Pierce College Puyallup

Master Plan

Adopted by Ordinance 3253 - Puyallup City Council, July 12, 2022
Ordinance effective date July 20, 2022
Master Plan expires July 20, 2032 (10 years from effective date)

PIERCE COLLEGE
possibilities. realized.

ORDINANCE NO. 3253

AN ORDINANCE OF THE CITY OF PUYALLUP, WASHINGTON approving a Master Plan for Pierce College.

WHEREAS, on August 31, 2021, City Development and Permitting Services (DPS) staff determined that Pierce College submitted a complete application for a proposed Master Plan addressing the continued build out of the Puyallup college campus over the next ten years (2022-2032); and,

WHEREAS, DPS conducted public outreach, consistent with PMC 20.26.009 and PMC 20.11.012 and administrative noticing procedures, by holding a neighborhood vicinity meeting on August 04, 2021 (Zoom virtual) and by sending mailed and emailed notice to adjacent property owners and residents, public agencies and tribal governments on September 7, 2021, along with legal notices published in the Tacoma News Tribune and on-site posted notice boards in September, 2021; and,

WHEREAS, the proposed Master Plan and supporting material have been reviewed by City staff - City Development and Permitting Services (DPS) staff reviewed and issued development review team notes to the applicant on October 15, 2021 and April 08, 2022; the SEPA Responsible Official completed environmental review, issuing a SEPA Determination of Non-Significance on June 03, 2022, with no additional mitigation required; and,

WHEREAS, the City Planning Commission held public work sessions on November 10, 2021 and March 23, 2022 to review the proposed Master Plan; and,

WHEREAS, on May 25, 2022, the City Planning Commission conducted a duly noticed public hearing on the proposed Master Plan and reviewed and considered all written and summarized public comments and input; and,

WHEREAS, The Commission deliberated on the matter on May 25, 2022, adopting the staff report conclusions that the Master Plan contains the required information outlined in PMC 20.88.020 and is consistent with the review and approval criteria of PMC 20.88.030, and voted to forward a 6-1 approval recommendation to the City Council; and,

WHEREAS, the City Council received an informational briefing on the Planning Commission recommendation on June 07, 2022; and,

WHEREAS, the City Council, after review of the Master Plan document, a revised staff report, the May 25, 2022 Planning Commission recommendation and consideration of all verbal, written and summarized public comments and input, approved first reading of this ordinance to adopt the Master Plan at its regular meeting of June 28, 2022; and

WHEREAS, the City Council finds that the proposed Master Plan is consistent with the requirements of a Master Plan as specified in PMC 20.88 and is consistent with the Puyallup Comprehensive Plan; and,

WHEREAS, the City Council finds the adoption of this ordinance to be in the best interests of the community.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF PUYALLUP ORDAINS AS FOLLOWS:

Section 1. ***Master Plan Approved***. Finding that the proposed Master Plan, as reviewed by the Planning Commission May 25, 2022, satisfies the criteria set forth in PMC 20.88.020 and 20.88.030, and that the proposed plan includes information sufficient to mitigate potential adverse impacts and to ensure the standards and intent of the city's zoning code and Comprehensive Plan are met, the City Council hereby approves such Master Plan substantially in the form as provided in Exhibit "A", a copy of which is attached hereto and incorporated by this reference. The approved Master Plan shall remain in effect for no longer than 10 years from the effective date of this ordinance, subject to compliance with all conditions as contained in PMC 20.88.040, incorporating the findings and conclusions of the revised staff report in Exhibit "B". Modifications or additions to the Master Plan shall be controlled by the provisions of PMC 20.88.050; no changes to the vehicular access points on Wildwood Park Drive may be approved without further Planning Commission and City Council review and public outreach by DPS staff.

Section 2. ***Severability*** – All sections in this ordinance are hereby deemed severable. Any section found invalid or unconstitutional by a court of law with jurisdiction shall not be deemed to invalidate or find unconstitutional other sections in this ordinance.

Section 3. ***Publication.*** A summary of this ordinance shall be published as required by law.

Section 4. ***Corrections.*** The City Clerk and the codifiers of this ordinance are authorized to make necessary corrections to this ordinance including, but not limited to, the correction of scrivener's/clerical errors, references, ordinance numbering, section/subsection numbers and any references thereto.

Section 5. ***Effective Date.*** This ordinance shall become effective five days after publication in the official newspaper of the City of Puyallup

Dated this 12th day of July 2022.

Dean Johnson, Mayor

APPROVED AS TO FORM:

DocuSigned by:

Joseph N Beck

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Joseph Beck, City Attorney

ATTEST:

Brenda Fritsvold

Brenda Fritsvold, City Clerk

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1 Introduction

1.1 Campus Background

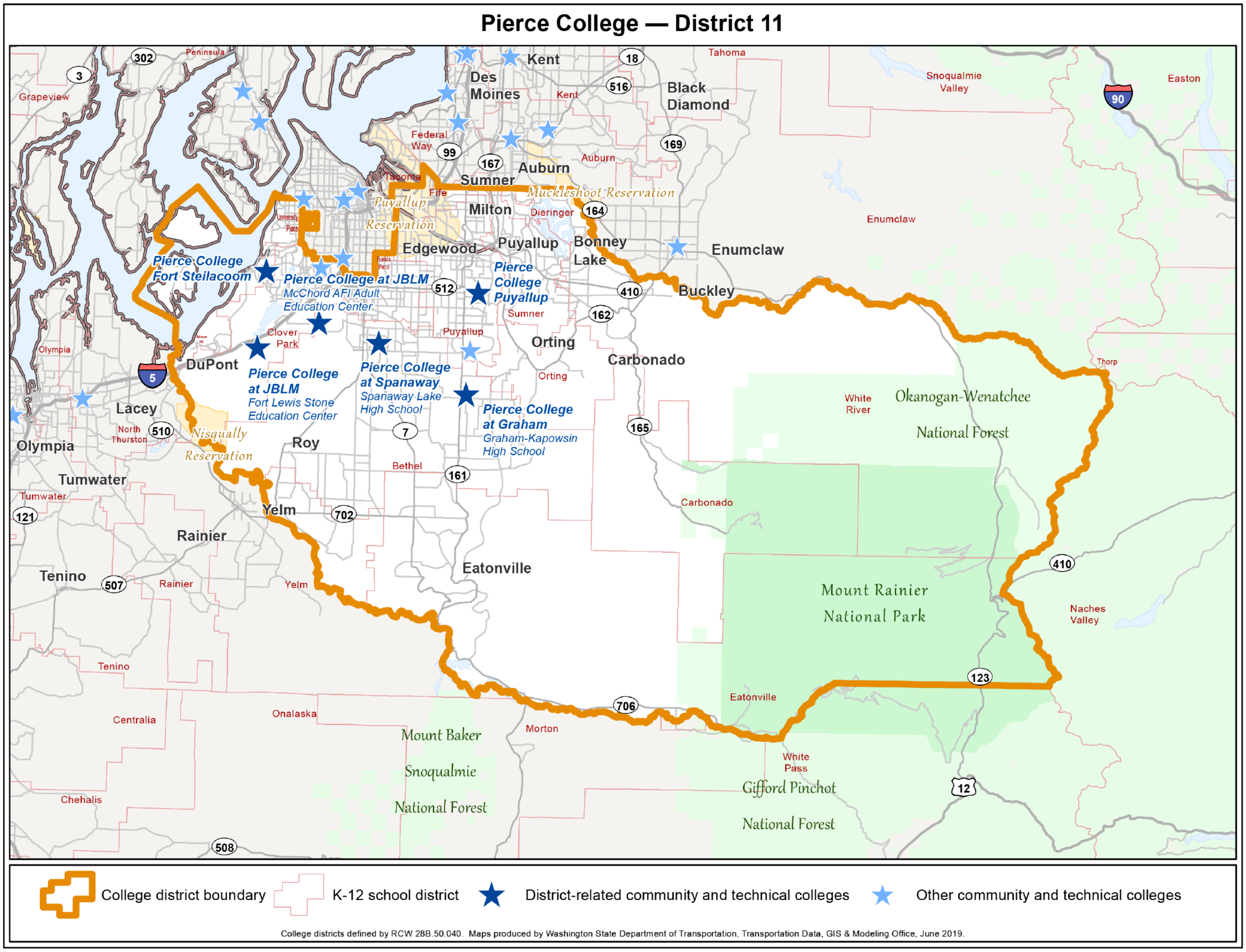
Pierce College built its first permanent district structures at Fort Steilacoom in 1971. Since then, the Fort Steilacoom campus has experienced tremendous growth while a concurrent population explosion in eastern Pierce County prompted development of a second campus in Puyallup. The college purchased 123 acres near South Hill, and the new campus' first permanent building, the Gaspard Education Center, was dedicated in 1990.

Both campuses continued growing in programs and enrollment throughout the 1990s. In 1999, Pierce College Puyallup received full college status from the State Board for Community and Technical Colleges. This recognition made the Pierce College District a two-college district instead of a two-campus district. The change in status also recognized Pierce College Puyallup's development of a free-standing core of educational services as well as its needs for future development to meet the needs of its service district (see Figure 1.1). Because of its youth, Pierce College Puyallup is focused on developing comprehensive community college programming.

Today the campus has six main buildings; Gaspard Administration Building, Brouillet Library/Science Building, College Center Building, Child Development Center, Arts and Allied Health Building, and the Health Education Center. These six buildings total 239,468 gross square feet. The College campus also has three smaller buildings; Maintenance Building, Portable Building, and the City of Puyallup Communication Center. These three buildings total 6,660 gross square feet. See Figure 2.1 for the existing development on campus.

The College faces ongoing needs for space improvements as instructional methodologies, student-learning styles, and service support requirements change. The College currently has begun the pre-design phase of the proposed STEM building. This building will address the critical shortage of STEM programs and would replace older instructional environments with more robust capabilities, allow the College to expand programs (e.g., double the size of the Computer Network Engineering program, add 3-D Printing/Robotics and Additive Manufacturing), allow the College to offer the full complement of transfer STEM-related courses, and would ensure program viability for the next generation of students.

Figure 1.1 Pierce College Service Area



1.2 Scope and Purpose

The purpose of this Campus Master Plan is to provide a detailed description of the current and future needs of Pierce College Puyallup. It is a blueprint to improve campus aesthetics and site conditions, meet required space needs, and coherently plan facility upgrades so that future projects support the intended character and respect the limits of the campus. The Master Plan covers site development for a ten-year period from 2022 through to 2032.

When a major project is identified to be included in the Master Plan update, appropriate members of the Executive Team along with a planning committee representing the departments and programs that will utilize the new space, and a broad range of district-wide constituent groups, come together to work on the project proposal. Within the framework of the Master Plan, this group further defines the purpose of the building, unique programmatic needs and the specific types and quantities of space needed. The planning committee also includes representation from technical support areas, including Information Technology, Media Services, Campus Safety, Purchasing, and the Access and Disability Services Office.

The previous Master Plan was approved by the Puyallup City Council on January 22, 2008. Beginning in late 2012, Pierce College initiated efforts for an early update of the Campus Master Plan. Since then, there have been a few broad-based college and district planning group meetings, as well as meetings with architectural consultants. An update to the 2008 Master Plan was adopted by the Pierce College Board in 2015 and serves as a basis for this Master Plan, however the document was not presented to the Puyallup City Council.

1.3 Improvement Process

The Pierce College Master Plan enables designed college growth and development over the next ten years, while giving the college community a chance to survey where they are today and benchmark where they want to be in the next ten years. In that not so distant future, the College envisions itself enriched by diversity and celebrating student success, satisfied that to have done its best to ensure that efficient, energy saving, technologically attuned facilities meld with carefully designed academic purpose.

The Master Plan applies design concepts that develop positive and healthy structural environments while improving access to all. It implements the following design guidelines:

Consistency

- Architectural design will establish patterns of style, material use, orientation and massing.
- New construction and existing structure modifications shall be designed to always consider four distinct physical elements: buildings, landscapes, pedestrian and vehicular traffic circulation.
- Architectural elements, such as roofs and parapets, materials, colors and details, shall relate to nearby and adjacent campus structures.

Institutional Identity

- New construction and existing structure modifications shall be designed to strengthen the College's role and image as a center for academic growth and cultural social interaction, serving students and the community.
- Interior signage, art and media will stress the five core abilities of critical thinking, effective communication, multiculturalism, information competency, and responsibility.

Safety and Convenience

- Externally, buildings will be clearly identifiable for wayfinding purposes with primary entrances prominently expressed in the design of the building.
- Internal circulation patterns shall be straightforward and relate to the building site, adjacent structures, and user arrival sequence.

1.4 Master Site Plan Summary

A comprehensive land development plan will help the College protect its land resources and shape surrounding development type and tempo. The College must be a responsible steward of the community's investment in this campus by preserving the site's natural assets and existing facilities. The College also strives to align its future development with the City's Comprehensive Plan policies, in particular the City's South Hill Neighborhood Plan. This is discussed further in section 2.4 of this Master Plan.

With careful expansion the College will meet the increasing demands of a community undergoing significant growth and cultural transformation.
To make the most of many obvious and some hidden assets, the College proposes to:

- Develop sustainable campus design concepts that balance environmental and economic benefits while enhancing the campus as a natural resource.
- Strengthen connections between programs and campus areas by improving pedestrian environments and pathways within the campus.
- Enhance campus pedestrian connections between academic and athletic site facilities.
- Create innovative programming to accommodate increasing enrollment while sustaining a tradition of quality and service.

1.5 Concomitant Agreement

The City of Puyallup and the then property owner Beim & James Properties II entered into a Concomitant Agreement on May 30, 1986 (Pierce County AFN: 8609290435) (see Appendix 9.1.1) describing the use and development of an 84.33-acre site. The Concomitant Agreement was established as a condition of the rezoning of property from Residential Single-Family (RS) to Industrial (I). To ensure the compatibility of the uses that could occur on the site with planned adjacent residential uses, the Concomitant Agreement contained a variety of specific conditions that included identifying permitted and conditionally permitted uses, identifying development standards (e.g., lot area, lot width, setbacks, etc.), and establishing perimeter buffers and restrictions on site access.

Two notable conditions are found in the Concomitant Agreement that have influenced design of the site. One condition involved establishment of a 100-foot minimum setback and native vegetation buffer along the easterly and northerly property lines where the site abuts Wildwood Park Drive and the Parkwood subdivision, respectively. The other notable condition prohibited direct access to Wildwood Park Drive except at the proposed Wildwood Park Drive/104th extension.

On August 5, 1987, the Concomitant Agreement between Beim & James Properties II and the City of Puyallup was clarified and amended to address stormwater drainage problems that were occurring in the basin (Pierce County AFN: 8708050428) (see Appendix 9.1.2). The agreement stipulated conditions by which the property owner, the City of Puyallup, and Pierce County would cooperate in resolving regional drainage issues. This involved the construction of stormwater ponds, unblocking culverts, and establishing cost sharing responsibilities.

On June 5, 2003, the Concomitant Agreements covering the site were amended (Pierce County AFN: 200306050075) (see Appendix 9.1.3). Prior to the amendment of the Concomitant Agreement, the site was purchased for use by Pierce College. The amended Concomitant Agreement explicitly clarified that a community college was consistent with the original Concomitant Agreement's allowed uses under the Professional Offices and Services category and also stipulated that Pierce College would be required to submit a Binding Site Plan to identify access, utilities, and storm drainage facilities.

The amended Concomitant Agreement also replaced the prohibition on direct access to Wildwood Park Drive with a new requirement stipulating that Pierce College perform a site access study for each phase of the Master Plan. The amended Concomitant Agreement also identified two potential locations for a second access to the site which included westerly to the 5th/7th connection and to Wildlife Park Drive. The amended Concomitant Agreement required that access to Wildwood Park Drive to the east of the campus would be evaluated during the development of any major campus addition and only be required when level of service operation would justify additional access and such access is approved by the City Council. The connection to the 5th/7th Connector was constructed after approval of Pierce College's 2008 Master Plan.

Pierce College intends to reassess the ongoing applicability of the Concomitant Agreement during the next update to the Master Plan.

2 Existing Conditions

2.1 Site Location and Land Use

The Pierce College Puyallup campus is located within the city limits of Puyallup and sits on approximately 129 acres of land in two large land areas separated by a 60-foot wide natural gas line easement. The forested setting is situated just off the fast-paced Puyallup South Hill corridor. Main entry to the campus is from the south via a heavily landscaped, divided entry drive off 39th Avenue SE. On the west, the campus extends to border Bradley Lake Park, linking the campus with the City's public park and sports field. A secondary entrance is via the campus drive (College Way) that extends across the north end of Bradley Lake Park connecting the campus with 7th Street SE on the west.

The main and southern campus areas are bounded by Wildwood Park Drive on the north and east, by 39th Avenue on the south and industrial property on the west. The more northern campus parcel, which is scheduled for athletic field and related facility development, is bounded by residential property of the Parkwood Subdivision on the north, by Wildwood Drive to the east, by industrial uses to the south, and by Bradley Lake Park to the west.

The campus site has a high point along 39th Avenue near the main entry point and slopes steadily down to the north and east. Along the eastern side of currently developed land, a steeper slope drops to the east ending in a wetland pond near the intersection of 39th Avenue and Wildwood Drive. Just north of the wetlands area, a pond has been developed for campus storm water detention. Further details on the wetlands, and other critical areas on the site can be found in section 8 Environmental Analysis. Before development the site was largely covered with second growth timber and since development, large tree buffer areas have been retained as well as significant tree groupings located between buildings and parking areas.

Primary land use on the site is academic buildings for the College. Related facilities include the college library, college administrative offices, a student center including food service, a campus bookstore, small performance spaces, lecture halls, grounds maintenance buildings, athletic courts and proposed ball fields. Unrelated to the College, but located in the far southwest corner of the campus, is a small building housing the City of Puyallup's 911 Call Center. There is no campus housing, student housing or residential use currently located on the campus..

2.2 Existing Facilities

Gaspard Administration Building

This is the original campus building. Completed in 1990, this single story 41,500 sq. ft. building remains in excellent condition and has undergone minor renovations from 2005 through 2013. The building originally included almost all campus functions, many of which have relocated to newer campus structures. The building now includes a number of standard multi-use classrooms, conference rooms, the College's administrative offices, offices for the entire Pierce College district, academic records, enrollment, counseling, and other student service offices.

The building is slab-on-grade and steel construction with brick veneer including a few areas of stucco finish. Roofing includes a standing seam metal roof with some areas of low-pitch, single-ply roofing and several large skylights.

Gaspard Administration Building, est 1990

Library/Sciences Building

The second major building constructed on campus was completed in 1997 and is approximately 55,000 sq. ft. over two levels. The upper floor includes a campus library, several classrooms, recording, video and graphics studios, and a 150-seat lecture hall. The lower level includes a number of laboratory and classroom spaces, preparation and storage rooms, and faculty offices.

The Library/Sciences Building is steel frame with brick veneer and a number of large bay windows. The roof structure includes two large mechanical penthouse spaces, fans and vent stacks for the science room fume hoods, and two large skylights, one over the building's lobby and another over the library atrium. The roof is standing seam metal with some areas of single-ply, low pitch roofing.

Library/Sciences Building, est 1997

College Center Building

Completed in 2004, the 57,000 sq. ft, two-story building houses a wide variety of campus activities including food service, a bookstore, the campus newspaper, student lounges, large meeting rooms, student activity rooms, computer classrooms and computer laboratories, a number of faculty offices arranged in suites around reception, workroom, and conference spaces.

The building is steel frame with brick veneer with a number of cast-in-place and pre-cast concrete trim elements. A large, two-story glass wall opens up the student commons space. The roof structure includes a mechanical penthouse, clerestory windows above the student commons and above several computer classrooms. Roofing is both standing seam metal over steeply pitched areas and single-ply over low pitch areas.

College Center Building, est 2004

Garnero Child Development Center

Completed in 2007, the facility includes four childcare classrooms, an administrative office area, and kitchen. This facility provides learning space for toddlers and preschool children of student-parents, employees, and the community. The facility is a 7,735 sq. ft. single story wood frame structure.

This building has exposed wood post and beam construction with wood car deck roofing. Building exteriors are also wood and are stained or painted to blend with other campus buildings. The building includes large windows and a low pitch built-up roof.

Garnero Child Development Center, est 2007

Health Education Center

The Health Education Center is a 16,636 sq. ft. facility constructed in 2008. The facility provides instructional and exercise areas administrative spaces, locker rooms, and several exercise equipment rooms and health education classrooms.

This building is steel frame with brick veneer and some metal panel, the roof is a low-pitch membrane over metal deck.

Health Education Center, est 2008

Arts and Allied Health Building

This is the newest building at the Puyallup campus and it supports an array of programs including the College's nursing program. Constructed in 2010, the two-story building is 61,597 sq. ft. and includes six general classrooms, one computer classroom, a recital hall/music theatre, two multi-media classrooms, seven music practice rooms, and a nursing lab.

