territory is contiguous to the city limits or is separated from the city limits only by a public right of way or a body of water; and

(d) The proposal conforms to all other requirements of the city's ordinances. ..."

A general timetable is the following:

- *An application for annexation is submitted to the City Planner.*
- *The City Planner has 30 days to deem the application complete or incomplete.*
- *Once the application is deemed complete, it can be scheduled for a Planning Commission Public Hearing. Abutters need to be notified 20 days in advance of this hearing. The Planning Commission only meets on the last Monday of the month.*
- *The Planning Commission submits its recommendations to the City Council to schedule another Public Hearing in front of the Council. This hearing needs to be advertised at least two weeks before the hearing. The City Council meets the first and third Mondays of the month.*
- *A Notice of Decision is sent out to the abutters within 3 days of the decision.*
- *From the Notice of Decision there is a 14-day appeal period.*

3. SUBMITTAL REQUIREMENTS. In order to be accepted as complete and be processed in a timely manner by the City, requests for annexation of territory shall include the following materials and information:

a. Completed application forms as supplied by the City Planner.
b. Three copies of a site plan, drawn to a scale of 1 inch equals not more than 50 feet, shown as a graphic scale, of the property for which the annexation is requested. The site plan shall depict the surrounding properties, neighboring streets and roads, and existing uses of the property. If the application for annexation is not accompanied by a concurrent application for site plan, subdivision, or other land use approval, three copies of a conceptual plan of proposed uses of the property subsequent to annexation. In addition, 18 reduced copies of the plan sized as 11 inches by 17 inches shall be submitted.
c. A plan showing the boundary lines of the properties, certified by a professional land surveyor, and the approximate area of the properties in acres or square feet.
d. A legal description of the property, meeting the requirements of ORS 308.225.
e. A narrative statement fully explaining the request and fully addressing the criteria for
approval of an annexation.

See the application checklist for guidance.

4. APPROVAL CRITERIA. In order to approve an application for annexation, the following affirmative findings concerning the action must be made by the decision authority:
a. Need exists in the community for the land proposed to be annexed.

b. The site is or is capable of being serviced by adequate City public services including such services as may be provided subject to the terms of a contract annexation agreement between the applicant and the City.
c. The proposed annexation is property contiguous to the existing City limits.
d. The proposed annexation is compatible with the character of the surrounding area and complies with the urban growth program and policies of the City of Stayton.
e. The annexation request complies, or can be made to comply, with all applicable provisions of state and local law.
f. If a proposed contract annexation, within the terms and conditions of the contract the cost of City facility and service extensions to the annexed area shall be calculated by the Public Works Director.

5. ZONING OF ANNEXED TERRITORY. All lands that are annexed to the City shall be zoned in accordance with the designation of the property in the Comprehensive Plan. The specific zone assigned to the land being annexed shall be determined by the City Council in accordance with the proposed uses of the land and the needs identified by the buildable lands analysis in the Comprehensive Plan. This requirement does not prohibit an application to amend the Comprehensive Plan Map concurrent with the application for annexation.

According to the Comprehensive Plan, this parcel is considered residential. It could be approved for Low or Medium Density Residential Zone.

Table 17.16.070.2 Minimum Dimensional Requirements for Lots

Low Residential Density Zone	
Lot Area (square feet)	8,000
Lot Width (feet)	80 (40 feet for lots with frontage on a cul-de-sac)
Average Width (feet)	80

Medium Residential Density Zone	
Lot Area (square feet)	7,000 (A Triplex requires a minimum lot area of 10,500 square feet.)
Lot Width (feet)	70 (40 feet for lots with frontage on a cul-de-sac)
Average Width (feet)	70

Table 17.16.070.3 Dimensional Requirements for Structures

Low Residential Density Zone	
Front Yard Setback (feet)	20[2]
Side Yard Setback (feet)	5
Rear Yard Setback (feet)	20
Building Height (feet)	35[6]

[2] 25 feet to a garage entrance, except a garage on a back lot or flag lot.
[6] Or 2 ½ stories

Medium Residential Density Zone

Front Yard Setback (feet)	20[2]
Side Yard Setback (feet)	5
Rear Yard Setback (feet)	15
Building Height (feet)	35[6]

[2] 25 feet to a garage entrance, except a garage on a back lot or flag lot.
[6] Or 2 ½ stories

4. ADDITIONAL REGULATIONS FOR SINGLE FAMILY DETACHED DWELLINGS AND MANUFACTURED HOMES ON INDIVIDUAL LOTS.

Within the Low Density and Medium Density Residential Districts, all new single-family detached dwellings, including manufactured homes not in a mobile home park, are subject to the following development and design standards:

1) Floor Area. A dwelling shall have a minimum floor area of 1,000 square feet. The dwelling must have a minimum horizontal dimension of at least 24 feet.