The building is a LEED Gold certified, steel-frame structure, with brick veneer and a rooftop garden.

Arts and Allied Health Building, est 2010

Faculty Office Building
This small portable structure of 2,772 sq. ft. is located east of the Library Science Building and houses a number of faculty offices and workrooms. The building is situated in an area that is not suitable for future reconfiguration or expanded use. It is also not supported with maintenance and operations funding from the state. The College is seeking near-term opportunities to eliminate the need for this facility and to house uses located there to other space.

Maintenance Facility
Located near the southwest corner of campus by the west campus loop driveway is this small, 1,200 sq. ft. pre-fabricated, un-heated metal structure. Its primary function is storage for yard work equipment, sweepers, mowers and related supplies. The building has an all metal exterior with a low pitch metal roof.

City of Puyallup Communication Center
This facility was formerly utilized as the 911 communications center for the City of Puyallup but is no longer used for this purpose. However, the City continues to lease this space. The small brick veneer building is located in the southwestern area of the site, close to 39th Avenue. The site is screened by trees and has its own driveway and parking area off the loop driveway which makes it quite isolated from the rest of campus. Future disposition of this facility is uncertain although the College has notified the City of Puyallup that it would like the space back as soon as the City finds more suitable space.

Figure 2.1 Existing Development Plan

PIERCE COLLEGE PUYALLUP CAMPUS MASTER PLAN

Existing Development Plan

EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building
PORT.	District Mar-Com Portable

LEGEND

- Existing Facility
- Wetland
- Detention Pond
- Potential Landslide Hazard Area*
- Priority Habitat Area*

*see Critical Areas map for more details

Note 1:
An existing, secondary, gated, vehicular access to the campus is provided from the 5th/7th Street Connector. The campus and this secondary access are depicted on a 30" x 42" master plan drawing on file with the City of Puyallup.

2.3 Needs Analysis

Pierce College Puyallup is a community college with a growing student population and demand for comprehensive programs. In the 32 years since the establishment of Pierce College Puyallup campus community needs, student demographics, learning needs, program offerings, and technologies have continued to evolve and expand.

Despite a statewide trend of declining community and technical colleges (CTC) enrollment, Puyallup has seen significant enrollment growth since the last Master Plan was approved by the City of Puyallup. Total enrollment has increased from 6,258 students in the 2013-2014 school year to 6,515 students in the 2019-2020 school year. While overall enrollment numbers have somewhat plateaued in the past five years, STEM enrollment has more than doubled in the ten-year period between the 2005-2006 school year where there were 1,298 STEM students and the 2014-2015 school year where the number grew to 3,247. More recently, Fall 2019 enrollments saw the associate's degrees in biology and in computer science enter the top 10 enrolled programs for the College. The College, however, has a limited number of technology programs and needs to broaden the breadth of its STEM programs to meet increased demand in these programs.

Forecasts of student enrollment suggest continued increases. The Washington State Board for Community and Technical Colleges released a summary of Fall full time equivalent (FTE) students for Fall 2018 and a projection for Fall 2028. Pierce College Puyallup had a total of 2,403 Fall FTE students in 2018 (excluding on-line students) and this was projected to grow to 2,700 in Fall 2028. Using the same compounded annual growth rate over the ten-year period of this Master Plan would forecast a total of approximately 2,829 FTE students for Fall 2032.

Specific details on short-term proposed developments are described in Chapter 3 of this Master Plan, however, general developmental needs for the College are described below.

Comprehensive Developmental Needs

i. *General space and program needs and deficiencies*

The college faces ongoing needs for space improvements as instructional methodologies, student-learning styles, and service support requirements change. Existing space needs periodic updating and renovation to remain current.

Expected Outcomes:

- A sufficient number of classrooms and computer labs, enabled with current technology to support instructional needs
- Sufficient office space is provided for full- and part-time faculty and staff
- Relocation of faculty offices are undertaken as needed
- Social and informal learning spaces are expanded
- Central "commons" spaces are provided to promote shared participation and responsibility
- Student Life space is maintained and expanded as needed
- The Food Services facility is remodeled and upgraded
- Marketing and Communications offices have been relocated and upgraded
- District administrative and support offices are appropriately located and are sufficient to support the District's mission, values and goals
- Student services areas are reconfigured and expanded to adequately house all advisors and other staff, as well as allow students to meet with advisors and others in a less public venue

ii. *Technology and equipment*

Technology and equipment needs continuously change. The College strives to offer technology and equipment that is representative of the same technology and equipment students will see either in the workplace or at universities upon transfer.

Expected Outcomes:

- All general classrooms and computer labs are equipped with current software technology and equipment to support current instruction
- eLearning has access to and is utilizing sufficient technology to support its mission fully and remain compliant with accreditation requirements
- Instructional equipment is replaced and upgraded on a scheduled basis
- The College has enough bandwidth to support future use as we expand into Open Educational Resources and new pedagogy that requires live connections to the internet

iii. *Infrastructure improvements*

In conjunction with more recently added capital inventory, we continue to support older facilities. Building infrastructure systems need to be upgraded and replaced at intervals throughout the life cycles of our campus structures.

Expected Outcomes:

- Roofs and other building envelope systems are sufficient in quality to protect structures from weather related damage
- Building mechanical systems are sufficient to maintain adequate temperatures and environmental conditions to support the learning environment
- Building electrical systems are updated and in good repair
- Parking lots and driveways are in good repair and are maintained on a planned schedule
- Elevators have been upgraded and are fully code compliant

iv. *Minor improvements*

The College is continually in the process of identifying and responding to the changing needs of the institution. This includes space modifications that better address current programmatic need, the continued development of interior wayfinding signage, and the refinement of design standards for colors, materials, furnishings, and equipment.

Expected Outcomes:

- Interior spaces are configured in a way that best meets the needs of the College and its programs and services
- Space improvements are planned strategically and are implemented on a scheduled basis that allows adequate time for completion and within reasonable cost
- Interior signage is improved and standardized
- Wayfinding signage is adequately located and provides sufficient information to direct first-time visitors to their destination
- Standards have been developed for colors and materials used throughout the College environment
- Furnishings in offices, classrooms, and common areas are in good repair and are replaced on an as-needed basis
- Carpeting is in good repair and is replaced on a planned schedule
- Interior surfaces are in good repair and painted on a planned schedule

v. *Safety and Security*

Pierce College is committed to providing a safe and secure environment for our students, employees, guests, and visitors. Interior and exterior improvements are designed and implemented in such a way as to promote a safe personal and learning environment for each of our students, a comfortable and secure environment for our employees and a welcoming environment for guests and visitors. The physical environment reflects and honors this commitment.

Starting in the 2014-2015 academic year, Facilities and Grounds employees worked together to improve sight lines along sidewalks and near buildings. Branches were raised on many trees, and bushes cut back in order to provide clear sight lines. Future work may include the removal of select trees near buildings and sidewalks. This work continues on a seasonal basis.

Emergency preparedness measures also impact our master planning efforts. Infrastructure improvements that may enable us to better withstand or recover from various emergency situations need to be factored into our master planning. The College may also be placed in the position of providing sheltering or staging for outside groups or agencies during area-wide emergencies and this will have an impact on infrastructure needs.

Expected Outcomes:

- Access control systems for buildings and interior spaces are expanded
- Emergency notification and egress systems are sufficient to ensure the immediate and safe evacuation of personnel from buildings and the campus in the event of an emergency
- Infrastructure systems are capable of supporting continued operations of key facilities for extended periods during and following emergencies
- Emergency communication infrastructure systems and devices, including standard call boxes, as well as call boxes with captioned telephone service (i.e., TTY) for the Deaf and Hard of Hearing community, are improved and expanded.

vi. *Maintenance efficiencies and sustainability*

The management of long-term operational costs of buildings and systems continues to be a major focus of the College's efforts. This includes the development of improved processes and the refinement of design standards for building systems and components to achieve better consistency of maintenance and function. Sustainable systems and practices are included in all design and implementation projects.

Expected Outcomes:

- Energy conservation measures are implemented and existing measures improved to include metering of energy consumption in all buildings
- Design standards have been developed for all building systems and components
- Serviceability of systems and equipment is sufficient to enable ease of servicing, repair and replacement
- Sustainable practices have been implemented and are in use in maintenance, grounds, and custodial operations
- Maintenance practices are streamlined and can be supported with existing personnel resources
- Maintenance, grounds and custodial personnel are receiving regular skills development training

vii. *Vehicular and pedestrian circulation*

There is a need to provide accessibility to all facilities and weave together a clear pathway system that unifies the campus, strengthens the pedestrian environment, and reinforces the campus open spaces. The main entry point on 39th Avenue SE leads pedestrians both to the central open spaces and to building entries while providing campus security.

Paths are organized to create simple and clear access to building entries and from one building to the next. The term "accessibility" also refers to the development of a physical environment that meets universal design standards. This ensures students, employees, and visitors, including those with physical limitations, experience no physical barriers to their access to and use of the College's physical environment.

The circulation plan (Figure 5.1) includes roadways that enable the passage of motorized vehicles through the campus and ready access to parking areas. Parking areas are situated to allow reasonable access to buildings and to campus entry and exit points. The Master Plan recognizes the need to provide efficient access and circulation for public transit as well as the promotion of alternative means of transportation.

There are a series of volunteer trails within wooded areas of the campus. While Pierce College does not intend to eliminate these trails, the College does not have the funding mechanisms to improve these trails to ADA standards. Moreover improvements to these trails may encourage visitors outside school hours who may compromise campus security efforts.

Expected Outcomes:

- Persons with disabilities or physical limitations do not encounter physical barriers that impede access to buildings or services
- The pedestrian environment is sufficiently developed to allow convenient and easy access from public transit, and vehicle and bicycle parking, to campus buildings
- Motor vehicle circulation and access is clear and promotes safe and convenient entry and exits to the campus and its buildings
- Alternative modes of transportation are encouraged
- Parking is sufficient in quantity to meet demand
- The College will support partnerships with the City of Puyallup and the Puyallup School District to seek grants that support capital projects and plan for improvements consistent with City planning documents.

viii. *Exterior lighting and signage*

Closely aligned with creating and maintaining a safe and secure environment, exterior lighting is a critical component of our overall master planning process. A comprehensive lighting plan is essential for the well-being of our campus community and is also a major factor in the overall appearance and appeal of the college to our community. Exterior lighting improvements, in many cases, represent a significant financial expense and must be undertaken over time as funding and opportunities present themselves. Certain areas of the campus need improved lighting (e.g., area between the Brouillet Library/Science building and the College Center building) and will be the focus in the immediate future. To address these challenges the college retained the services of Hargis Engineers to develop a long-term Lighting Master Plan, that plan is included Appendix 9.3.

Clear wayfinding and informational signage is critical to the welcoming and supportive environment that Pierce College Puyallup strives to create. To this end, the College has developed a Sign Programming Guide, included in Appendix 9.4.

Expected Outcomes:

- Sufficient exterior signage is in place to clearly guide vehicular and pedestrian traffic into and through the campus
- Exterior lighting has been expanded and improved and provides a safe, well-lit environment for parking, driveways and pedestrian pathways

ix. *Site management*

Jurisdictional requirements for best management practices of storm water runoff are becoming increasingly stringent and will be required for the permitting of future campus development. The College will continue to work with the City of Puyallup and other agencies to ensure compliance with current or anticipated ordinances and regulations.

The Campus Master Plan recognizes the need for well-developed strategies for the management of the College's land from border-to-border in order to comply with the College's goal of strong environmental stewardship. This includes a landscaping plan for those areas that are highly maintained on a regular basis and those that are less intensely managed but contribute to the overall campus environment. This also includes preservation of natural habitat and native vegetation. In 2017, the College worked with Berger Partnership, a qualified Landscape Architecture firm to develop a long-term Landscape Master Plan. That plan is included in Appendix 9.2.

Expected Outcomes:

- The College has developed a comprehensive landscaping and land management plan that recognizes the desire for an attractive and safe campus and also recognizes our commitment to environmental stewardship
- The College has developed a comprehensive storm water management plan that complies with jurisdictional mandates and supports environmental stewardship
- The College collaborates with the City of Puyallup on land protection and preservation issues

2.4 Puyallup Comprehensive Plan

The City of Puyallup's Comprehensive Plan designates Pierce College's Puyallup Campus under its Public Facilities future land use designation. This Master Plan supports the implementation of a myriad of goals and policies identified in the City's Comprehensive Plan. This section identifies the goals and policies supported by this proposal and is organized by the Comprehensive Plan Elements.

<u>Land Use Element</u>
Goals and Policies:

- LU-32: Ensure that publicly-owned lands and facilities are properly designated and zoned to inform the public of their potential use and facilitate necessary government services.
    - LU-32.1: Encourage and facilitate Master Plans for Pierce College and Washington State University Research and Extension Center to guide long-term land uses and provide opportunity for input from and establish measures of protection for the surrounding residential neighborhoods.

Project Policy Support:
The project site is situated in the Public Facilities Zone and requires submittal and approval of a master plan prior to issuance of any permits for development. The master plan is a blueprint to guide future land uses in the next ten years on the campus. The Pierce College Puyallup Master Plan maps expansion and development on the campus site in close proximity to existing development. There are large setbacks from adjacent properties as well as significant vegetative buffers meaning most structures on the campus are not visible from surrounding residential properties.

<u>Parks, Recreation, and Open Space Plan Element</u>
Goals and Policies:

- P-2: Provide for a broad range of park and recreation activities, programming and experiences for all users, addressing all community members. Include cultural programs and activities within the community.
    - P-2.1: Promote active recreation activities through the development of multi-use athletic fields.
    - P-2.5: Provide diverse recreation programs and activities meeting changing interests and trends.

Project Policy Support:
Future recreational projects on the Pierce College Puyallup campus will include the development of soccer and softball fields to be located in the western portion of the site adjacent to Bradley Lake Park, which support this goal and associated policies. The western portion of the

campus is located adjacent to Bradley Lake Park. Together, Pierce College and Bradley Lake Park equal approximately 180 acres of permanent open space.

Natural Environment Element
Goals and Policies:

- NE-2 Lead and support efforts to protect and improve the natural environment, protect and preserve environmentally critical areas, minimize pollution, and reduce waste of energy and materials.
- NE-3 Protect, integrate and restore critical areas and their aesthetic and functional qualities through conservation, enhancement and stewardship of the natural environment.
- NE-5 Preserve and protect aquifer recharge and wellhead protection zones from hazardous substances and land uses which could denigrate ground water quality.
    - NE-5.3 Where appropriate, prohibit the infiltration of runoff from pollution generating surfaces when such infiltration could pose a threat to water quality.
    - NE-5.4 Prohibit discharge of wastewater, potentially contaminated stormwater and reclaimed and greywater from infiltrating in the critical aquifer recharge area in order to preserve the quality of drinking water.
    - NE-5.5 Encourage retention of open spaces, tree protection areas, and other areas of protected native vegetation with a high potential for groundwater recharge.
    - NE-5.6 Utilize low impact development techniques such as pervious surfacing materials and rain gardens to mimic natural processes of stormwater infiltration.
- NE-7: Identify and protect wetland resources and ensure "no net loss" of wetland function, value and area within the city. Engage citizens in the restoration, protection and stewardship of wetland resources throughout the city.
    - NE-7.1: Preserve wetlands to achieve no net loss of wetlands function and value by using size and value of the wetlands to determine the amount of development allowed, if any. Seek to maintain wetlands acreage over the long term.
    - NE-7.2: Require buffers adjacent to wetlands to protect the ecological functions integral to healthy wetland ecosystems. Buffer sizes should be tailored to protect the wetland's functions within the surrounding landscape and buffer, particularly when the wetland provides a high level of habitat value.
- NE-8 Protect, improve and enhance the quality of all aquatic resources city-wide through best management practices, with a distinct emphasis on mimicking natural processes and use of low impact development techniques.
- NE-11 Protect clean air and the climate for present and future generations through reduction of greenhouse gas emissions, and promotion of efficient and effective solutions for transportation, clean industries, and development.
- NE-13 Identify sources of light pollution impacts, take actions to protect the community from harmful and unnecessary sources of glare and illumination, and enhance the ability to enjoy dark night sky in the urban environment.

Project Policy Support:
In accordance with the City's Municipal Code and Comprehensive Plan policies, the wetlands existing on the site were delineated by a wetland biologist and the appropriate wetland categorization was confirmed by the City during the approval of the previously adopted Master Plan. The projects included within the Master Plan update are located outside critical areas, including wetlands and the established buffers, in keeping with the City's mandate to protect and preserve wetlands.

The on-site stormwater system follows the most recent version of the Department of Ecology Stormwater Management Manual for Western Washington and will continue to be upgraded as future developments are constructed on the campus. Future developments will incorporate green infrastructure techniques where feasible. To minimize light pollution impacts, developments will be confined to areas with existing development and large setbacks from neighboring streets.

Community Character Element
Goals and Policies:

- CC-2 Puyallup's built environment is characterized by high-quality urban design that accommodates a mix of compatible residential, commercial and light industrial uses.
    - CC-2.2 Encourage building design that creates distinctive places in the community
- CC-3 Natural land forms, vegetation, and scenic areas that contribute to the City's identity and visually define the community, its neighborhoods and districts are preserved.
    - CC-3.1 Encourage development to consolidate onsite landscape areas to be large enough to balance the scale of development.

- CC-3.2 To the greatest extent feasible, preserve significant trees and mature vegetation.
- CC-3.3 Prohibit use of invasive species in required landscaping, and encourage use of native plant species whenever possible.
- CC-3.4 Maximize canopy coverage throughout the City to create comfortable pedestrian environments, provide stormwater benefits and mitigate micro-climate impacts.

- CC-6 Create a built environment that promotes public gathering in a variety of forms and locations throughout the community while taking advantage of the surrounding natural features.
  - CC-6.1 Encourage and develop places and events throughout the community where people can gather and interact.

Project Policy Support:
Future development at the College will incorporate modern design standards that complement existing infrastructure on campus. Connected pathways between buildings, plazas, and green spaces provide public spaces for both students and members of the public to gather outdoors. The 100-foot buffer along the northern and eastern site boundaries, as well as the 60-foot buffer on the western boundary on the southern portion of the site, will remain in place. This will continue to preserve native plantings, significant trees, and mature vegetation.

Transportation Element
Goals and Policies:
- T-3.3 Improve the transportation system concurrently with increasing demands due to growth.
  a. Track transportation concurrency to ensure that infrastructure can accommodate growth and maintain level of service standards.
  b. Require developers to perform a transportation impact analysis, at the discretion of the City Engineer, to demonstrate the effect of significant additional travel demand from their projects on the transportation network. In the event the analysis shows that the project would impact the level of service in the affected area, new development is responsible for improvements to the transportation system. If the existing vehicle level of service is below the standard, the developer shall mitigate impacts to the pre-developed level of service condition plus an allowable increase in delay of up to 15%.

- T-4 Build an interconnected transit, walking, and bicycling network.
  - T-4.3 Develop a comprehensive active transportation circulation plan and implementation program to enhance community access and promote healthy lifestyles.
    c. Identify future facilities for an interconnected walking and bicycling network, specify the appropriate treatments, and prioritize projects based on benefits and costs to provide safe travel for pedestrians and bicyclists. Consider shared use facilities for pedestrians and bicyclists when feasible.
- T-5 Create a roadway network that efficiently and safely moves people and goods.

Project Policy Support:
As part of this Master Plan permit application the College has included a Traffic Impact Analysis to ensure proposed development will be supported by sufficient transportation systems and on campus parking. The Master plan also includes a circulation plan. The college supports the development of an interconnected walking and bicycling network if and when funding was to become available.

Utilities Element
Goals and Policies:
- U-1 Coordinate and cooperate with state, federal, and local jurisdictions, private water purveyors, privately-owned utilities purveyors, private industry, business and citizens in the planning and development of public utilities facilities in a manner that supports the planned growth of the community.
- U-2 Ensure that adequate water quantity and quality provided by either City or private water purveyors is available to all existing and future customers in the City and Urban Growth Area in a manner that supports the planned growth and development of the community.
- U-3 Promote long term protection of critical groundwater resources.
- U-5 Control the quantity and quality of stormwater produced by new development and redevelopment such that they comply with water quality standards and contribute to the protection of beneficial uses of the receiving waters.

Project Policy Support:
The college supports the City's efforts to provide adequate public facilities and water quality to support the growth and developments on the campus. The on-site stormwater system follows the most recent version of the Department of Ecology Stormwater Management Manual for Western Washington and will continue to be upgraded as future developments are constructed on the campus.

<u>South Hill Neighborhood Plan Policies</u>

General Use Policies

- SH-6 The South Hill land use pattern and intensity encourages residents to walk, bicycle, and actively engage in their community, and a growing number of people live and work in the neighborhood as land uses intensify and diversify.

Policies Common to All Zones

- SH-9 An urban form has been established that encourages pedestrian activity and transit use by increasing connectivity within the street and pedestrian networks, integrating amenities such as street trees, public spaces, etc., minimizing conflicts between cars and people, and strengthening the relationship between buildings and the street.
  - SH-9.4 Consider the desired urban form of a more walkable and connected community built around a green infrastructure framework in the development of transportation, capital improvement, and utility policies, standards and required improvements.
  - SH-9.7 Encourage place-making and a dynamic public realm by integrating publicly accessible plazas, open spaces and other gathering spaces with new development and redevelopment, in public and private projects.

Public Spaces

- SH-12.9 Protect and enhance the system of wetlands within the South Hill Center and encourage new development to have visual and physical connections to these areas so that they serve as open space amenities for residents.

Public Service and Utilities

- SH-14.1 Require concurrency, including but not limited to adequate water, sewer, stormwater and transportation facilities, for all development in the South Hill Subarea.

Green Infrastructure Integration Policies

- SH-15.3 Prioritize plan green infrastructure improvements and use them to establish an identity for the South Hill Center.

Parks, Open Space and Trails

- SH-17 The neighborhood contains an interconnected system of open spaces, parks, and public spaces that provide an amenity for South Hill residents, employees, and the broader community, as well as contribute to an alternative non-motorized transportation network.
  - SH-17.4 Encourage new development to be designed to accommodate both visual and physical connections to the system of trails and open spaces that are planned for the South Hill Center.
  - SH-17.5 Encourage new development and redevelopment occurring within the vicinity of or adjacent to Bradley Park to provide trail connections to the Park.
  - SH-17.6 Provide safe and clearly marked walking connections between South Hill and adjacent schools and neighborhoods outside of the Center.
  - SH-17.7 Provide improved connections and wayfinding specifically between the South Hill Center and Rogers High School, the Wildwood neighborhood, Bradley Lake Park trails, Pierce College trails and paths and roadways on the Benaroya site.

Transportation

- SH-19 Streets safely and conveniently accommodate all modes of travel, resulting in an improved street grid and a balanced transportation system with investments that contribute to the sense of place and sustainability of South Hill.
  - SH-19.1 Support the South Hill Plan with a multi-modal transportation system that provides improved connections and mobility with the subarea and to other parts of the City and region.
  - SH-19.2 Plan for and provide complete streets and integrate existing and future transportation improvements into the larger context of the green infrastructure system.
  - SH-19.13 Consider establishing maximum parking requirements, shared parking requirements, priority carpool parking areas and using other tools to manage the parking supply and encourage the use of transportation alternatives to single occupancy vehicles.
- SH-20 A comprehensive non-motorized circulation plan safely enhances pedestrian and bicycle access throughout the Regional Growth Center.
  - SH-20.1 Include bicycle and pedestrian facilities in the design of arterials and local streets and improve connectivity with the development of a comprehensive sidewalk and trail system, including mid-block crossings, through block connections and amenities such as lighting, seating and signage.
- SH-21 A robust transit network connects users within and to the Regional Growth Center and reduces single occupancy vehicle demand.
  - SH-21.2 Work with Pierce Transit to ensure that feeder transit service is provided along 39th Ave. SW to link schools, employment, and housing to BRT.

Project Policy Support:

The Master Plan supports a variety of goals and policies in the South Hill Neighborhood Plan, many of which align with policies in the City's Comprehensive Plan. Proposed developments within the campus include interconnected pathways between buildings and street frontages, and the preservation of wetlands associated buffers, and green spaces. Developments will be supported by sufficient parking spaces for both vehicles and bicycles, as well as public utilities and onsite stormwater treatment.

The College will support partnerships with the City of Puyallup and the Puyallup School District to seek grants that support capital projects and plan for improvements consistent with City planning documents.

3 Conceptual Phasing Development Plan

3.1 State Biennial Phasing Plan

All major capital facilities projects on the Pierce College Puyallup campus are necessarily linked to the state's two-year (biennial) funding cycle. The cycle is directly connected to the short and long sessions of the State Legislature and their capital facilities budgeting process. For major new construction projects this means that projects are funded for two years of pre-design planning, design, and construction documents, and funded a final two years for project construction phase. Major projects are therefore in process at least four years and major projects often overlap. Given the State of Washington's continually changing financial situation, future projects identified in the College's Master Plan are not assured of success and may be delayed; therefore, project phasing is difficult to predict. On smaller projects and those with other sources of funding, the College may have other phasing options.

The new Science, Technology, Engineering, and Mathematics (STEM) building is the first proposed new development for the College. The College submitted a capital request and was approved to proceed with Pre-Design and Design in the 2019-2021 biennium. The STEM building was included in the State's 2021-2023 Capital Budget which was approved by the State Legislature in April 2021.

Anticipated project phasing on six-year cycles is shown in the table below.

Table 3.1: Anticipated Project Phasing Development Cycles

Science, Technology, Engineering, and Mathematics (STEM) Building	2019 - 2025
Surface Parking Expansion	2021 - 2023
Gaspard Administration Building Remodel	2023 - 2025
Storage Facility	2023 - 2025
Maintenance Shop Expansion	2023 - 2025
Vertical Parking Structure	2027 - 2032
Transit Loop Reconfiguration	2027 - 2029
Athletic Field Development	2027 - 2032

3.2 Proposed Projects

Through the process already described, the College identifies near-term and long-term development needs. Short-term project needs are covered in this Master Plan and are described in the following sections. Figure 3.3 illustrates the location and approximate building footprints of proposed short-term developments.

The projects listed in this section were prioritized based on the following criteria:

- Community/industry need (e.g., addressing a national need for Science, Technology, Engineering, and Mathematics majors on a local level)
- A need identified in the District Learning and Student Success Strategic Plan
- Current enrollment information and future enrollment projections
- Funding opportunities
- Potential for capital funding

Science, Technology, Engineering, and Mathematics (STEM) Building

Pierce College Puyallup's existing science facilities do not meet current needs (e.g., there is no organic chemistry laboratory and there has been a steady growth in the need for STEM classes over the last ten years). The College does not have the appropriate space, equipment, or technologies to adequately support current and anticipated instructional methodology in STEM.

Analyses show that STEM enrollments have been on a steady increase from 1,298 enrollments in 2005-2006 to 2,939 enrollments in 2014-2015, and more recently the College has seen an increase in enrollments in biology, computer science, and engineering associate degrees.

A new facility would replace older instructional environments with more robust capabilities, allow the College to expand programs (e.g., double the size of the Computer Network Engineering program, add 3-D Printing/Robotics and Additive Manufacturing), allow the College to offer the complement of transfer STEM-related courses, and would ensure program viability for the next generation of students. The proposed new facility would be an approximately 53,800 square-foot building that would include teaching labs, a fabrication lab, several classrooms, a double classroom, multiple faculty offices, informal learning and study spaces, as well as new surface parking stalls.

The Pre-Design progress was completed in late July 2020 and the design phase began in Fall 2021. Phased construction is anticipated to start in May 2022 and be completed in the summer of 2023. The exterior materials will be selected to work with the existing campus material pallet and are likely to be a mixture of brick, concrete and metal panels.

Preferred site for proposed STEM Building

Parking Expansion/Parking Structure

For the last several years, prior to the COIVD-19 pandemic, parking on campus is insufficient during peak-hours each weekday. The current deficit is 32 parking spaces for the campus. This deficit was calculated during a 2015 Parking and Trip Generation study (revised in January 2022) conducted by TENW (Appendix 9.6). The parking study found that based on peak average observations, a parking demand ratio of 5.6 stalls per 1,000 square feet of gross floor area was determined. Future construction will require parking expansion. The existing and proposed campus parking lots are shown in the Figure 3.3 Short-Term Development Plan.

The first parking expansion phase includes ADA improvements and six new parking lots. In September 2020 a parking feasibility study was completed. Six options were selected for design, permitting, and construction beginning in Summer 2022. The proposed parking expansion would see an addition of approximately 482 parking spaces.

Table 3.2: Parking Lot Expansion

Location	Number of Stalls
North of Health Education Center	140
Northeast of Arts and Allied Health Building	106
Single row parking along the north and east sides of main perimeter circulation lane	92
East of Garnero Child Development Center	75
North of the main entrance to campus from 39th Street SE	56
Southeast of Gaspard Administration Building	13
Total	**482**

Space for further additional parking is limited due to natural terrain and wetlands. Future expansion will probably require construction of a vertical parking structure with approximately 150 additional parking spaces in order to minimize further encroachment of ground level parking surfaces outside currently developed areas. The proposed vertical parking structure is located in the northwestern corner of the existing parking lot, west of the Arts and Allied Health Building. Development of the proposed athletic and sports fields will also include additional parking next to the fields in the northwestern corner of the campus.

In addition, the College may need to explore modifications to the current parking options. The College intends to explore opportunities to provide EV charging facilities through partnerships with private EV charging providers to encourage the use of electric and hybrid vehicles. Covered bicycle parking may also be added as the College expands. Currently, there are seven bicycle racks that provide parking for a total of 98 bicycles.

Gaspard Administration Building Remodel

The Administration Building is inadequately configured to support the College's current needs. Over the next few years, the College will be conducting a series of space modifications in this building to better support student services and administrative functions.

Storage Facility

The College has insufficient storage space to support both instructional programs' needs and needs for furnishings and equipment to support College and community events. This is of particular concern in the Arts and Allied Health Building, where, as a result of rapidly escalating construction costs being experienced during late design, and project bid and subsequent impact on the project's final scope, approximately 8,000 square feet of storage and related spaces were removed prior to bidding and construction . It was decided to keep the academic programs intact as much as possible. In order to do this, there was a reduction in storage space, maintenance areas, and other non-instructional space.

With a commitment to increase theatre offerings at the College, and the recent faculty hire, there was a need to access the theatre workspace areas that were being used for storage. Furniture (e.g., 120 chairs) and other equipment for hosting events, which were purchased and stored in the support areas of the Arts and Allied Health Building Theatre and the Black Box Theatre, had to be moved to stairwells throughout the building.

The College does not have an alternate space and is currently investigating options. The most plausible option at the moment is to build a temperature-controlled building in close proximity to the Arts and Allied Health Building. The proposed storage facility would be approximately 8,000 square feet and the location is shown on the Short-term Development Plan (Figure 3.3) just north of the Arts and Allied Health Building.

Maintenance Shop Expansion

The existing maintenance shop is inadequately sized and configured to support the existing needs of the College for maintenance and grounds services. It may be possible to expand rather than replace the existing structure, but this requires further investigation.

Transit Loop Reconfiguration

The main campus entrance does not provide easy access and routing for drop-offs and public transit. The entrance is also configured in such a way that the campus is largely hidden from the main public right-of-way.

Pierce College will engage in cooperative planning with Pierce Transit on bus rapid transit planning for the reconfiguration of the existing transit loop.

Reconfiguration of the transit loop is planned in conjunction with the construction of the new parking area north of the main entrance to campus from 39th Street SE. This will enable a shorter turn around for transit and may also make it easier for Pierce Transit to expand routes as the reconfiguration would be more accessible. See Figure 3.1 and 3.2 for the existing and proposed transit loop.

Figure 3.1 Existing Transit Loop at Main Entrance

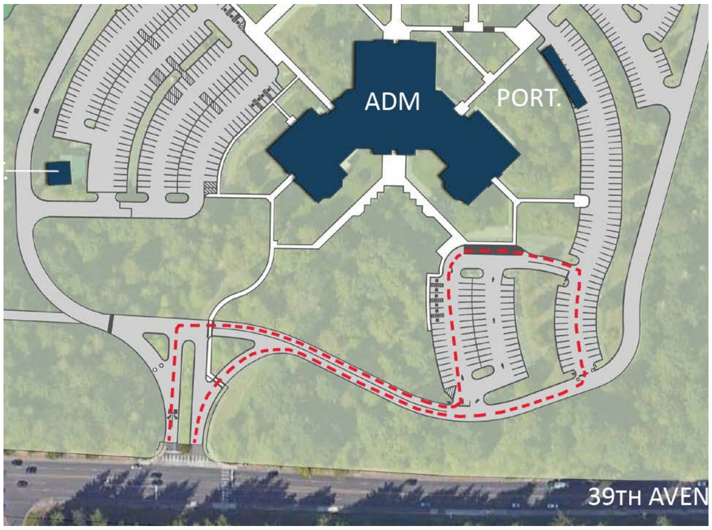
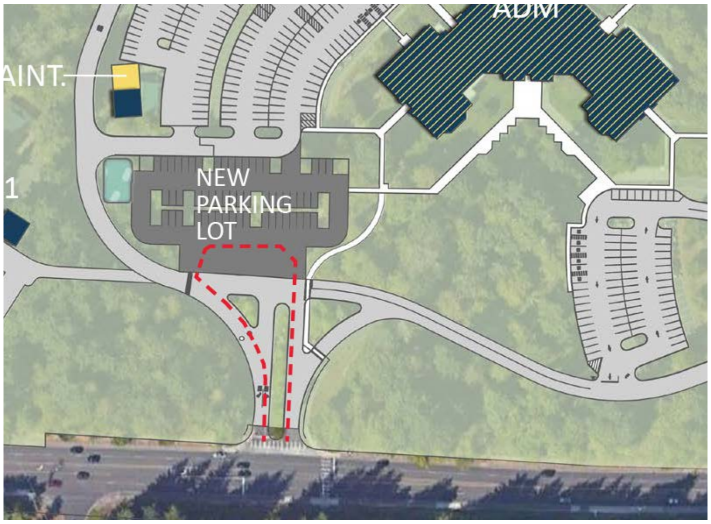


Figure 3.2 Proposed Transit Loop at Main Entrance



Communication Center Acquisition

The City of Puyallup no longer utilizes the small structure on campus as the 911 Communications Center as they needed to expand and moved into a new facility across the street from the campus. Although the City cannot use the old 911 Communications Center (i.e., the one on our campus) for other purposes without the College's permission, they do use the space for an extension of their current 911 Communications Center by housing several servers in the building. In addition, they use the space for storage. The College has met with the City on two occasions during the 2013-2014 academic year to express an interest acquiring the facility and converting it for other needed purposes. Although it appears to be at least three years out that this could come to realization, our need is documented with the City should the opportunity arise.

Gender Inclusive Restrooms

There has been increasing need for additional gender inclusive restrooms on campus. Currently there are four gender inclusive restrooms on campus: one in the Arts and Allied Health building; one in the College Center building, and two in the Health Education Center. If additional gender inclusive restrooms cannot be identified out of existing restrooms, then the College either needs to add them when new buildings come online, or it needs to identify one or more restrooms for a remodel. Facilities is currently exploring the need and the options.

Athletic Field Development

The District's current intent is to primarily support athletic field sports at Pierce College Puyallup and to maintain court sports at Pierce College Fort Steilacoom. The athletic fields will host men's and women's soccer, and women's softball. Games and practices are anticipated to take place in the afternoon as the athletic fields will not be illuminated by field lighting. Additional parking will be provided near the athletic fields to accommodate players, coaches, referees/umpires, and spectators. See section 5.1 for more detail.

The development of athletic fields and associated facilities is dependent on future funding. The State does not currently provide a funding mechanism for the construction of athletic fields. Students may, however, vote to establish a fee for the construction of the athletic fields.

3.3 Supporting Comprehensive Plan Policies

Parks, Recreation, & Open Space Plan Element

- P-2: Provide for a broad range of park and recreation activities, programming and experiences for all users, addressing all community members. Include cultural programs and activities within the community.
  - P-2.1: Promote active recreation activities through the development of multi-use athletic fields.

South Hill Neighborhood Plan Policies

Public Spaces

- SH-12.9 Protect and enhance the system of wetlands within the South Hill Center and encourage new development to have visual and physical connections to these areas so that they serve as open space amenities for residents.

Public Service and Utilities

- SH-14.1 Require concurrency, including but not limited to adequate water, sewer, stormwater and transportation facilities, for all development in the South Hill Subarea.

Figure 3.3 Short-Term Development Plan

PIERCE COLLEGE PUYALLUP CAMPUS MASTER PLAN

Short Term Development Plan

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facility
- Future Renovated Facility
- Wetland
- Detention Pond
- Potential Landslide Hazard Area*
- Priority Habitat Area*

*see Critcal Areas Map for more details

EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building

FUTURE PROJECTS

ATHLETIC FIELDS	New Fields for Softball and Soccer
ADM	Administration Renovation
LSC	Learning Resources Renovation
PARKING	New Parking Structure for Classroom Buildings
STEM BUILDING	New Science Technology Engineering and Math Building
STORAGE	New Campus Storage Building
MAINT.	Maintenance Shop Expansion
PORT.	Remove Portable Structure
NEW PARKING LOT	New Parking for Campus and Athletic Fields

Note 1:
An existing, secondary, gated, vehicular access to the campus is provided from the 5th/7th Street Connector. The campus and this secondary access are depicted on a 30" x 42" master plan drawing on file with the City of Puyallup.

4 Development Standards and Design Guidelines

4.1 Public Facility Zone Development Standards

Pierce College Puyallup is in the Public Facility Zone. The development standards for this zone and the proposed Master Plan development standards are shown in Table 4.1 below.

Table 4.1: General Development Standards

Public Facility Zone (PF) Development Standards	Proposed Master Plan Development Standards
Minimum lot size: none.	No changes to PF development standards proposed.
Minimum lot width: none.	No changes to PF development standards proposed.
Minimum lot depth: none.	No changes to PF development standards proposed.
Minimum front yard setback: 20 feet, or same as the most restrictive abutting zone, whichever is greater; or as otherwise established through a conditional use permit or master plan.	No changes to PF development standards proposed.
Minimum rear yard setback: 20 feet, or as required in PMC 20.26.500, whichever is greater; or as otherwise established through a conditional use permit or master plan.	No changes to PF development standards proposed.
Minimum side yard setback: 20 feet, or as required in PMC 20.26.500, whichever is greater; or as otherwise established through a conditional use permit or master plan.	No changes to PF development standards proposed.
Minimum landscaped setback along common boundary with any R zone (see PMC 20.44.020 (7)).	No changes to PF development standards proposed. Master Plan adheres to minimum landscape standards established by the Concomitant Agreement (100-foot vegetation buffer on northern and eastern property line (Wildwood Park Drive).
Maximum building height: same as the most restrictive abutting zone at the required setback line; building height may be increased one and one-half feet for each additional foot of setback up to a maximum height of 50 feet; or as otherwise approved through a conditional use permit or master plan.	Maximum building height 60 feet.
Landscape buffers – PMC 20.58.005 and VMS design manual.	Master Plan will comply with landscaping requirements per PMC 20.58.005 and VMS design manual. Master Plan adheres to minimum landscape standards established by the Concomitant Agreement (100-foot vegetation buffer on northern and eastern property line (Wildwood Park Drive).
Performance standards for PF zone – see PMC 20.44.045.	Master Plan will comply with PF zone performance standards.

4.2 Building Size and Lot Coverage

The total site for Pierce College Puyallup is 129.4 acres. Existing lot coverage is 1,101,415 square feet (19.5%) and proposed lot coverage is approximately 283,455 square feet . This gives a combined lot coverage of 1,301,108 square feet (23.1%). Table 4.2 describes the existing facilities building size and lot coverage and Table 4.3 describes the best estimate of proposed facilities building size and lot coverage.

Table 4.2: Existing Facilities and Other Impervious Surfaces

Facility Name	Footprint (sq. ft.)	Floors	Total Size
Gaspard Administration Building	41,500	1	41,500
Brouillet Library/ Science Building	27,500	2	55,000
Maintenance Building	1,200	1	1,200
Arts and Allied Health Building	30,800	2	61,597
College Center Building	28,500	2	57,000
Garnero Child Development Center	7,735	1	7,735
Health Education Center	8,320	2	16,636
Portable Building	2,772	1	2,772
City of Puyallup Communications Center	2,688	1	2,688
Existing Facilities Sub-Total	**151,015**		**246,128**
Other Existing Impervious Surfaces			
Surface Parking	536,100		536,100
Roadways	272,600		272,600
Walks and Hardscapes	141,700		141,700
Existing Impervious Surfaces Sub-Total	**950,400**		
Total Existing Lot Coverage	**1,101,415 (19.5%)**		

Table 4.3: Proposed New Facilities, Expansions, Removals and Other Impervious Surfaces

Proposed Facility Name	Footprint (sq. ft.)	Floors	Total Size (sq. ft.)
STEM Building	21,605	3	53,800
Storage Facility	8,000	1	8,000
Maintenance Shop Expansion	1,600	1	1,600
Athletic Field Development (buildings)	10,460	1	10,460
Remove Portable Building	(2,772)	1	(2,772)
Proposed Facilities Sub-Total	**38,893**		**71,088**
Other Proposed Impervious Surfaces			
Surface Parking Expansion	160,800	2	160,800
Vertical Parking Structure*	-	2	75,000
Proposed Impervious Surfaces Sub-Total	**160,800**		
Total Proposed Lot Coverage	**199,693**		
Total Proposed + Existing Lot Coverage	**1,301,108 (23.1%)**		

**Constructed on existing impervious surface*

4.3 Building Heights

All buildings on campus to date are one or two floors. Some also have mechanical mezzanine floors. Campus planning at the current time calls for new structures to be one or two floors as well, with the exception of the new STEM Building (currently in Pre-Design), which is proposed to be three stories with a building height of up to 60 feet. However, as the campus develops and open land becomes more premium, the need may arise for additional new facilities to be up to three full floors. When and if this happens, these structures would most likely be downhill at the northern end of the site, so that the overall height of campus buildings does not extend beyond existing heights.