2) Repealed.

3) Design Features. All new dwellings shall contain the following design feature requirements:

a) The site must include an attached or detached garage with exterior materials that are the same exterior materials as the primary home.
b) The building shall be provided with gutters and downspouts.
c) The dwelling must have a composition asphalt, fiberglass, shake, or tile roof with a minimum pitch of 3 feet in height for each 12 feet in length.
d) The dwelling must have horizontally applied wood siding, horizontally applied fiber-cement siding, brick or stone masonry siding, or textured plywood siding with vertical grooves.
e) The base of the new dwelling must be enclosed continuously at the perimeter with either concrete, concrete block, brick, stone, or combination thereof. Unless the home is placed on a basement, the home shall sit so that no more than 12 inches of the enclosing material is exposed above grade. Where the building site has a grade with a slope of more than 10%, no more than 12 inches of the enclosing material shall be exposed on the uphill side of the home.
f) If a manufactured home, the transportation mechanisms, including wheels, axles, and hitch, shall be removed.

4) In addition, to provide architectural relief, new dwellings shall contain at least 3 of the following design elements on the side(s) of the home which fronts on a street:
a) Dormers or gables.
b) Cupolas.
c) Bay or bow windows.
d) Exterior shutters.
e) Recessed entries.

f) Front porch of at least 100 square feet, which may extend into the required front yard.
g) Covered porch entries.
h) Pillars or posts in the front entry area.
i) (Repealed, Ord 1060, May 17, 2023.)
j) Front-side exterior brickwork or masonry.

17.20.190 MULTI-FAMILY RESIDENTIAL DESIGN STANDARDS
1. These standards shall apply to any new attached residential structure.
2. SITE DESIGN.
a. Maximum Lot Coverage. Lot coverage shall not exceed the percentages shown in Table 17.20.190.2.a:

Table 17.20.190.2.a Maximum Lot Coverage for Multi-family Uses

Multi-Family Use	Maximum Coverage
Single Family Attached, Duplex or Triplex	50%
Multi-family dwellings	60%

Lot coverage is calculated as the percentage of a lot or parcel covered by buildings or structures (as defined by the foundation plan area) and other structures with surfaces greater
than 36 inches above the finished grade. It does not include paved surface-level development such as driveways, parking pads, and patios.

b. Height Step Down. To provide compatible scale and relationships between new multi-story attached residential structures and adjacent single-family dwellings, the multi-story building(s) shall “step down” to create a building height transition to adjacent single-family building(s).

The transition standard is met when the height of any portion of the taller structure does not exceed 1 foot of height for every foot of separation between the adjacent single-family building and that portion of the taller structure.

c. Building Orientation Standards. All new attached residential structures shall have buildings that are oriented to the street. The following standards will apply:
1) All buildings shall comply with the setback standards of the zoning district where the development is located.

2) Except as provided in subsections 3 and 4, below, all attached residential structures shall have at least 1 primary building entrance (i.e. dwelling entrance, a tenant space entrance, a lobby entrance, or breezeway/courtyard entrance serving a cluster of units)

facing an adjoining street, or if on a side elevation, not more than 20 feet from a front lot line.

3) Any duplex located on a corner lot shall be oriented so that the architectural front of each unit faces a separate street.

4) Repealed.

5) Off street parking, driveways, and other vehicle areas shall not be placed between buildings and the street(s) to which they are oriented, except that townhouses with garages that face a street may have 1 driveway access located between the street and primary building entrance for every 2 dwelling units following vehicle areas when the decision authority finds they will not adversely affect pedestrian safety and convenience.

6) Parking and maneuvering areas, driveways, active recreation areas, loading areas, and dumpsters shall not be located between attached residential structures and adjacent single family homes.

7) When there is insufficient street frontage for building orientation in a development with multiple buildings to face the street, a primary entrance may be oriented to a common green, plaza or courtyard. When oriented this way, the primary entrance(s) and common green, plaza or courtyard shall be connected to the street by a pedestrian walkway meeting the standards of Section 17.26.020.5.

8) Outdoor Service Areas. Trash receptacles shall be oriented away from building entrances and set back at least 10 feet from any public right-of-way and adjacent residences. Outdoor service areas shall be screened with an evergreen hedge or solid fence of materials similar to the primary building of not less than 6 feet in height. If the outdoor service area includes trash receptacles, the receptacle must be accessible to trash pick-up trucks.

3. ARCHITECTURAL STANDARDS.
a. Building Length. The continuous horizontal distance as measured from end wall to end wall of individual buildings shall not exceed 100 feet.
b. Articulation. All attached residential structures shall incorporate design features to break up large expanses of uninterrupted walls or roof planes. Along the vertical face of all building stories, such elements shall occur at a minimum interval of 30 feet and each floor shall contain at least 2 of the following elements.