Most campus buildings also have some roof elements to improve their massing or usefulness for spaces inside. It is the intention of this Master Plan to allow this flexibility for future designs to include pitched roofs, clerestory structures, service penthouses, feature skylights, large canopy roofs, or stepped roofs.

Current campus buildings range in height from 30 to 45 feet. With the potential for a third or fourth floor on some future buildings, the College is requesting a maximum building height of 60 feet. The proposed maximum building height will not cast shadows nor impact adjacent properties. This height keeps buildings well within the tree canopy of the site and, given campus setbacks and buffers from adjacent roadways and properties, would make most buildings not visible from adjacent properties or rights-of-way.

4.4 Landscape Buffers, Open and Green Spaces

Pierce College Puyallup is located in a forested setting just off the fast-paced South Hill commercial corridor. The campus extends to border Bradley Park, linking the campus with the City's public park and sports fields. Retaining and developing the sense of tranquility of the campus is of great importance for the College to help protect its land resources and shape surrounding development's type and tempo. The College is determined to be a responsible steward of the community's and state's investment in the campus.
Through a continual master planning process, the College will preserve the site's natural assets and existing facilities and, with careful expansion, they will meet the increasing demands of a community undergoing significant growth and cultural transformation.

To make the most of obvious and hidden assets, the College proposes to:

- Develop sustainable campus design concepts that balance environmental and economic benefits while enhancing the campus as a natural resource.
- Construct new projects on campus that meet Leadership in Energy and Environmental Design (LEED) silver rating requirements at a minimum.
- Strengthen connections between programs and campus areas by improving pedestrian environments and pathways within the campus.
- Enhance campus pedestrian connections to the adjacent lake and Bradley Park.
- Create innovative programming to accommodate increasing enrollment while sustaining a tradition of quality and service.

General campus soils include a relative thin top layer of organic forest floor material under laid by dense clay-like materials that drain poorly and are difficult to work when wet. Although the site was largely forested in its undeveloped state, many of the trees have shallow and wide-spreading roots. The College has learned that to preserve native trees, large groupings of them must be left intact. Individual trees allowed to remain and trees at the edge of development seem to be most vulnerable to wind damage, infestation and disease. The College has also learned that oversized drainage areas and ponds are required to accommodate storm water because of low percolation rates. All buildings on campus must also include extensive below floor drainage systems.

Because of these goals and concerns the College Master Plan includes a number of large buffers, setbacks, and open and green spaces shown on Figure 4.1 Landscape Buffers:

- A 100-foot native buffer follows the entire frontage on Wildwood Park Drive. In reality this buffer is much larger in numerous locations up to 300 to 700 feet to accommodate several steep slopes, wetland areas and stands of mature trees. These areas will all be left to native growth.
- Established wetland buffers have been honored through this design. Nine wetland areas have been identified.
- An approximately 60-foot buffer of native growth is maintained along the western property line.
- Setback from 39th Avenue to the internal campus roadway varies from 100 to 200 feet. This area will be left to native growth.
- In the northern parcel area, setbacks for roadways and ball fields vary from 80 to 100 feet.
- All major buildings on campus are set back from property lines by 200 to 300 feet.
- Existing major campus open space areas include plazas to the north and south of the Administration Building, and plazas at two entrances to the College Center Building.
- Master Plan development includes at least two large open space ball fields, located on the northern parcel.

Figure 4.1 Landscape Buffers

PIERCE COLLEGE PUYALLUP CAMPUS MASTER PLAN

Landscape Buffers

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facility
- Future Renovated Facility
- Wetland
- Detention Pond

Note 1:
An existing, secondary, gated, vehicular access to the campus is provided from the 5th/7th Street Connector. The campus and this secondary access are depicted on a 30" x 42" master plan drawing on file with the City of Puyallup.

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4.5 Lighting Plan

The general concept of the Pierce College Puyallup exterior lighting plan is to provide security and safety, wayfinding and orientation for pedestrians and vehicles, to identify points of entry and egress, and to illuminate locations where traffic patterns cross. A complete Site Lighting Master Plan that was prepared for both of Pierce College's campuses can be found in Appendix 9.3.

Campus buildings are well lit with a variety of lighting types

4.6 Signage

Pierce College Puyallup Master Plan includes several miles of roadways, a loop driveway and two entry drives, service drives, four major parking areas (with several additional parking areas proposed), numerous small parking areas, several miles of pedestrian walkways, campus plazas, five major campus buildings and four smaller campus buildings - all needing signage or graphics for purposes of identification, traffic control and safety, and direction and wayfinding. See Appendix 9.4 for more details.

Four levels of signage have been developed for use across the campus:

- Auto Directional & Entry Signage includes monument style signage at the College's southern and northwestern entry drives. Auto directional signage is mounted on galvanized steel poles, is dark green with white lettering, and uses the campus standard fonts "Delta Light" and/or "Delta Book". Size and mounting height of sign and size of font is appropriate to viewing distance and travel speed of viewer.
- Traffic Signage is mounted on galvanized steel poles and strictly follows national signage safety standards and requirements for size, color, shape, and mounting height. They use the international symbols for access or prohibition and use minimal English text.
- Building Signage is primarily clear anodized aluminum for both the college logo and for text.
- Pedestrian Signage may include pole-mounted, building-mounted, and small monument signage. Text will be white or clear anodized aluminum on dark green metal backgrounds.

In addition to the four signage types currently used on campus, the College plans to construct a freestanding, pole, electronic message sign, or alternatively, integrate an electronic message into a monument sign at the College main entrance.

Monument style signage at the 39th Ave SE entrance

Façade signage is clearly displayed at the building entrance.

Pierce College is requesting the following modifications from the standards in the Public Facilities zone.

Façade Signs:

- Two sq. ft. for each lineal foot of the building wall from which the sign is attached with no limit on the size.

Monument Signs

- Two monument sign per street frontage
- Sign height shall not exceed greater than six ft. above immediately adjacent grade when located within a required setback area or 15 ft. when located outside of a required setback area
- 120 sq. ft. per sign

Freestanding Signs (Other Than Monument Signs)

- To construct an unlimited number of freestanding signs that are not viewable from public rights-of-way.

Typical freestanding building identification sign.

4.7 Design Standards

As Pierce College Puyallup has developed several major projects since its opening in 1990, a number of building and landscape design and aesthetic standards have been developed that the College wishes to continue in future development.

Pierce College has purposefully elected to describe only very general standards related to; building volume and massing; building orientation; setbacks and space between buildings; exterior wall articulation and materials; roof shape, volume, material, and color; pedestrian circulation; and energy efficiency. The intent for each new building will be to support the educational objectives of the College, and be compatible with other campus architecture. Each project is required to be reviewed and approved by an internal college committee for adherence with these objectives.

PMC 20.26.300 Nonresidential Design Review Standards

Pierce College Puyallup is subject to the nonresidential design standards in PMC 20.26.300. The development standards for this zone and the proposed Master Plan development standards are shown in Table 4.4 below.

Table 4.4 Nonresidential Design Review Standards

Non-residential Design Review Standard	Proposed Master Plan Standard
PMC 20.26.300 (1). Building wall and roof modulation	Exempt from standard (buildings not visible from a public street or residential zone)
(2) Building Wall and Facade Articulation.	Exempt from standard (buildings not visible from a public street or residential zone)
(3) Site Plan Design Principles. (a) Parking Area Location.	No changes to the standard are proposed.
(b) Street Orientation.	The Master Plan does not include orientating buildings to street rights of way as identified in this standard. The Master Plan includes orientating buildings around open spaces as is typical of college campuses.
(c) Interior Building Orientation.	The Master Plan does not include orientating buildings to street rights of way as identified in this standard. The Master Plan includes orientating buildings around open spaces as is typical of college campuses.

Non-residential Design Review Standard	Proposed Master Plan Standard
(d) Building Entrances and Design.	The Master Plan does not include orientating buildings to street rights of way as identified in this standard. The Master Plan includes orientating buildings around open spaces as is typical of college campuses.
(e) Parking Lot Entrances and Driveways.	No changes to the standard are proposed.
(f) Each side of a parking lot which abuts a street must be screened from that street using the appropriate landscaping as specified in the city's vegetative management standards or by locating the building between the street and the parking lot.	No changes to the standard are proposed.
(4) Siding Materials.	No changes to the standard are proposed.
(5) Achieving Building Design Variety.	The Master Plan proposes traditional, education structures that are cohesive as opposed to achieving building design variety described in this standard.

Building Volume and Massing

Future developments vary from in size from approximately 1,600 to 54,000 square feet. The first proposed development is the new three story STEM Building which is also the largest new development in this Master Plan at approximately 53,800 square feet. This building has a similar massing to the Brouillet Library/Sciences Building, Arts and Allied Health Building, and the College Center Building. In order to best locate the STEM Building in the central campus area close to other facilities and parking areas it is proposed the new STEM Building will be three levels to best make use of the space while also having similar massing to the surrounding buildings.

Future development will continue this building massing where buildings over 40,000 SF may fit better as multi-story structures. All future development covered in this Master Plan will not exceed 60 feet. The state's funding process may limit buildings to around 70,000 SF maximum in any case.

Building massing should be allowed to take a number of different shapes depending upon the building's programmed uses. Buildings with wings or major and minor massing elements are encouraged for variety and interest. However, buildings should also include entryways and other elements designed to a welcoming human scale not to overpower occupants. This can be done with canopies, building projections, colonnades and roof forms.

Building Orientation

Major campus buildings at Pierce College Puyallup are located along the north-to-south campus pedestrian spine, but all have some portion of their geometry oriented at a 45-degree angle to that spine. This creates a number of interesting alcoves and student gathering corners as well as an interesting cohesiveness to the campus. It makes the campus spine into a collection of a variety of pedestrian spaces and plazas, not just one long mall. Buildings should also be designed for access to daylight and natural ventilation. This may lead to designs with narrower floor plans and more east-to-west orientation.

Setbacks and Space Between Buildings

Campus buildings should be separated from each other by 40 feet to maintain minimum fire separation but should also be located as close as possible to each other to conserve limited land for development and to reduce student walking distances. The campus site slopes steadily to the north which means that building floor levels are progressively lower as the campus moves north. Spaces between buildings must also be used for ramps between buildings as well as for emergency vehicle access.

Most buildings have frontage on a roadway or parking area as well as frontage on the central pedestrian zone. Setbacks to interior campus roadways may vary from 10 to 50 feet for variety and to bring locations for building entry as well as generous landscaping up to the street edge. Existing and new campus buildings are also setback from campus boundary streets by 200 to 300 feet.

Exterior Wall Articulation and Materials

New campus building design should show strong articulation of windows and solid walls. Modular windows and window walls give a consistency to the campus but should be contrasted with areas of solid and grounded walls. In many current campus buildings over-sized bay windows have been used to increase daylighting; a similar detail could be used or refined for future buildings. A green window frame color has been used on current campus buildings and should be strongly considered for new structures; both clear and green glazing has been used.

The palate of exterior materials on existing campus buildings is dominated by a deep red brick. Contrasting materials used in limited quantities include concrete, concrete-like stucco material, and painted metal in corrugated or standing seam patterns. Most metal on campus has a deep green finish. Other materials can be considered in special situations and applications; for example, the childcare building has exterior cedar and composite board siding which is stained or painted to be in the same tones as brick veneer. It is located at some distance from the predominantly brick buildings. Generally, the use of wood and wood products is discouraged on campus because of maintenance, durability, and longevity concerns.

Roof Shape, Volume, Material and Color

Several different but compatible roof shapes have been used successfully on campus and may be considered for future construction. Pitched, gabled, and hipped roof forms are used in combination with low-pitched roofs to achieve interesting massing which does not overwhelm the structure or budget. Low-pitched roofs have been used both with generous overhangs as well as with parapet walls. Most buildings have some form of clerestory or large skylight system for introducing daylight into building cores. Pitched roofs or stepped roof areas are also commonly used on campus to enclose mechanical equipment. Such equipment should not be exposed on the roof. Where pitched roofs are visible, the campus standard finish is dark green standing seam metal roofing. Other roofs are modified bitumen or single-ply systems of lighter color for more reflectivity. As newer roofs are designed in buildings meeting LEED silver ratings, vegetated green roofs may be considered.

Pedestrian Circulation

New campus buildings should carefully consider campus-wide pedestrian traffic routes. When academic buildings are designed for “through” traffic and along major pedestrian routes, they can offer more shelter for pedestrians and more exposure of particular academic programs to a wider audience. It also adds to a transparent quality to the entire campus where individuals are not confined to single buildings but feel they belong to and can relate to the entire campus. Generous air locks and wide corridors can add to the welcoming quality of all new buildings.

Energy Efficiency

New campus buildings must be designed to maximize energy efficiency and may incorporate any or all of the following building shell features: narrow floor plates emphasizing an east-west building orientation, maximum south-facing glazing, operable windows and ventilation chimneys, sun screening devices located on the outside of windows or projecting out from the building, interior light shelves, low emissivity or green roofs, photovoltaic panels, locally manufactured or recycled building materials, or rapidly reproducing materials.

Natural Environment Element

- NE-2 Lead and support efforts to protect and improve the natural environment, protect and preserve environmentally critical areas, minimize pollution, and reduce waste of energy and materials.

4.8 Supporting Comprehensive Plan Policies

Community Character Element

  - CC-2.2 Encourage building design that creates distinctive places in the community
- CC-3 Natural land forms, vegetation, and scenic areas that contribute to the City’s identity and visually define the community, its neighborhoods and districts are preserved.
  - CC-3.1 Encourage development to consolidate onsite landscape areas to be large enough to balance the scale of development.
  - CC-3.2 To the greatest extent feasible, preserve significant trees and mature vegetation.
- CC-6 Create a built environment that promotes public gathering in a variety of forms and locations throughout the community while taking advantage of the surrounding natural features.

South Hill Neighborhood Plan Policies

Policies Common to All Zones

- SH-9 An urban form has been established that encourages pedestrian activity and transit use by increasing connectivity within the street and pedestrian networks, integrating amenities such as street trees, public spaces, etc., minimizing conflicts between cars and people, and strengthening the relationship between buildings and the street.
  - SH-9.4 Consider the desired urban form of a more walkable and connected community built around a green infrastructure framework in the development of transportation, capital improvement, and utility policies, standards and required improvements.

- SH-9.7 Encourage place-making and a dynamic public realm by integrating publicly accessible plazas, open spaces and other gathering spaces with new development and redevelopment, in public and private projects.

Public Spaces

- SH-12.9 Protect and enhance the system of wetlands within the South Hill Center and encourage new development to have visual and physical connections to these areas so that they serve as open space amenities for residents.

Green Infrastructure Integration Policies

- SH-15.3 Prioritize plan green infrastructure improvements and use them to establish an identity for the South Hill Center.

Parks, Open Space and Trails

- SH-17 The neighborhood contains an interconnected system of open spaces, parks, and public spaces that provide an amenity for South Hill residents, employees, and the broader community, as well as contribute to an alternative non-motorized transportation network.

5 Transportation Management Plan

5.1 Vehicular Circulation and Traffic

Site Access

Pierce College Puyallup is primarily accessed from 39th Avenue SE along the southern boundary of the property. A secondary access drive comes from the 5th/7th Street Connector across the north side of Bradley Lake Park.

Trips Generated

Based on the traffic analysis performed by TENW in January 2021, the trips anticipated to be generated by the new facilities at the Pierce College Puyallup campus are calculated to total 1,438 new weekday daily trips, with 147 new trips during the weekday AM peak hour and 132 net new trips during the weekday PM peak hour.

Transit Service

There is one bus line directly serving the College (Pierce Transit Route 4). It is an 11-minute bus ride to the South Hill Mall Transit Center, where there is increased access to buses. Bus service in the evening is limited with the last bus currently departing hours before the last evening classes end. The College periodically coordinates with Pierce Transit to review bus routing and access through the campus.

Circulation

Vehicular circulation on the campus is located surrounding the perimeter of the building on site adjacent to parking areas. Pedestrian circulation currently connects parking areas and all the buildings on the campus. The central core of the site serves as the primary pedestrian access route (refer to Figure 5.1 Circulation and Wayfinding Plan).

Campus Way provides a secondary vehicular access from the 5th/7th Connector. No pedestrian facilities are provided along this vehicular access way. The State does not currently provide a funding mechanism for the construction of pedestrian facilities. Students may, however, vote to establish a fee for the construction of pedestrian facilities along Campus Way. Pierce College would support students establishing this fee or the City constructing these improvements.

There are a series of volunteer trails within wooded areas of the campus. While Pierce College does not intend to eliminate these trails, the College does not have the funding mechanisms to improve these trails to ADA standards. Moreover improvements to these trails may encourage visitors outside school hours who may compromise campus security efforts.

5.2 Parking

There is a current deficit of 32 parking spaces for the campus. This deficit was calculated during a 2015 Parking and Trip Generation study (revised in January 2022) conducted by Transportation Engineering NorthWest (TENW) (Appendix 9.6). The parking study found that based on peak average observations, a parking demand ratio of 5.6 stalls per 1,000 square feet of gross floor area was determined.

The Puyallup Municipal Code section 20.55.010(27) (c) stipulates that the required parking spaces for a college is one space for each 50 square feet of classroom space, plus one space for each 300 square feet of office space, plus auditorium parking as required in subsection (29) of this section, if auditorium facilities are provided. Based on this standard the College would be required to provide approximately 1,690 parking stalls on the existing campus with an additional 303 with the development of the STEM Building (see Appendix 9.7 Parking Calculations for more information). Custom parking ratios and phasing plans are permitted by PMC 20.44.035. Due to the unique nature, variety of uses, and increased online learning opportunities the College believes the study conducted by TENW is a more accurate representation of the parking needs of the College and will use the 2015 study as a base to calculate future parking demands with the College expansion.

Currently there are four major parking areas and several smaller parking areas that give a total of 1,331 parking spaces located on the campus site. Proposed new parking spaces on campus are described in Table 5.1.

Table 5.1: Approximate New Parking Proposed

Location	Number of Stalls
North of Health Education Center	140
Northeast of Arts and Allied Health Building	106
Single row parking along north and east sides of main perimeter circulation lane	92
East of Garnero Child Development Center	75
North of main entrance to campus from 39th Street SE	56
Southeast of Gaspard Administration Building	13
Vertical Parking Structure West Campus, north of Garnero Child Development Center	150
Adjacent to athletic fields	78
Total	**710**

The total gross square feet of floor area for all of the proposed projects contained in this Master Plan is 314,528 (246,128 gross square feet (existing) less 2,688 gross square feet (City of Puyallup Communications Center) plus 71,088 (proposed developments)). Using the parking demand ratio of 5.6 stalls per 1,000 square feet of gross floor area, this creates a total parking demand of 1,762 stalls. The combined existing and proposed parking spaces exceeds this and totals approximately 2,041 parking spaces on campus. All proposed parking lots will comply with the City's Type IV design standards.

PMC 20.55.016(2) stipulates that "[A]ll commercial, industrial, institutional, and recreational uses which require 25 or more parking spaces pursuant to this title shall provide a designated bicycle parking area to accommodate a minimum of five bicycle spaces. Such bicycle parking areas shall provide a secure facility (e.g., rack, posts) to which to lock bicycles and shall be located so as to be reasonably convenient to the on-site use and not interfere with pedestrian and automobile traffic. Prior to issuing permits for facilities requiring 100 or more parking spaces pursuant to this title and/or uses with high expected bicycle traffic (e.g., schools) the city may require reasonable additional bicycle parking capacity over and above the minimum five spaces.

On Saturday, December 11, 2021, AHBL staff conducted an on-site inventory of the bicycle parking spaces on Pierce College's Puyallup Campus. In total there are seven bicycle racks that provide parking for a total of 98 bicycles (see Appendix 9.8).

Parking Phasing

Proposed new parking will be phased to ensure that both the existing parking deficit is remedied and the required parking stalls needed for future phases are constructed prior to and/or concurrent with future developments.

The first development phases involves the construction of the STEM Building. The STEM Building is proposed to be approximately 53,880 gross square feet. Using the parking demand ratio of 5.6 stalls per 1,000 square feet of gross floor area, will require an additional 302 parking stalls.

Prior to construction of the STEM Building, the College plans to complete the following three parking projects:

- North of Health Education Center (140 stalls)
- East of Garnero Child Development Center (75 stalls)
- Southeast of Gaspard Administration (13 stalls)

In conjunction with the construction of the STEM Building the College plans to complete the parking lot Northeast of the Arts and Allied Health Building (106 stalls). This totals an additional 334 new parking stalls being added to the Campus with the completion of the STEM Building which will remedy the existing deficit and ensure there is adequate parking for the new STEM Building.

In the northern portion of the site 78 parking spaces are proposed to constructed concurrent with the Athletic Fields.

While the number of stalls for each new parking area are approximate and there may be modifications to the configuration of the proposed parking lots, for each of the proposed developments in the Master Plan parking will be adequate based on the parking demand ratio.

5.3 Commute Trip Reduction

Pierce College has a Commute Trip Reduction program manager, who reports to the College President. This position involves publishing the monthly Pierce Trips News, mounting posters and advertising in the student and staff lounges, offering information packets to all new employees and students, offering bus and vanpool subsidies to employees, facilitating matching to carpool groups, and submission of the Employer Annual Report to Pierce County.

Pierce Transit offers bus services to the college with Transit Route 4. Bike racks are also available on campus for both staff and students. However with the past two years, the most used method for commute trip reduction has been telecommuting or remote working. With the ongoing COVID-19 pandemic, most of the college instruction has occurred remotely with approximately 10% of the classes taught in-person. Telecommuting or remote working also includes the professional staff who do not teach but provide support to the College District.

Where applicable, telecommuting schedules allow for portions of the work week to occur away from the college campus, typically at the employee's home. Additionally, during the summer months (June to August) the college is closed on Fridays, and staff work alternative work schedules.

5.4 Supporting Comprehensive Plan Policies

Community Character Element

- CC - 3 Natural land forms, vegetation, and scenic areas that contribute to the City's identity and visually define the community, its neighborhoods and districts are preserved.
  - CC - 3.1 Encourage development to consolidate onsite landscape areas to be large enough to balance the scale of development.
  - CC - 3.2 To the greatest extent feasible, preserve significant trees and mature vegetation.

Transportation Element

  - T- 3.3 Improve the transportation system concurrently with increasing demands due to growth.
    a. Track transportation concurrency to ensure that infrastructure can accommodate growth and maintain level of service standards.
  - T- 4.3 Develop a comprehensive active transportation circulation plan and implementation program to enhance community access and promote healthy lifestyles.
- T - 5 Create a roadway network that efficiently and safely moves people and goods.

South Hill Neighborhood Plan Policies

Policies Common to All Zones

- SH-9 An urban form has been established that encourages pedestrian activity and transit use by increasing connectivity within the street and pedestrian networks, integrating amenities such as street trees, public spaces, etc., minimizing conflicts between cars and people, and strengthening the relationship between buildings and the street.

Transportation

  - SH-19.13 Consider establishing maximum parking requirements, shared parking requirements, priority carpool parking areas and using other tools to manage the parking supply and encourage the use of transportation alternatives to single occupancy vehicles.

Figure 5.1 Circulation and Wayfinding Plan

PIERCE COLLEGE PUYALLUP CAMPUS MASTER PLAN

Circulation, Security and Wayfinding Plan

LEGEND

- Vehicular Wayfinding Sign
- Pedestrian Wayfinding Sign
- Building Identification Sign
- Gateway Sign / Reader Board
- Parking Identification Sign
- Major Vehicular Circulation Route
- Major Pedestrian Circulation Route
- Transit Route

EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building

FUTURE PROJECTS

ATHLETIC FIELDS	New Fields for Softball and Soccer
ADM	Administration Renovation
LSC	Learning Resources Renovation
PARKING	New Parking Structure for Classroom Buildings
STEM BUILDING	New Science Technology Engineering and Math Building
STORAGE	New Campus Storage Building
MAINT.	Maintenance Shop Expansion
PORT.	Remove Portable Structure
NEW PARKING LOT	New Parking for Campus and Athletic Fields

Note 1:
An existing, secondary, gated, vehicular access to the campus is provided from the 5th/7th Street Connector. The campus and this secondary access are depicted on a 30” x 42” master plan drawing on file with the City of Puyallup.

6 Utilities

6.1 Water

The water purveyor for Pierce College is the City of Puyallup and the college campus is located within the service of the Central Pierce Fire Department. Individual certificates of water availability will be acquired for each newly constructed building: however, water availability and fire flow are not considered to be impediments to build-out of the Master Plan.

An 18-inch ductile iron water main is located within the right-of-way of 39th Avenue SE and is the water source to the site. There are several 8-inch, on-site water mains that are owned and maintained by the City of Puyallup. The on-site water mains also connect to mains within Wildwood Park Drive to the north and 39th Avenue SE to form a loop.

A new water main extension is proposed around the new STEM building. The new water main extension will provide a closed loop around the northeast portion of the campus. A new water service connecting to the public water system is proposed at the northwest corner of the site for the athletic fields. The connection to the City's water main will require installing the service under an existing wetland.

Although connections to the existing on-site water system will be required for new buildings, no pressure boost systems, or pumps are anticipated to be necessary. Fire flow testing will need to be completed to confirm that available fire flow and pressure is adequate. The existing water main layout should be adequate to address the needs of anticipated campus additions and the increase in Pierce College's expected full time equivalent (FTE) student count increase from 2,559 in 2018 to 2,978 in 2031.

Improvements to the existing water system will be limited to domestic service connections, associated meters, irrigation services, private water main extension, and fire services.

See Figure 6.1a and Figure 6.1b in this section for on-site water mains.

Figure 6.1a Water Utilities

PIERCE COLLEGE PUYALLUP MASTER PLAN

Water Utilities - Figure 6.1a

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facilities and Fields
- Future Renovated Facility
- Wetland
- Storm Pond
- Water Line
- Existing Contours

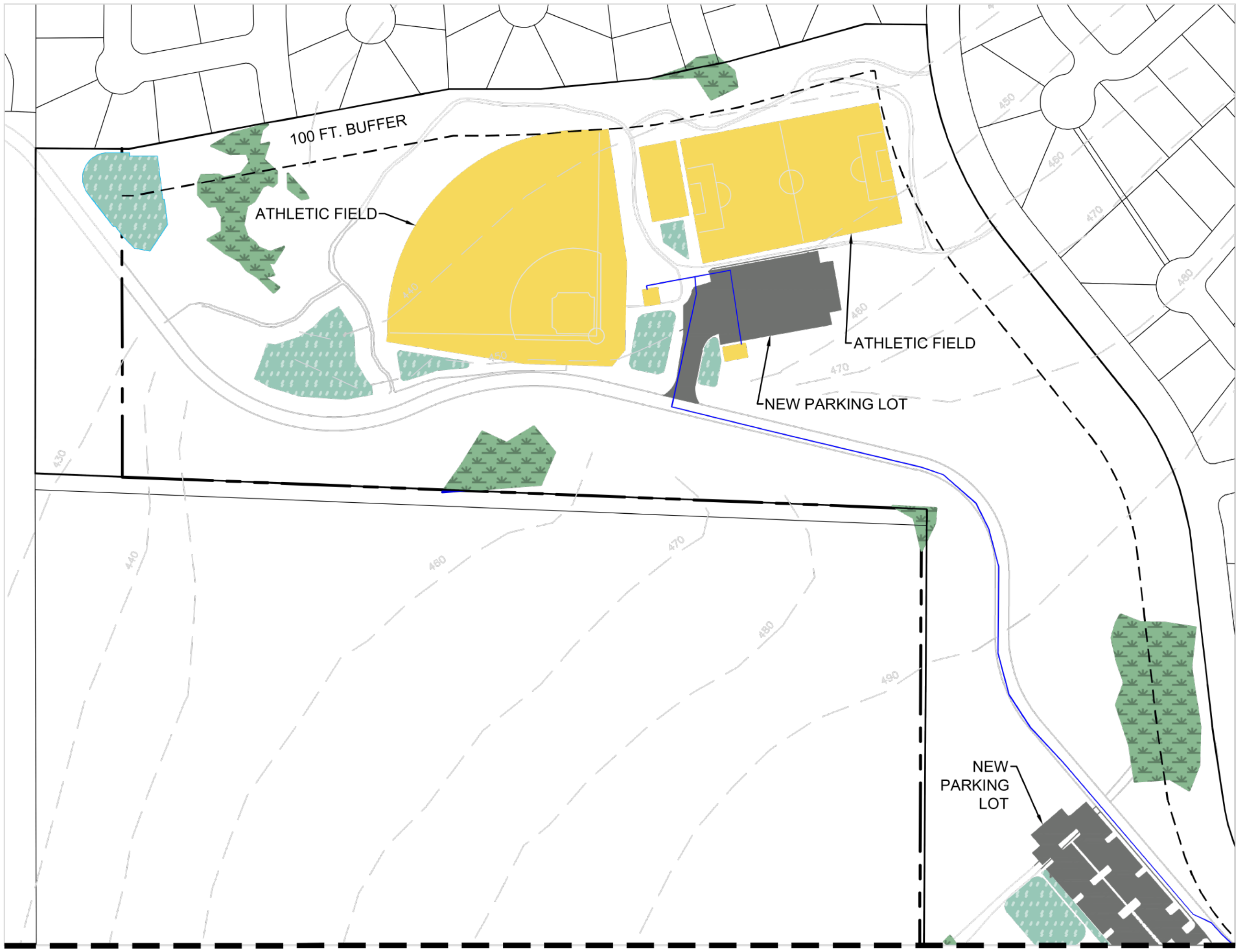
EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building

FUTURE PROJECTS

ATHLETIC FIELDS	New Fields for Soft Ball and Soccer
ADM	Administration Renovation
CDP	Child Development Center
PARKING	New Parking Structure for Classroom Buildings
STEM BUILDING	New Science Technology Engineering and Math Building
STORAGE	New Campus Storage Building
MAINT.	Maintenance Shop Expansion
PORT.	Remove Portable Structure
NEW PARKING LOT	New Parking for Campus and Athletic Fields

Figure 6.1b Water Utilities



Match Line See Figure 6.1a

PIERCE COLLEGE PUYALLUP MASTER PLAN

Water Line - Figure 6.1b

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facilities and Fields
- Future Renovated Facility
- Wetland
- Storm Pond
- Water Line
- Existing Contours

EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building

FUTURE PROJECTS

ATHLETIC FIELDS	New Fields for Soft Ball and Soccer
ADM	Administration Renovation
CDP	Child Development Center
PARKING	New Parking Structure for Classroom Buildings
STEM BUILDING	New Science Technology Engineering and Math Building
STORAGE	New Campus Storage Building
MAINT.	Maintenance Shop Expansion
PORT.	Remove Portable Structure
NEW PARKING LOT	New Parking for Campus and Athletic Fields

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6.2 Sanitary Sewer

Sanitary sewer service is provided by the City of Puyallup. An 8-inch sanitary sewer main extends from the western property line to the main driveway access to the site. From there, private sewer collection and distribution systems are owned, operated, and maintained by Pierce College.

Sewage from the existing buildings is collected and routed through a combination of force mains and gravity systems which eventually combine at the south end of Access Road. From there, sewage flows south off the property to the existing City of Puyallup system along 39th Avenue SE. Stubs have been provided along the access driveway to accommodate future campus improvements.

The campus has two existing sanitary pump stations; one is located south of the Library Sciences Building and the second is located south of the Health Education Center. The two existing sanitary pump stations are expected to remain in the current locations undisturbed.

Connections to the existing on-site sanitary sewer system will be required to provide service to the proposed campus buildings. These improvements will include extending the existing sanitary sewer services to the proposed buildings. Relocation of the existing sanitary sewer system to facilitate the construction of new buildings is anticipated for the Gaspard Administration renovation and expansion only. A sewer service is proposed at the northwest corner of the site connecting to the public sanitary sewer system for the athletic fields. The connection to the City's sewer main will require installing the service under an existing wetland.

Although the daily run time of the existing pump stations is expected to increase, the existing Pierce College system should have sufficient capacity to address the needs of future campus development and the expected increase in FTE count.

A pre-application meeting was conducted on July 1, 2020 with the City of Puyallup to discuss requirements for future development at the campus. A narrative describing the operation of the campus sewer system is required, and to determine if the existing pump station has adequate capacity for the future building construction.

See Figure 6.2a and Figure 6.2b for the existing and proposed sanitary sewer system.

Figure 6.2a Sewer Utilities

PIERCE COLLEGE PUYALLUP MASTER PLAN

Sewer Utilities - Figure 6.2a

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facilities and Fields
- Future Renovated Facility
- Wetland
- Storm Pond
- Sewer Line Existing
- Sewer Line Proposed
- Existing Contours

EXISTING FACILITIES

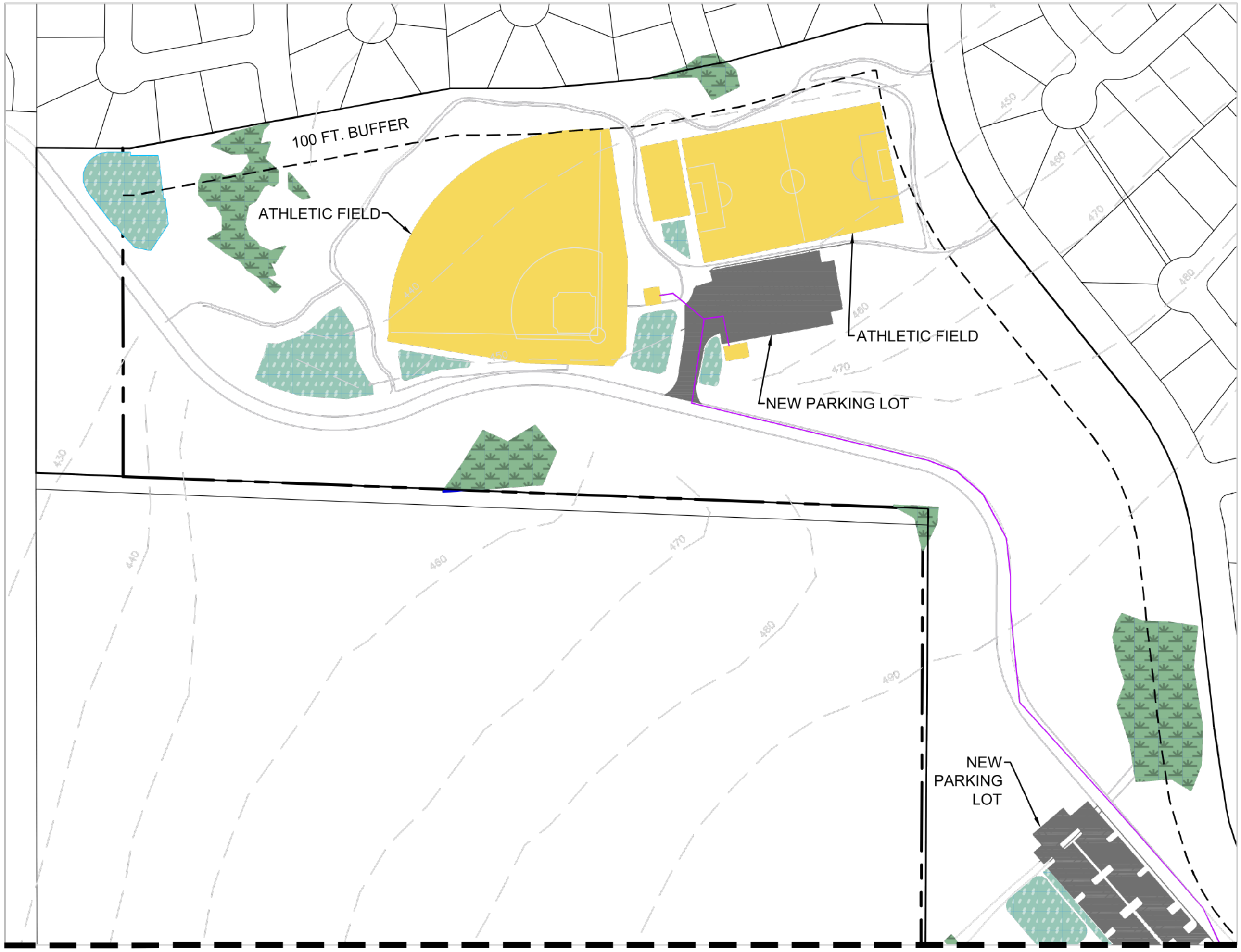
ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building

FUTURE PROJECTS

ATHLETIC FIELDS	New Fields for Soft Ball and Soccer
ADM	Administration Renovation
CDP	Child Development Center
PARKING	New Parking Structure for Classroom Buildings
STEM BUILDING	New Science Technology Engineering and Math Building
STORAGE	New Campus Storage Building
MAINT.	Maintenance Shop Expansion
PORT.	Remove Portable Structure
NEW PARKING LOT	New Parking for Campus and Athletic Fields

PIERCE COLLEGE *possibilities.* **realized.**

Figure 6.2b Sewer Utilities



Match Line See Figure 6.2a

PIERCE COLLEGE PUYALLUP MASTER PLAN

Sewer Utilities - Figure 6.2b

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facilities and Fields
- Future Renovated Facility
- Wetland
- Storm Pond
- Sewer Line Existing
- Sewer Line Proposed
- Existing Contours

EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
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FUTURE PROJECTS

ATHLETIC FIELDS	New Fields for Soft Ball and Soccer
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MAINT.	Maintenance Shop Expansion
PORT.	Remove Portable Structure
NEW PARKING LOT	New Parking for Campus and Athletic Fields

6.3 Power and Natural Gas

Electricity and natural gas services to the Pierce College campus are provided by Puget Sound Energy.

New power services will be provided to the STEM building, the Storage building, as well as the athletic fields and the associated buildings. The power service for the new STEM building will be routed west along the north side of the CTR building before tying into the existing power line located in College Way. The power service for the new Storage building will be routed west along the north side of the Arts and Allied Health Building (AAH) before tying into the existing power line located in College Way. The power service for the new athletic fields and the associated buildings will be routed south along south and southeast along College Way before tying into the existing power line located in College Way north of the HEP.

New gas services will be provided to the STEM building and the Storage Building. The gas service for the new STEM building will be routed west along the north side of the College Center Building before tying into the existing gas line located in College Way. The gas service for the new storage building will be routed west along the north side of the AAH building before tying into the existing gas line located in College Way.

6.4 Telephone

CenturyLink Communications provides telephone services to the Pierce College Campus.

6.5 Solid Waste and Recycling

Murrey's Disposal provides solid waste disposal and recycling services to the Pierce College Campus.

6.6 Supporting Comprehensive Plan Policies

Utilities Element

- U - 2 Ensure that adequate water quantity and quality provided by either City or private water purveyors is available to all existing and future customers in the City and Urban Growth Area in a manner that supports the planned growth and development of the community.

South Hill Neighborhood Plan Policies

- SH-14 Monitor growth rates and periodically update growth projections and infrastructure analysis to ensure that adequate facilities are provided to accommodate growth in South Hill.
    - SH-14.1 Require concurrency, including but not limited to adequate water, sewer, stormwater and transportation facilities, for all development in the South Hill Subarea.