1) Recess (e.g. deck, patio, courtyard, entrance or similar feature) that has a minimum depth of 4 feet.
2) Extension (e.g. deck, patio, entrance, overhang, or similar feature) that projects a minimum of 2 feet and runs horizontally for a minimum length of 4 feet.

3) Dormers with peaked roofs and windows or offsets or breaks in roof elevation of 2 feet or greater in height.

c. Street-side facades. All building elevations visible from a street right-of-way shall provide prominent defined entrances and a combination of architectural features as specified in Section 17.20.190.3.e below.

d. Exterior Stairways. Stairways shall be incorporated into the building design. External stairways, when necessary, shall be recessed into the building, sided using the same siding materials as the building, or otherwise incorporated into the building architecture. Access balconies and/or outdoor corridors longer than 16 feet shall not be used. No more than 4 units shall access from a single balcony.

e. Design Features. The minimum number of required design features for an attached residential structure is determined by the number of dwelling units in each building as shown in Table 17.20.190.3.e.

Table 17.20.190.3.e Minimum Number of Design Features

Number of Units	Minimum Number of Features
2 - 6	5
7 - 20	8
21 or more	10

The following design features may be used to meet the requirements of this subsection. Features not included on the list may be used if approved by decision authority.

1) Dormers
2) Gables
3) Entries recessed a minimum of 30 inches
4) Covered porch entries or porticos
5) Cupolas or towers
6) Pillars or posts
7) Eaves; a minimum 18 inches of projection
8) Off-sets in building face or roof; a minimum 16 inches
9) Window trim; minimum of 3 inches wide
10) Bay windows
11) Balconies
12) Decorative patterns on exterior finish such as: shingles, wainscoting, ornamentation or similar features.
13) Decorative cornice or pediments (for flat roofs)

f. Building Materials. Plain concrete, corrugated metal, plywood, sheet press board, or textured plywood siding with vertical grooves shall not be used as exterior finish material.

4. OPEN SPACE.

a. Common Open Space. Of the landscaping required by Section 17.20.090, a minimum of 10% of the site area shall be designated and permanently reserved as common open space in all multi-family developments with more than 10 units, in accordance with the following criteria:

1) The site area is defined as the lot or parcel on which the development is to be located, after subtracting any required dedication of street right-of-way.
2) Streets, driveways, and parking areas, including areas required to satisfy parking area landscape standards, shall not be applied towards the minimum useable open space requirement.
3) In meeting the common open space standard, the multi-family development shall contain one or more of the following: outdoor recreation area, protection of sensitive lands, play fields, outdoor playgrounds, outdoor sports courts, swimming pools, walking paths, or similar open space amenities for residents.
4) The common open space shall have a minimum average width of 15 feet and a minimum average length of 15 feet.

b. Private Open Space. Private open space areas shall be required for dwelling units based on all of the following criteria:

1) All ground-floor housing units shall have front or rear patios or decks measuring at least 40 square feet.
2) All upper-floor housing units shall have balconies or porches measuring at least 30 square feet.

5. LIGHTING. All attached residential structures shall meet the standards of Section 17.20.170.

Pre-application questions:

Land Use Requirements

1. It is anticipated the following applications are required, please confirm this is accurate: annexation application. *Yes*
2. Please confirm the property will be annexed into the City of Stayton as Residential, which aligns with the comprehensive plan. *If the City Council approves the annexation, it will be for residential use since that aligns with the Comprehensive Plan.*
3. Please confirm the setbacks for each property line that will be applicable at the time of development following a successful annexation. *See Table 17.16.070.3 in zoning.*
4. Please confirm if Golf Lane SE is subject to a special setback along the subject property frontage. *Golf Lane does not have special setbacks.*
5. Are any open spaces or parks required for future development? *There are requirements for open space for multi-family structures including duplexes. There are also open space requirements for master plan developments – see 17.24.100.d.*
6. Please confirm there are no previous land use actions on this property which would impact or disallow the proposal. *None.*
7. Please confirm application corresponding fees for land use approval. *$2,000 deposit*
8. Please discuss the typical processing timeline for annexations under the City's process for which do not request a comprehensive plan amendment. The applicant understands

annexation applications are not held to any jurisdictional deadlines*. See general timetable described above.*

9. Please discuss how the applicant may expedite the review process for this application, if applicable. *There is no expedited process.*

10. Please provide a list of information which is required to be submitted with the land use application for the proposed annexation. *See checklist in the annexation application.*

11. Please confirm what supplemental studies or reports are required to be submitted with this application. *Transportation Impact Analysis may be required.*

12. Please confirm if the proposal will trigger any local, state, or federal notifications. *The city usually notifies Marion County. After an annexation is approved, there are notification requirements – see 17.12.210.7.*