Figure 6.3a Power, Communications, and Gas Utilities

PIERCE COLLEGE PUYALLUP MASTER PLAN

Power, Comm, and Gas Utilities - Figure 6.3a

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facilities and Fields
- Future Renovated Facility
- Wetland
- Storm Pond
- Natural Gas
- Power, Cable, or Telephone
- Existing Contours

EXISTING FACILITIES

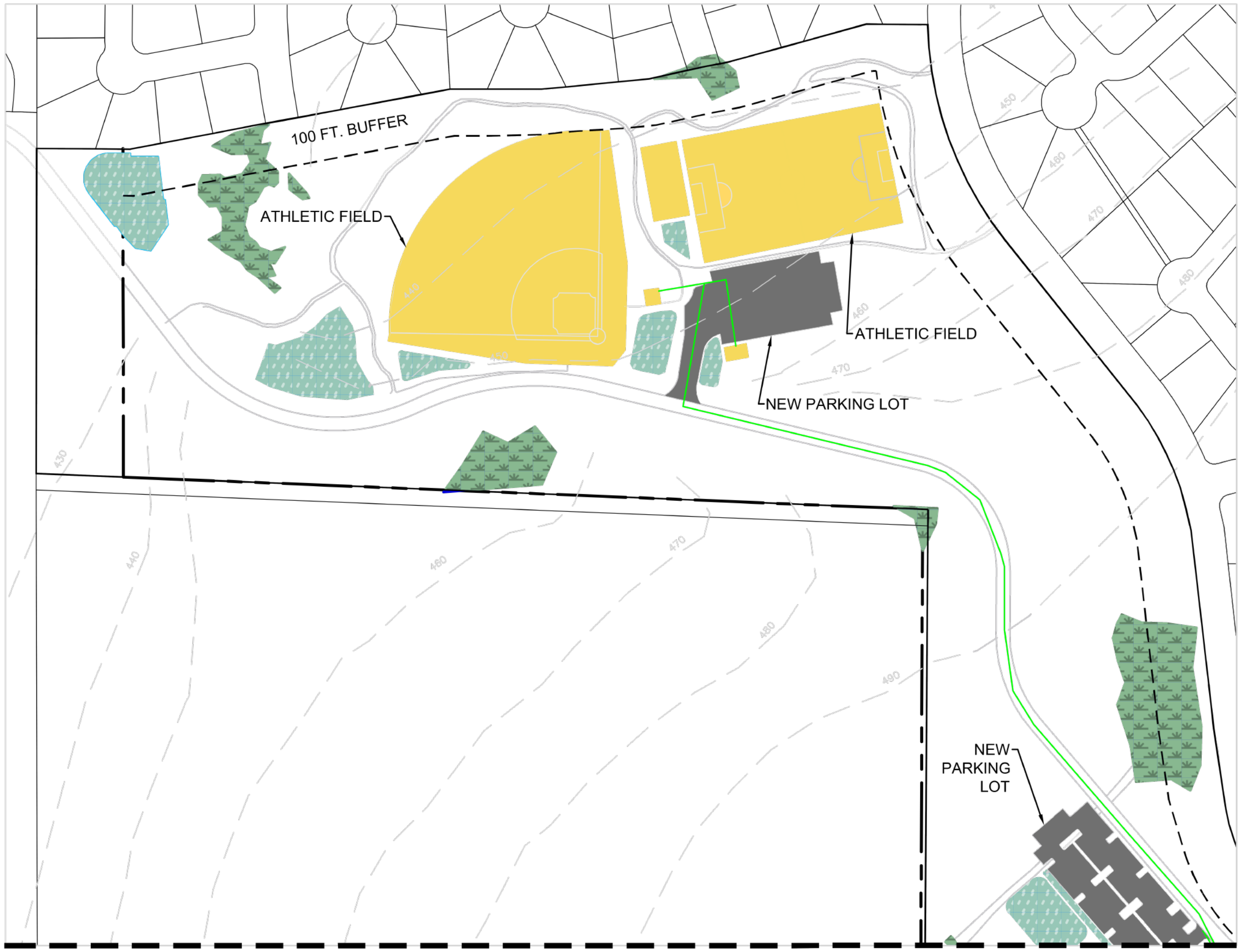
ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building

FUTURE PROJECTS

ATHLETIC FIELDS	New Fields for Soft Ball and Soccer
ADM	Administration Renovation
CDP	Child Development Center
PARKING	New Parking Structure for Classroom Buildings
STEM BUILDING	New Science Technology Engineering and Math Building
STORAGE	New Campus Storage Building
MAINT.	Maintenance Shop Expansion
PORT.	Remove Portable Structure
NEW PARKING LOT	New Parking for Campus and Athletic Fields

Note:
See Lighting Master Plan for site lighting.

Figure 6.3b Power, Communications, and Gas Utilities



MATCH LINE SEE FIGURE 6.3a

PIERCE COLLEGE PUYALLUP MASTER PLAN

Power, Comm, and Gas Utilities - Figure 6.3b

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facilities and Fields
- Future Renovated Facility
- Wetland
- Storm Pond
- Natural Gas
- Power, Cable, or Telephone
- Existing Contours

EXISTING FACILITIES

ADM	Administration Building
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FUTURE PROJECTS

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NEW PARKING LOT	New Parking for Campus and Athletic Fields

Note:
See Lighting Master Plan for site lighting.

7 Storm Drainage

7.1 On-site Storm Drainage

The on-site storm drainage system is owned and maintained by Pierce College and is under the jurisdiction of the City of Puyallup, which follows the most recent version of the Department of Ecology Stormwater Management Manual for Western Washington. The system has been designed and installed over several various phases of construction and includes collection and conveyance facilities as well as detention and treatment facilities. Storm drainage flow control and water quality treatment is accomplished with multiple ponds and swales throughout the site. These facilities were constructed in conjunction with campus improvements.

Drainage across the campus follows three basic patterns. The eastern portion of the campus drains toward the eastern stormwater detention pond located near Wildwood Park Drive and then into a wetland area in the southeast corner of the property. This catchment includes all of the eastern parking, some natural area to the north of the existing buildings, and some of the existing building drainage. Additionally, runoff from most of the College Way extension and the West Parking Lot is routed to the eastern stormwater management pond and then to the aforementioned wetland area.

The southwestern portion of the developed campus drains to the west into a wetland. This area contains the southwestern parking lot, the basketball court, and portions of building area. The College Center building and the surrounding landscape areas are incorporated into the conveyance system that flows to the western wetland.

The majority of the northern areas drain to the north and northwest into a series of wetlands. Additional drainage from the northern third of the western parking lot is bypassed during small storms through a treatment pond north of the parking lot and provides continued recharge to the wetlands to the northwest. Stormwater runoff from the West Access Driveway is conveyed westerly to a pond located within the lower plateau located west of the proposed athletic fields. Stormwater for the Arts/Allied Health Building is routed to a detention pond located northwest of College Road between the Health Education Center and the West Access Driveway.

With future development, and the addition of impervious surfacing on the campus, it is anticipated that additional facilities will be required to provide for flow control and water quality treatment. Flow control will be achieved for future developments by either above ground detention ponds or by below ground detention pipes in areas that are limited in space. Water quality treatment will be provided by above ground bioretention systems or by below ground modular treatment systems in areas that are limited in space.

Several of the new buildings and building additions that are proposed are not subject to stormwater mitigation as they are under the thresholds that trigger stormwater improvements.

See Figure 7.1a to and Figure 7.1b for the existing and proposed storm water management systems.

7.2 Supporting Comprehensive Plan Policies

Utilities Element

- U - 5 Control the quantity and quality of stormwater produced by new development and redevelopment such that they comply with water quality standards and contribute to the protection of beneficial uses of the receiving waters.

South Hill Neighborhood Plan Policies

- SH-14 Monitor growth rates and periodically update growth projections and infrastructure analysis to ensure that adequate facilities are provided to accommodate growth in South Hill.
    - SH-14.1 Require concurrency, including but not limited to adequate water, sewer, stormwater and transportation facilities, for all development in the South Hill Subarea.

Figure 7.1a Storm Utilities

PIERCE COLLEGE PUYALLUP MASTER PLAN

Storm Utilities - Figure 7.1a

LEGEND

	Existing Facility
	Future Additional Parking
	Future New Facilities and Fields
	Future Renovated Facility
	Wetland
	Storm Pond
	Storm Line Existing
	Storm Line Proposed
	Storm Detention Pipe Proposed
	Existing Contours

EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
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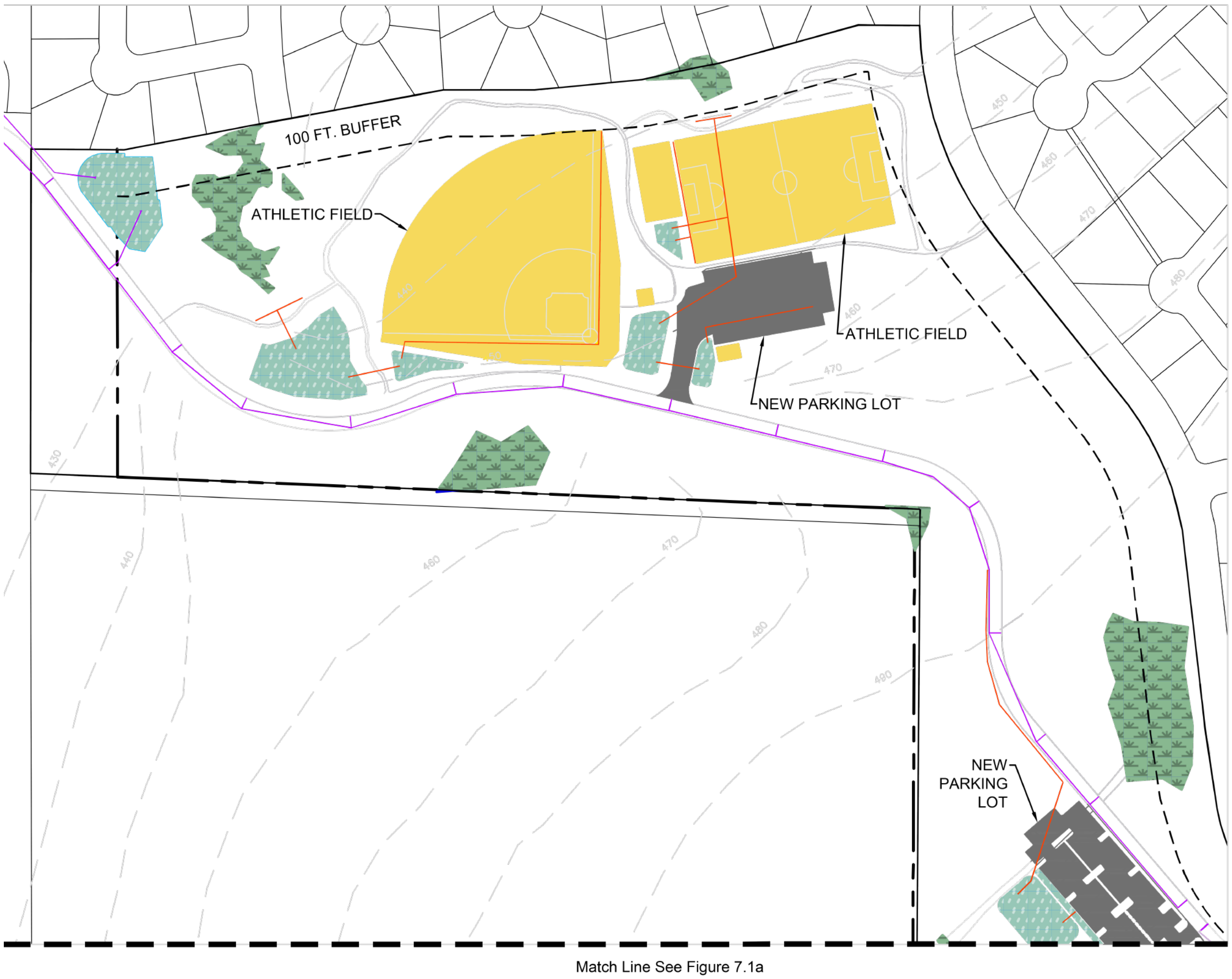
NEW PARKING LOT	New Parking for Campus and Athletic Fields

Figure 7.1b Storm Utilities



PIERCE COLLEGE PUYALLUP MASTER PLAN

Storm Utilities - Figure 7.1b

LEGEND

- Existing Facility
- Future Additional Parking
- Future New Facilities and Fields
- Future Renovated Facility
- Wetland
- Storm Pond
- Storm Line Existing
- Storm Line Proposed
- Storm Detention Pipe Proposed
- Existing Contours

EXISTING FACILITIES

ADM	Administration Building
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NEW PARKING LOT	New Parking for Campus and Athletic Fields

8 Environmental Analysis

8.1 Introduction

Grette Associates conducted a wetland reconnaissance of approximately 43.79 acres in the northwest portion of the project site, to verify the presence and boundaries of previously delineated wetlands and to document unidentified wetland areas in the northern portion of the site. Wetland biologists used site topography, vegetation, hydrology and soils to determine course boundaries. A copy of the Wetland Report can be found in Appendix 9.10.

8.2 Critical Areas

Known critical areas on the site include wetlands (described in section 8.4), streams, regulated floodplains, priority habitat species areas, and potential landslide hazard areas. Adjacent to the site there is also a drinking well. See Figure 8.1.

Wildwood Creek is a Type II stream that crosses through the northwest corner of the campus. The existing driveway College Way crosses over the path of the steam. No future development is proposed in this area of the campus.

A small regulated floodplain associated with Wildwood Creek is located in the northwest corner of the campus. The floodplain is classified as Zone X and is an area of minimal flood hazard. No new development is proposed in the floodplain.

A priority habitat species area, identified by the Washington State Department of Fish and Wildlife (WDFW), is located in the central area of the site, near a wetland where the parcel narrows. As a general standard, WDFW classifies all wetlands as priority habitats for aquatic species. No new development is proposed in close proximity to the mapped wetlands.

Potential landslide hazards on the site include both high risk areas where slops are 40 percent or greater and moderate risk areas where slopes are between 16 and 39 percent. The slopes of 40 percent or greater are confined to small sections predominantly in the eastern and northern portions of the campus and are not in close proximity to existing and proposed developments.

The presence of relatively permeable sediment overlaying relatively impermeable sediment or bedrock combined with the presence of springs or groundwater seepage do not occur on the campus thereby meaning that the areas with slopes between 16 and 39 percent do not meet the definition of geologically hazardous areas under the Puyallup Municipal Code.

There are no drinking wells on the College Campus however there is one well located on an adjacent parcel west of the campus. The drinking well buffer does not extend on to the campus property.

8.3 Soils

Soils generally found on the project site include Indianola loamy sand, Everett gravelly sandy loam, and Kapowsin gravelly loam, all of which were identified as not hydric on Pierce County's Hydric Soils List (NCRS 2001). See Figure 8.2.

8.4 Wetlands

Wetland A is a seasonally flooded wetland area located in the northwest corner of the campus. Wetland A.1 is approximately 19,013 square fee, and Wetland A.2 is approximately 692 square feet. The canopy vegetation within the wetland includes western red cedar and red alder. The understory consists of mainly Scouler's and Hooker's willow, salmonberry, and Himalayan blackberry.

Wetland B is approximately 14,763 square feet in size and is classified as a Category III, Palustrine Scrub-Shrub, Seasonally Flooded Wetland. There is some standing water and areas of thick mud; however, the wetland is hydrologically isolated. The wetland provides general wildlife habitat such as foraging, cover, and nesting/breeding.

Wetland C has not been previously flagged or delineated and is located adjacent to residential development and the street end of 13th Street SE. The wetland is approximately 5,058 square feet in size and is classified as Category III, Palustrine Forested/Emergent, Seasonally Flooded Wetland. The water quality functions provided by Wetland B are fairly limited due to its small size and lack of hydrologic connection to other waters.

Wetland D is located at the northeast corner of the fence-line between Pierce College property and the adjacent property. Wetland D is approximately 2,365 square feet in area. The wetland is classified as a Category III, Palustrine Forested/ Scrub-Shrub, Seasonally Flooded wetland. The existing access road/walking path occupy a portion of the wetland area. Much of the wetland is also located within the area disturbed to construct the fence. Water quality functions are also fairly limited as a result of the wetland's small size and hydrologic isolation.

Wetland E is located at the eastern edge of the property adjacent to Wildwood Park Drive. It also extends to either side of the pipeline-of-way and totals approximately 38,870 square feet. Wetland E also provides a high degree of organic productivity due to its dense vegetation and offers a high degree of wildlife habitat and native plant diversity. It is classified as a Palustrine Scrub-Shrub, Seasonally Flooded Wetland. Water quality functions provided by the wetland include toxin removal, sediment trapping, and groundwater recharge functions.

Wetland F is a combination of two adjacent wetlands located at the south end of campus and spans the pipeline right-of way. Wetland F.1 totals approximately 35,233 square feet, and Wetland F.2 totals approximately 323 square feet. It is classified as a Palustrine Forested, Seasonally Flooded Wetland. There is dense vegetation surrounding the wetland which provides habitat for wildlife. Water quality functions provided by the wetland include toxin removal, sediment trapping, and erosion control. Wetland F also provides a high degree of organic productivity due to its dense vegetation providing a habitat for wildlife.

Wetland G is located northwest of the maintenance building in the southwest corner of the campus. The wetland is approximately 13,978 square feet in size and is classified as a Palustrine Forested, Seasonally Flooded wetland. Wetland G was previously delineated in 2002 and is a Category III wetland.

Wetland H is an existing pond is located immediately south of Wildwood Park Drive, southeast of the primary study area. The pond is located opposite Wildwood Park Drive from the entrance to Ferrucci Junior High School and is approximately 35,616 square feet in size.

The pond consists of a sparse canopy of young red alder and western red cedar over a dense understory of Scouler's and Hooker's willow, salmonberry, and Himalayan blackberry. Small areas of open water are scattered throughout the wetland, as are numerous standing snags. Buffer vegetation around the perimeter of the pond includes big leaf maple, red alder, western red cedar, and Indian plum.

Wetland I is a forested, seasonally flooded area of approximately 94,775 square feet located in the south eastern portion of the campus approximately 75 feet from Wildwood Drive. Vegetation is comprised of a young red alder and western red cedar over a dense understory of Scouler's and Hooker's willow, salmonberry, and Himalayan blackberry.

Wetland Buffers

50-foot wetland buffers were applied to each of the identified wetlands during the approval of the 2008 Master Plan. Current development has avoided any impacts to these established wetlands and buffers and will continue with future development. The 50-foot buffers identified in this report are no longer consistent with City standards.
Further wetland reports will be provided at the time of site development or permitting for any structure or site improvement within 300 feet of known or suspected wetlands. For future development, new wetland analysis will bed required which may include the delineation of wetland boundaries and the establishment of new buffers.

CITY OF PUYALLUP

Development & Permitting Services Department
333 South Meridian
Puyallup, WA 98371
253-864-4165 | Planning@puyallupwa.gov

*PRELIMINARY**

DETERMINATION OF
NON-SIGNIFICANCE (DNS)

**This determination will become final if no formal appeals are filed and/or reconsideration requests are duly received*

for
Pierce College Master Plan (2022)
Master Plan, SEPA Checklist
Project # P-21-0049

Date of Issuance:	June 3, 2022
Description of Proposal:	Pierce College is proposing a 10-year Master Plan document; the primary improvements proposed include a Science, Technology, Engineering and Math (STEM) building, new off street parking lots, a proposed parking structure, new softball and soccer fields, and new storage and maintenance buildings, utilities and storm water improvements.
Location of Proposal:	1601 39th Ave SE, Puyallup, WA 98374
Proponent:	Gus Lim, Pierce College Facilities Director rlim@pierce.ctc.edu Andy Hartung, McGranahan Architects andy.hartung@mcgranahan.com
Lead Agency Responsible Official:	Katie Baker, AICP City of Puyallup Development & Permitting Services Dept. 333 South Meridian Street Puyallup, WA 98371 (253) 864-4165 Planning@PuyallupWA.gov
City of Puyallup Permits:	Master Plan, SEPA, Civil, Building, NPDES and Engineering Permits
Zoning:	Public Facilities (PF)
Comprehensive Plan:	Public Facilities (PF)

Shoreline Environment: N/A Project is not within Shoreline Environment

A. PROJECT SPECIFIC MATERIALS (INCORPORATION BY REFERENCE – WAC 197-11-635):
The subject Threshold Determination herein and associated environmental findings are based upon review of the following documents submitted by the applicant and official responses from the city in regard to the underlying permit(s). These documents are incorporated by reference, in accordance with WAC 197-11-635, and are available for public review. To request access to electronic copies of project materials, please contact Planning@PuyallupWA.gov or (253) 864-4165, or visit https://permits.puyallupwa.gov/Portal and select "application search" under Planning Division section.

i. Development Review Team (DRT) letter, dated **April 8, 2022**

ii. SEPA checklist dated **April 30, 2021**

iii. Draft Master Plan with supporting development studies/plans (such as preliminary engineering, utilities, building elevations, landscaping, etc.), received **May 3, 2022** . Full set of development plans used in making this Threshold Determination available in the project file with the Lead Agency.

iv. Traffic Impact Analysis, received **January 27, 2022**

v. Preliminary Stormwater Report with soils/geotechnical information, received **January 27, 2022**

1. Notice of Application (NOA) date, consistent with WAC 197-11-355 (Optional DNS Process)

   i. Optional DNS notice sent on **September 7, 2021** Comment period expired **October 7, 2021**

   ii. List of recipients, comments received, and copy of NOA materials available in project file. Contact the Lead Agency Responsible Official for further information. Email the Planning Department at Planning@PuyallupWA.gov for full copies.

B. RESPONSIBLE OFFICIAL FINDINGS OF CONSISTENCY

The SEPA Responsible Official for the City of Puyallup hereby makes the following findings of consistency based upon a review of the environmental checklist and attachments, other information and studies on file for the project, and the policies, plans, and regulations designated by the City of Puyallup as a basis for the exercise of substantive authority (see PMC 21.04), and under the State Environmental Policy Act (SEPA) pursuant to the Revised Code of Washington (RCW) 43.21C. The following findings of consistency apply to the project and may be referenced in future (final) permit review notes and/or conditions:

1. EARTH

i. Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent storm water runoff from carrying soil and other pollutants into surface water or storm drains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants that must be controlled with temporary erosion control measures, consistent with Puyallup Municipal Code (PMC) 21.14, Clearing, Filling and Grading, in addition to any and all permits required by other agencies. Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

ii. Based on the project geotechnical report, where available, and a review of available topography, LIDAR, mapped soils (NRCS) and geohazard area data (GIS), impacts to geologic hazard areas have not been identified.

iii. Temporary erosion, sedimentation and construction dust control BMPs will be applied in accordance with City of Puyallup city standard section 500 – Grading, Erosion and Sedimentation Control and all engineering Best Management Practices (BMPs), in accordance with City Engineer approval.

2. AIR

i. Watering of exposed soils during construction to suppress dust will limit impacts to ambient air quality resulting from the project improvements.

ii. Building exhaust systems will be equipped with appropriate emission controls, where required by the Puget Sound Clean Air Agency and/or required by the Building Code Official.

iii. Construction activities and vehicles being driven to and from the city can be anticipated to cause impacts on air quality and produce greenhouse gas emissions; no single point source of emissions that requires specific analysis on air quality and known to be are present as a result of the project.

iv. No known sources of foul or offensive odors are anticipated as a result of the project.

3. WATER

i. Storm water runoff will be managed and treated in accordance with the currently city-adopted version of the Department of Ecology Stormwater Design Manual (See PMC 21.10.040), all applicable city storm water standards, all applicable NPDES permit requirements, and BMPs/standard engineering practices in accordance with City Engineer approval.

ii. The applicant shall demonstrate, to the satisfaction of the City Engineer and/or designee, that infiltration of on-site storm water is not feasible before being permitted to use alternative design(s). Where permitted, alternative designs (e.g. collection into a storm water pond and/or vault, retention/detention systems and treatment), shall adhere to all applicable city storm water requirements in city standards, shall conform to all standard engineering practices, and the applicable storm water manual design requirements as administered and approved by the City Engineer and/or designee.

iii. The project is located on a property, or adjacent to lands containing known wetlands, streams, and/or other regulated aquatic resources. The project shall be reviewed in accordance with all applicable critical area standards and requirements to ensure the project does not result in significant adverse impacts to listed wetlands, streams, and/or other aquatic resources. Any future project within 300' of wetland must include an updated report and study. Special mitigation may be required, in accordance with local, state and federal authority, and the applicant may be required to consult with local tribal governments.

iv. Where projects are shown on the city's critical area maps as being within a critical aquifer recharge area or wellhead protection zone, additional review of impacts to ground water may be triggered, in accordance with standards in the city's critical areas ordinance.

v. Activities that do not cause degradation of groundwater or significantly impact the recharge of ground water aquifer may be permitted in a critical aquifer recharge area; provided, that the project complies with the city storm water management regulations and other applicable local, state, and federal regulations.

vi. All developments in the 100-year floodplain are required to meet the standards of PMC 21.07, flood control ordinance, and any other required stare and/or federal standards. Applicants are encouraged to consult with FEMA region X regarding their project if located in the regulated (100-year) floodplain.

vii. Groundwater diversions, dewatering activities and/or construction-related ground water withdrawals may occur as a part of this project due to presence of high/perched ground water table/levels at the time of construction. However, any ground water diversions, withdrawals, dewatering, or other forms of ground water management that occur during site construction will be mitigated using engineering BMPs, as stipulated by the city standards manual, NPDES permits, current Department of Ecology storm water manual (in effect at the time of permitting), and standard engineering practices.

4. PLANTS

i. The project will meet PMC 20.58 Landscaping Requirements, PMC 11.28 Street Trees, and will be consistent with the city's Vegetation Management Standards manual (PCD-5-11).

ii. Any significant or heritage designated trees are required to be retained on site, where applicable. Trees and vegetation associated with critical areas, such as wetlands, steep slopes, streams/rivers, or other aquatic resources, and trees important to the overall function of adjacent or on site bird, fish and other terrestrial animals may be required to be retained, where applicable.

iii. All trees shall be maintained in a manner consistent with accepted pruning and care standards as outlined in applicable ANSI A300 standards.

5. ANIMALS

i. No federally listed endangered species, state threatened species or habitat, or state sensitive species are known to inhabit within the project boundaries.

ii. The project is near aquatic resources that support listed species of salmonids; Deer Creek and the Puyallup River drainage basin systems are salmon-bearing, supporting chinook, coho, and chum salmon, steelhead, and cutthroat trout. The project will be reviewed in accordance with all applicable critical area and habitat assessment standards and requirements to ensure the project does not result in significant adverse impacts to listed species or habitat, where applicable. Special mitigation may be required if impacts are identified, in accordance with local, state and federal authority, and the applicant may be required to consult with local tribal governments.

6. ENERGY AND NATURAL RESOURCES

i. The project will be compliant with the Washington State Energy code and all applicable regulations in the latest edition of the applicable version of the Building Code, as adopted by the city applicable to the project construction type.

ii. The project is not anticipated to impact solar access for the subject property or adjacent properties.

iii. The project is anticipated to use various forms of energy, such as local electric power, natural gas, solar, and is not anticipated or known to generate a need for power or energy that would necessitate mitigation or specific service provisions not normally anticipated by service providers.

7. ENVIRONMENTAL HEALTH

i. If soil contamination is suspected, discovered, or occurs during the proposed construction, testing of the potentially contaminated media must be conducted. If contamination of soil or groundwater is readily apparent, or is revealed by testing, the Washington State Department of Ecology must be notified. Contact the Environmental Report Tracking System Coordinator at the Southwest Regional Office (SWRO) at (360) 407-6300.

ii. If greater than 250 cubic yards of inert, demolition, and/or wood waste is used as fill material, a Solid Waste Handling permit may be required (WAC 173-350-990). It is the responsibility of the applicant to check with the Tacoma Pierce County Health Department for any permitting requirements that may be required.

iii. The project is not anticipated to contain increased or unusual risks related to fire hazards, explosive materials, toxic chemical storage or manufacture, hazard waste spill risk, nor is the project anticipated or known to increase the risk of health hazards to the environment.

iv. In addition to any required asbestos abatement procedures, the applicant should ensure that any other potentially dangerous or hazardous materials present, such as PCB-containing lamp ballasts, fluorescent lamps, and wall thermostats containing mercury are removed prior to demolition. PCBs are increasingly being found in caulking and paint. It is important that these materials and wastes are removed and appropriately managed prior to demolition. It is equally important that demolition debris is also safely managed, especially if it contains painted wood or concrete, treated wood, or other possibly dangerous materials. Please review the "Dangerous Waste Rules for Demolition, Construction, and Renovation Wastes," on Ecology's website at:

www.ecy.wa.gov/programs/hwtr/dangermat/demo_debris_constr_materials.html.

8. NOISE

i. No significant adverse environmental impacts related to noise are anticipated or known to result due to the project.

ii. Project construction noise shall be compliant with PMC 6.16 – Noise, including time limitations on construction activities starting and stopping work activities for both weekdays and weekends. Special conditions may apply to the project and additional noise mitigation may be applied by the City Engineer or Code Compliance Department during construction.

9. LAND USE, COMPREHENSIVE PLAN AND SHORELINE USE

i. The project is located in an area designed as Public Facilities (PF) future land use, and is generally consistent with the policies adopted in the Comprehensive Plan, and all other adopted city plans, where applicable to the development proposal, and shall be consistent with the zoning code regulations applicable to the project, where applicable.

ii. The site development construction plans (civil, building, etc.) shall follow all applicable codes in effect at the time of final construction permit submittal and shall conform to all applicable conditions outlined in the "Final Development Review Team (DRT) letter" available in the project case file, and any final conditions attached to the master plan approval, as approved by City Council.

iii. The site is not presently being utilized for working forest or farmland and, as such, is not converting forest farm, agricultural or other resource lands urban land uses not otherwise contemplated in the city's Comprehensive Plan.

iv. All demolition work will be compliant with the city's requirements for demolition approval and will be required to notify the Puget Sound Clean Air Agency prior to demolition work commencing. Asbestos surveys and any required abatement will be required during demolition permitting/actions.

v. The project contains the critical areas noted below. The project has been reviewed for consistency with the city's critical areas ordinance (PMC 21.06).

	CRITICAL AREA
X	Critical aquifer recharge area

X	10-year wellhead protection area
X	5-year wellhead protection area
X	1-year wellhead protection area
	Geologic hazard area – Volcanic hazard area
X	Geologic hazard area – Landslide hazard area
X	Geologic hazard area – Erosion hazard area
X	Geologic hazard area – Seismic hazard areas
X	Wetland and wetland buffer
	Fish and Wildlife Conservation Area - Stream and/or stream buffer
X	Fish and Wildlife Conservation Area – General habitat area
	Flood prone area – 100-year floodplain
	Shoreline of the State

10. HOUSING

i. The project will not adversely impact existing housing units or affect the development of housing units in the general vicinity of the project area.

11. AESTHETICS

i. The project will be consistent with the height limitation outlined in the applicable zone district, as stipulated by the Puyallup Municipal Code (title 20, zoning). No view corridors were identified to be impacted as a result of the project.

ii. The project shall comply with all applicable design review requirements, site plan design requirements, and all design review overlay district standards/guidelines, master plan standards, as applicable to the project, at the time of final permit submittal.

12. LIGHT AND GLARE

i. Exterior lighting fixtures shall be shielded from above in such a manner that the bottom edge of the shield shall be below the light source. Said lighting shall be shielded so that the direct illumination shall be confined to the property boundaries of the light source. Ground-mounted floodlighting or light projection above the horizontal plane is prohibited between midnight and sunrise.

ii. Street lighting, in accordance with city standards, will be provided as a part of the project.

13. RECREATION

i. The project will not disrupt, displace or otherwise adversely impact any existing recreational opportunities in the area.

14. HISTORIC AND CULTURAL RESOURCES

i. In the event that suspected historic artifacts, cultural artifacts, or objects of suspected archaeological value are discovered during site excavation, grading or other forms of site development/construction, all work on site shall stop immediately. This applies to all development activities that involve excavation regardless of exemption from permit requirements outlined in PMC 21.14.190.

ii. The property owner/developer shall notify the City, the State Department of Archaeology and Historic Preservation (DAHP), the Puyallup Tribe of Indians, and the Muckleshoot Indian Tribe of any such findings. In these cases, the property owner/developer shall be required to provide for a site inspection and evaluation by a professional archaeologist or historic preservation professional, as applicable, in coordination with the state and/or affected tribes. It is anticipated the applicant will be conducting a site-specific archeological investigation and coordinating with state and tribal government agencies, per State of Washington policy.

iii. The project applicant and/or contractor may be required to complete an Inadvertent Discovery Plan (IDP), to the approval of the city, WA State Department of Archeology and Historic Preservation and affected Tribal governments. The IDP shall be completed in a form supplied by the Department and shall be completed prior to issuance of the civil permit for the site.

15. TRANSPORTATION

i. Staff has reviewed and approved the traffic impact analysis and adequacy of sight distance in relation to the project. The project case file contains applicable traffic studies/reports; all future/updated traffic reports submitted shall be reviewed by the Traffic Engineer and City Engineer, for consistency with the municipal code and city standards. In accordance with city policy, Traffic review staff analyzed vehicular impacts to surrounding intersections which will receive more than 25 PM peak hour vehicle trips for changes to the level of service standards and/or operational impacts. No significant impacts are identified requiring special mitigation measures related to transportation.

ii. Per PMC 21.20.130, the applicant is required to pay a traffic impact fee (in the amount required by ordinance at the time of adoption) at the time of building permit issuance for the subject project.

iii. The project shall be compliant with all standards contained in PMC title 11, Streets and Sidewalks, including roadway improvements, street trees and street lighting.

iv. The project shall be compliant with the Comprehensive Plan Transportation Element and implementing Active Transportation Plan. Right of way width to accommodate the future addition of pedestrian and bicycle facilities.

v. The project shall comply with PMC 20.55 – off-street Parking Regulations, or master plan established standards.

16. PUBLIC SERVICES

i. A resulting need for additional public services, such as police services, fire protection, library, various other municipal services, etc. can be anticipated from the project. However, this determination does not anticipate that the project will impact city services and utilities in a manner that would reduce the Level of Service (LOS) for the applicable utilities as adopted in the city's Capital Facilities Element.

ii. The project shall comply with the applicable school impact fee, consistent with the currently adopted fee amount at the time of building permit issuance, per PMC 21.20.140, where applicable.

iii. The project shall comply with the applicable parks impact fee, consistent with the currently adopted fee amount at the time of building permit issuance, per PMC 21.20.140, where applicable.

17. UTILITIES

i. Domestic water will be provided by the water purveyor serving the site. The applicant shall provide a water availability letter/documentation to ensure adequate water can be supplied to each individual project.

ii. Sanitary sewer service shall be provided to the development in accordance with city standards.

iii. Electricity, natural gas, refuse/recycling collection, internet and landline telephone service is provided by private utilities; property owner and/or applicant to determine availability of those private utilities to be provided on site.

Issuance of this threshold determination does not constitute approval of the permit. This proposal will be reviewed for compliance with all applicable City codes that regulate the applicable development activities, including, but not limited to, the International Fire/Building/Residential Codes, City of Puyallup Engineering Standards, Zoning Code, Surface Water Design Manual, Impact Fees, and the Critical Areas Ordinance.

DETERMINATION OF NON-SIGNIFICANCE (DNS)

Upon review of applicable documentation, the responsible official of the lead agency hereby finds that this proposed permit action would not result in a probable significant adverse impact on the environment. The lead agency has determined that the requirements for environmental analysis, protection, and mitigation measures have been adequately addressed in the development regulations and comprehensive plan adopted under chapter 36.70A RCW, and in other applicable local, state, or federal laws or rules, as provided by RCW 43.21C.240 and WAC 197-11-158. Our agency will not require any additional mitigation measures under SEPA.

An Environmental Impact Statement (EIS) is not required, under RCW 43.21C.030 (2) (c). This finding is made pursuant to RCW 43.21C, PMC 21.04.120 and WAC 197-11 after reviewing a completed environmental checklist and other information on file with the lead agency. The responsible official finds this information reasonably sufficient to evaluate the environmental impact of this proposal. This information is available to the public upon request.

COMMENTS

Consistent with WAC 197-11-355, the Lead Agency issued a Notice of Application on **September 7, 2021** with a single integrated comment period to obtain comments on the notice of application and the likely threshold determination for the proposal. Therefore, consistent with the optional DNS process outlined in WAC 197-11-355, there is no further comment period for the subject Determination.

APPEALS

Consistent with WAC 197-11-545 regarding commenting parties and agencies, an appeal the subject DNS may be filed with the SEPA Responsible Official by applicable parties and agencies within 10 days of the issuance of this DNS, or by **3:00 pm** on **Monday, June 13, 2022**

Appeals will be accepted by via the Cityview permit portal only (https://permits.puyallupwa.gov/Portal). Please call or email Planning prior to submission of an appeal, if possible.

- To file an appeal electronically, please visit https://permits.puyallupwa.gov/Portal and select "Apply for a Planning Permit", selecting "'Appeal to Hearing Examiner" from the project/permit type drop down when prompted.

Prior to submittal and payment of the $650.00 appeal fee, consult PMC 21.04.205 regarding SEPA Appeals or contact the SEPA Responsible Official at Planning@PuyallupWA.gov or (253) 864-4165 to ask about the appeal procedures, if possible. Be prepared to make specific factual reasons, rationale, and/or the basis for the appeal. This determination will become final if no formal appeals are filed and/or reconsideration requests are made by the expiration date listed above.

Publication Date: **June 7, 2022** Notice Published in: Tacoma News Tribune

June 3, 2022

Chris Beale, AICP
Senior Planner

Date

June 3, 2022

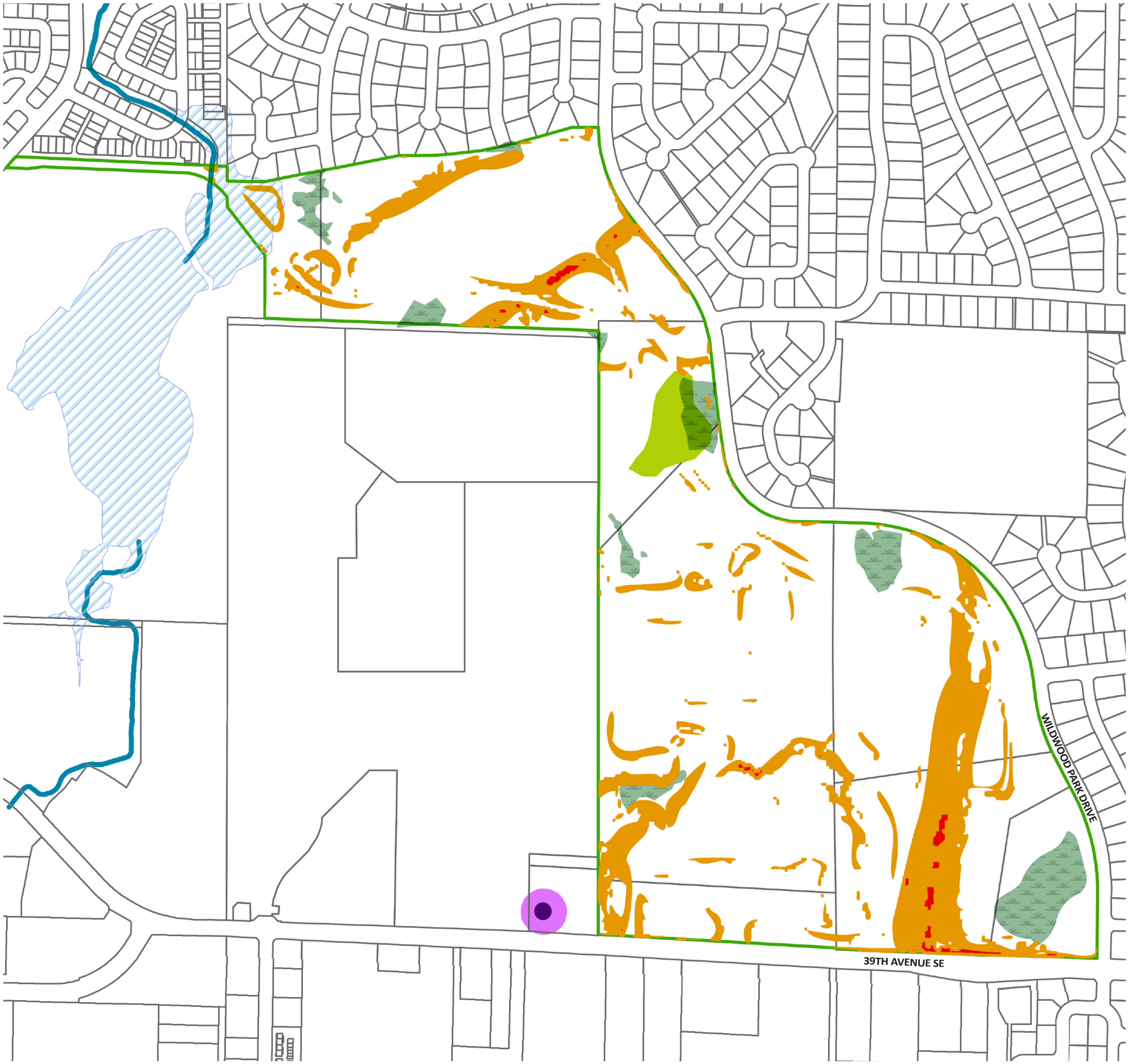
Katie Baker, AICP
City of Puyallup SEPA Responsible Official

Date

Attachments:

A. Master Site development site plan
B. Environmental Checklist

Figure 8.1 Critical Areas



PIERCE COLLEGE PUYALLUP CAMPUS MASTER PLAN

Critical Areas

LEGEND

- Pierce College Boundaries
- Puyallup Tax Parcels
- Streams
- Priority Habitat and Species
- Drinking Wells
- Drinking Wells Buffer
- Wetland
- Puyallup Regulated Floodplain 2017: Zone X

POTENTIAL LANDSLIDE HAZARD AREAS

- 40% Or Greater Slopes
- 16% - 39% Slopes*

* The presence of relatively permeable sediment overlaying relatively impermeable sediment or bedrock combined with the presence of springs or groundwater seepage do not occur on the campus thereby meaning that the areas with slopes between 16 and 39 percent are not considered geologically hazardous areas.

Figure 8.2 Soils Map

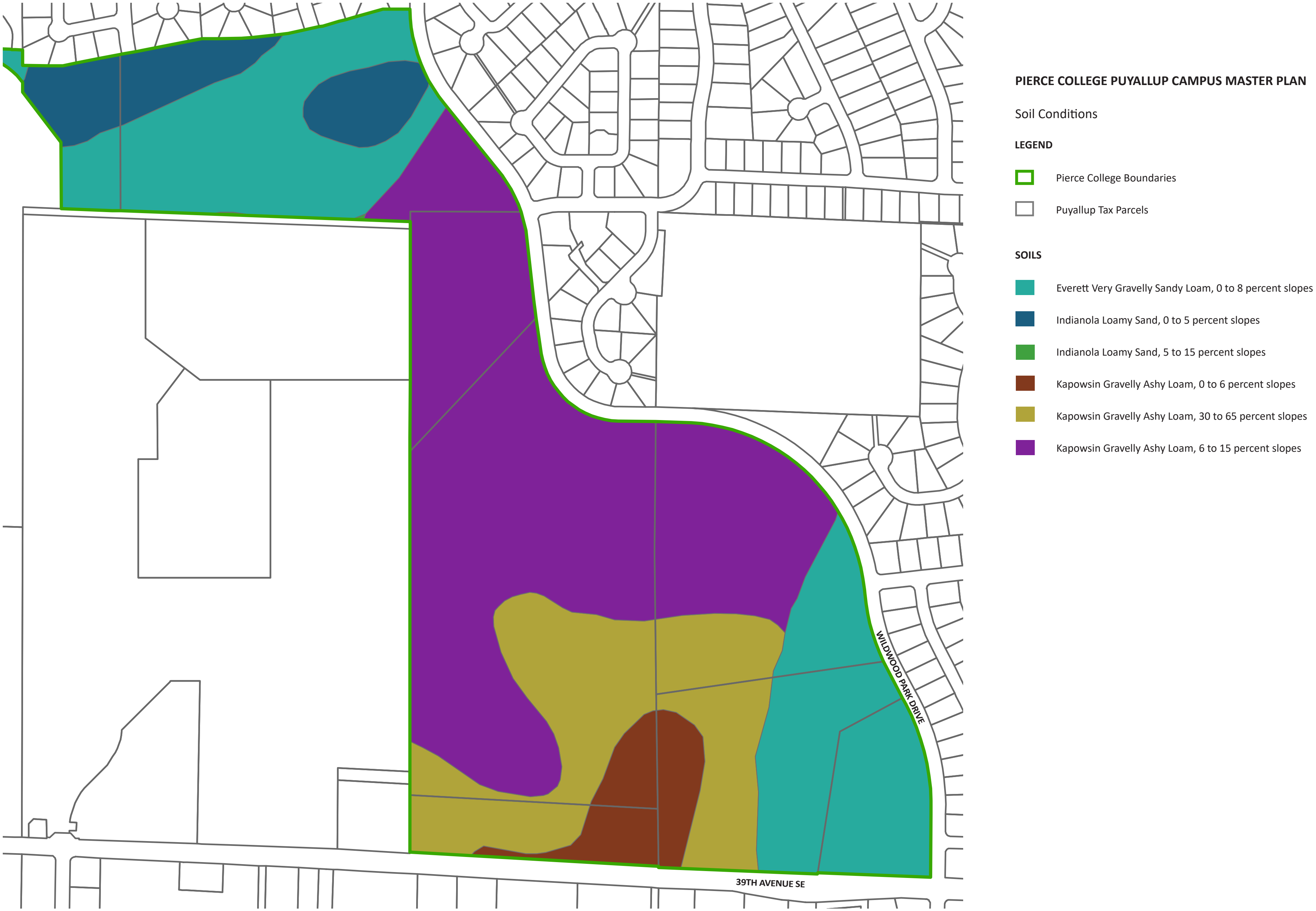


Figure 8.3 Wetlands

PIERCE COLLEGE PUYALLUP CAMPUS MASTER PLAN

Wetlands and Detention

EXISTING FACILITIES

ADM	Administration Building
AAH	Arts and Allied Health Building
CTR	College Center Building
HEP	Health Education Center
LSC	Library Sciences Building
CDP	Child Development Center
MAINT.	Maintenance Building
911	911 Emergency Building
PORT.	District Mar-Com Portable

LEGEND

- Existing Facility
- Future Additional Parking
- Renovated Facility
- Wetland
- Detention Pond

8.5 SEPA Analysis

A SEPA Environmental Checklist was submitted to the City of Puyallup concurrent with the Master Plan. City staff performed environmental analysis of the Master Plan application and issued a Determination of Non-Significance (DNS) on June 3, 2022. The appeal deadline was June 13, 2022. No appeals were filed.

8.6 Master Plan Adoption

On August 4, 2021 a Neighborhood Meeting was held virtually via Zoom.

On August 31, 2021, City Development and Permitting Services staff determined that Pierce College submitted a complete application for a proposed Master Plan.

On May 25, 2022, the City Planning Commission conducted a public hearing on the proposed Master Plan and voted to forward a 6-1 approval recommendation to the City Council.

On June 28th, 2022 the City Council approved the first reading of Ordinance No. 3253 to adopt the Master Plan at its regular meeting.

The Pierce College Puyallup Master Plan was adopted by the by the Puyallup City Council with the second reading of Ordinance No. 3253 to adopt this Master Plan at its regular meeting on July 12, 2022.

8.7 Supporting Comprehensive Plan Policies

Natural Environment Element

- NE-3 Protect, integrate and restore critical areas and their aesthetic and functional qualities through conservation, enhancement and stewardship of the natural environment.
- NE-7: Identify and protect wetland resources and ensure "no net loss" of wetland function, value and area within the city. Engage citizens in the restoration, protection and stewardship of wetland resources throughout the city.
    - NE-7.1: Preserve wetlands to achieve no net loss of wetlands function and value by using size and value of the wetlands to determine the amount of development allowed, if any. Seek to maintain wetlands acreage over the long term.
    - NE-7.2: Require buffers adjacent to wetlands to protect the ecological functions integral to healthy wetland ecosystems. Buffer sizes should be tailored to protect the wetland's functions within the surrounding landscape and buffer, particularly when the wetland provides a high level of habitat value.

South Hill Neighborhood Plan Policies

- SH-12 The South Hill Center incorporates a public realm that includes public spaces, sidewalks, trails, and parks as a critical component to creating a vibrant community in which people want to live and be active, and serving as a catalyst for attracting future development.
    - SH-12.9 Protect and enhance the system of wetlands within the South Hill Center and encourage new development to have visual and physical connections to these areas so that they serve as open space amenities for residents.

9 Appendices

9.1 Concomitant Agreements

9.1.1 Concomitant Agreement May 30, 1986

9.1.2 Concomitant Agreement August 5, 1987

9.1.3 Concomitant Agreement June 5, 2003

9.2 Landscape Master Plan

9.3 Site Lighting Master Plan

9.4 Sign Programming Guide

9.5 Traffic Impact Analysis

9.6 Parking Analysis

9.7 PMC 20.55.010(27) Parking Calculations Analysis

9.8 Bicycle Parking Study

9.9 Sewer System and North Basin Sanitary Sewer Pump Station Report

9.10 Wetlands Report

9.11 SEPA Checklist

9.1 Concomitant Agreements

9.1.1 Concomitant Agreement May 30, 1986

8609290435

RECEIVED
PLANNING & COMMUNITY AFFAIRS

OCT 06 1986

CITY OF PUYALLUP

#13

CONCOMITANT AGREEMENT

THIS AGREEMENT, entered into this 30th day of May, 1986, by and between BEIM & JAMES PROPERTIES II, hereinafter referred to as the "Applicant", and the CITY OF Puyallup, Washington, a municipal corporation, hereinafter referred to as the "City",

W I T N E S S E T H :

WHEREAS the City has authority to enact laws and to enter into agreements to promote the health, safety and welfare of its citizens and thereby control the use and development of property within its jurisdiction, and

WHEREAS the Applicant has applied for a rezone (Case #Z-4-84) of a certain property described in attached Exhibit "A" Case No. Z-4-84 and located within the City's jurisdiction from an "RS" Residential Single-Family District to an "I" Industrial District, and

WHEREAS the City, pursuant to RCW 43.21C, the State Environmental Policy Act, should mitigate any adverse effects which might result because of the proposed rezone, and

WHEREAS the Applicant has indicated willingness to cooperate with the City, its Departments and officials, to ensure compliance with all City ordinances and all other local, state, and federal laws relating to the use and development of the Site, and

WHEREAS, said rezone has been found to comply with the Puyallup Comprehensive Plan and City of Puyallup Municipal Code, and

WHEREAS the City, in addition to civil and criminal sanctions available by law, desires to enforce the rights and interests of the public by this Concomitant Agreement;

NOW, THEREFORE, in the event the Site is rezoned from "RS" Residential Single-Family District to an "I" Industrial District, and subject to the terms and conditions hereinafter stated, the Applicant does hereby covenant and agree as follows:

1. SPECIFIC CONDITIONS OF APPROVAL:

   a. That only the following uses as defined by Condition No. (g), be permitted on the subject property: Professional Offices and Services, Public Service Uses, and Business Park Uses. General Commercial Uses are permitted only as incidental and/or accessory uses to business or office park developments.

EXCISE TAX EXEMPT DATE 9-29-86
Pierce County

By [signature] Auth. Sig

For reference only, not for re-sale.

16-

b. That the following use as defined by Condition No. (g), be permitted south of 104th Street East as proposed on Site Plan 3 on page 18 of the Draft EIS subject to approval of a Conditional Use Permit for such use: Light Manufacturing Uses.

c. That the following development standards be applied to all site development within the project area (all setbacks are measured from interior limit of one hundred foot buffer required by Condition No. (d). Front and street side yards are required to be fully landscaped except for walks and access drives):

1. Minimum Lot Area/Building Site: 20,000 square feet.
2. Minimum Lot Width: 100 feet.
3. Minimum Lot Depth: 150 feet.
4. Minimum Front Yard Setback: 30 feet.
5. Minimum Rear Yard Setback: 25 feet.
6. Minimum Side Yard Setback: 15 feet.
7. Minimum Street Side Yard Setback: 20 feet.
8. Maximum Lot Coverage: 50%.
9. Maximum Building Height: 50 feet.
10. Maximum Floor Area Ratio: 3.0.

d. That a one hundred foot (100') minimum setback and native vegetation buffer be established along the easterly property line (abutting Wildwood Park Drive) and the north property line (abutting Parkwood subdivision). No construction of improvements other than public streets and utilities shall be permitted in such buffer. Where existing vegetation in such buffer is insufficient to prevent views of interior site development, additional native-type landscaping materials will be installed.

e. That the property owner dedicate and improve public streets, utilities and storm drainage areas proposed by Site Plan 3 on page 18 of the Draft EIS in accordance with the city Design Standards. Said streets, utilities and storm drainage areas shall be completely installed prior to issuance of any building permit in reliance upon this rezoning, unless a Binding Site Plan, approved pursuant to Title 19 of the Puyallup Municipal Code is in full force and effect.

f. Developments for which permits are issued, in reliance upon this rezone action, prior to establishment of municipal water, sewer and/or storm drainage utility system development charges shall be required to pay such charges upon their enactment by ordinance of the City Council, provided that such charges are established within two years of the effective date of this rezone action.

g. That the following definitions for permitted and conditionaly permitted uses apply:

1. Business Park Use: A use that involves the manufacturing, compounding or assembly of consumer, business, scientific and medical merchandise, such as electronic equipment, precision instruments, glassware, china, household appliance, cabinets, furniture, or jewelry, from the following previously-prepared typical materials: Clay, cloth or fiber, cork, fur, glass, leather, paper (no milling), precious or semi-precious stones or metals, non ferrous metals, plaster, plastics, shells, textiles, tile and wood. Also includes scientific and research labs. Such uses typically do not employ the use of hazardous materials or volatile chemicals, except as a minor or incidental part of the production process.

2. Commercial Use, General: A use that involves the purchase, sale, lease, rental, repair or other transaction involving the handling of any article, service, substance or commodity commonly used for consumer or household use. Typical uses include arcades, art specialty and retail shops, consumer services enterprises (laundries, dry cleaners, shoe repair, appliance and electronic repair, tailoring, printing shops and photo finishing, etc.), shopping centers or malls, food stores and super markets, health spas and studios; indoor theaters, and restaurants (including sale of alcoholic beverages). General Commercial Uses may be profit or non-profit and are typically conducted entirely within an enclosed building and do not involve outdoor storage of materials. Does not include Road Service Uses.

3. Light Manufacturing Use: A use involving the manufacturing, assembly, processing or treatment of parts, materials, goods, foodstuffs and products intended for general distribution. Production processes may employ the use of hazardous or volatile materials or chemicals, or continuous high levels of noise. Typical uses include blacksmith shops,

custom boat building, indoor storage of bulk materials and machinery, non-flammable gas production, warehousing, publishing plants, pharmaceutical and cosmetics manufacture, veterinary hospitals or kennels. No single such use shall exceed six hundred thousand (600,000) square feet or three thousand (3,000) employees.

4. Professional Offices & Services: A use that provides service for individual, in contrast to sales or services of objects, or an office for business, professional, educational or government use. The service or office may be public or private, profit or non-profit. Typical uses include: barber and beauty shops, insurance stockbrokers, clinics, governmental, business or medical offices, including architects, lawyers, realtors or travel agents.

5. Public Service Use: A use involving government of community function or public service or utility. Typical uses include emergency service (ambulance or rescue), public parking lots (but not garages), broadcasting stations, towers or facilities, government buildings and facilities, and public parks and open space.

2. MITIGATING MEASURES:

EARTH

a. In as much as the intent of the project is to provide a campus environment in a natural "northwest" setting, earthwork will be restricted as much as possible. Buildings, parking areas and access roads will be situated so as to minimize impacts on the natural topography.

b. No building will occur on the steep slopes (30%+) above the swale in the southeast corner of the site.

c. To avert the beginning of active erosion, earthwork in areas of potential erosion will occur during the dry season and care will be taken to prevent disturbing the vegetative cover on steep slopes. Any exposed soil on steep slopes will be quickly revegetated and replanted.

d. Temporary erosion control and sedimentation plans will also be developed. Temporary siltation basins, siltation fences and hay bales will be used as required.

AIR

e. During the temporary clearing and construction phases, the continuing application of effective maintenances, and operating procedures, the correct use of properly maintained equipment and vehicles, and appropriate treatment of disturbed areas will keep the generation of dust within acceptable limits. Any exposed soil will be covered with building, paved areas, formal landscaping or natural vegetation.

f. No trades, services or activities shall be conducted nor shall anything else be done which may be or become an annoyance or nuisance to the owners or occupants by reason of unsightliness or excessive emission of fumes, odors, glare, vibration, gases, radiation, dust, liquid wastes, smoke, debris or noise.

g. No significant industrial sources of suspended particulates will be allowed to locate within the site.

NOISE

h. There will be no significant perception of noise beyond the project boundaries.

i. Construction noise can be mitigated by proper operation and maintenance of construction equipment, keeping construction equipment as far away as possible form noise sensitive areas, and limiting hours of construction to the normal work day (i.e., 7:00 a.m. - 6:00 p.m.).

j. Noise levels of actual development shall not exceed the maximum allowed by applicable law.

k. All street and parking lot lighting will be located as close as possible to the ground and directed away from residential properties.

LAND USE

l. Parking, loading and unloading area - All parking areas shall be buffered as well as practicable by the use of landscaping materials, all driveways and areas for parking, maneuvering, loading and unloading shall be paved with asphalt, concrete or similar materials. Off-street loading spaces shall be designated to include an additional area or means of ingress and egress, which shall be adequate for maneuvering.

m. Garbage and refuse containers shall be contained within buildings, or shall be concealed by means of shrubbery or screening walls of materials similar to and compatible with that of the building. Fuel and other storage tanks and coal bins shall be installed underground whenever practicable or screened from public view. Such improvements shall be integrated with the concept of the building plan, be designed so as not to attract attention and shall be inconspicuously located. Unless specifically approved in writing for display and similar purposes, no materials, supplies or equipment shall be stored in any area on a building site except inside a closed building, or behind a visual barrier which screens such areas, so they are not visible from neighboring building sites or streets; the materials used for said screening barriers shall be wood or masonry in type and must be similar to and compatible with those materials used on the buildings.

n. Exterior materials, color - architecturaly and aestheticaly suitable building materials shall be applied to, or used on all sides of buildings which are visible to the general public and shall be harmonious and compatible with colors of the natural surroundings and other adjacent buildings.

o. All utility lines, including electrical, shall be underground. Pad mounted transformers, switch gear and similar equipment which must be installed above ground line, shall be screened with suitable landscaping. Equipment shall be located or screened so as not to be visible from the street view of the general public, or from the front view of other building sites. Penthouses and mechanical equipment screening walls shall be of design and materials compatible with those of the building. Antennae shall be visually masked to the extent practicable and consistent with electro-magnetic considerations. All mechanical devices shall be operated so as not to disturb the peace, quite and comfort of neighboring residents.

p. Exterior lighting - All exterior and security lighting shall have underground service and shall be designed, erected, altered and maintained to the end that lighting shall be compatible and harmonious throughout the park. Outdoor lighting and aerial mounted flood lights shall be shielded from above, in such a manner that the bottom edge of the shield shall be shielded so that the direct illumination shall be confined to the property boundaries of the light source. Ground mounted flood lighting or light projection above the horizontal plane is prohibited between midnight and sunrise.

q. Pollutants - No trades, services or activities shall be conducted nor shall anything else be done which may be or become an annoyance or nuisance to the owners or occupants by reason of unsightliness or excessive emission or fumes, odors, glare, vibration, gases, radiation, dust, liquid wastes, smoke, debris or noise.

TRANSPORTATION

r. In the event that the 104th Street extension is not constructed to Meridian, traffic volumes at the intersection of 39th Avenue with the proposed project access road shall be monitored and this intersection signalized when traffic volumes warrant.

s. Concurrent with development of adjoining properties, construct the proposed project access road from 39th northward to 104th as a 40-foot industrial collector cross-section (consisting of one lane in each direction with paved shoulders and left-turn pockets at intersections), appropriate drainage treatment consisting of either open ditches or curb and gutter, and pedestrian pathways or sidewalks, parallel to, but separated from, the roadway.

t. Prohibit direct access to Wildwood Park Drive except at the proposed Wildwood and 104th Extension.

u. Construct the 104th Avenue Extension in the northwest portion of the site to a 40-foot industrial collector standard similar to that proposed for the north-south access road previously discussed. This access road should be constructed as adjacent properties are developed.

v. Individual development projects including applicant's may be required to participate in their proportional share of measures designed to mitigate impacts to transportation facilities in the vicinity of the proposal, including that included in paragraph "r" above.

FIRE PROTECTION

w. Any uses requiring hazardous or flammable materials will be reviewed on a case-by-case basis. The delivery, handling, storage and disposal of any such materials will be approved by the City.

x. The proposed street layout will be designed to permit easy access to all building and other land uses within the project site. Sufficient street widths and turning radii will be provided to facilitate the movement of emergency vehicles.

UTILITIES

y. All potential users with significant quantities of process water or process waste water will be reviewed on a case-by-case basis.

z. All industrial effluent will be treated per City standards prior to entering the City's sewer or surface water drainage system.

aa. A detailed analysis will be conducted prior to developing the detention facility in the existing swale along Wildwood Park Drive. The City has preliminary sized this facility at 80,000 square feet. After determining the elevation of the existing high ground water table, storage for the 100 year and 25 year storm will be provided above that elevation.

bb. Oil pollution control will separate oil pollutants and silt from the run-off prior to its release. Upon completion of the project, the quantity and rate of run-off leaving the site will not be significantly different from that generating by the property in its present state.

AESTHETICS

cc. Temporary erosion and sediment control will be provided as necessary during each construction phase. Disturbed areas will be re-seeded or surfaced soon after construction.

dd. As streets and buildings are constructed, vegetation will be re-established in cleared areas. All areas not initially improved with buildings, parking, or formal landscaping, must be landscaped in either a natural or formal manner

ee. Landscaping would consist of lawns with a mixture of street trees and other plantings. If appropriate, the setback area would be bermed in an undulating fashion. Flower beds or other landscape features may be incorporated around signs, entry drives, etc. All landscaping will be required to be regularly serviced and maintained.

3. No modifications of this agreement shall be made unless mutually agreed upon by the parties in writing.

4. The City may, at its discretion, bring a lawsuit to compel specific performance of the terms of this agreement.

5. If any condition or covenant herein contained is not performed by the applicant, the Applicant hereby consents to entry upon the Site by the City of Puyallup or any entity, individual, person, or corporation acting on behalf of the City of Puyallup for purposes of curing said defect and performing said condition or covenant. Should the City in its discretion exercise the rights granted herein to cure said defect, the Applicant, his successors and assigns, consent to the entry of the City on the above described property and waive all claims for damages of any kind whatsoever arising from such activity, and the applicant further agrees to pay the City all costs incurred by the City in remedying said defects or conditions. The obligations contained in this section are covenants running with the land, and burden the successors and assigns of the respective parties.

6. In the event that any term or clause of this agreement conflicts with applicable law, such conflict shall not affect other terms of this agreement which can be given effect without the conflicting term or clause, and to this end, the terms of this agreement are declared to be severable.

IN WITNESS WHEREOF the parties hereto executed this agreement as of the day and year first above written.

ATTEST: CITY OF Puyallup

Robin Wohlhueter — City Clerk

by [signature] — Mayor

Approved as to Form:

[signature]

BEIM & JAMES PROPERTIES II
By: Waterbear Partners
by [signature]
Its GENERAL PARTNER

STATE OF Washington)
: SS.
COUNTY OF Pierce)

I, THE UNDERSIGNED, a Notary Public in and for the State of Washington, do hereby certify that on this 15th day of September, 1986, personally appeared before me Ron Crowe of said corporation which executed the above instrument, and acknowledge said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes above mentioned, and on oath stated that he was authorized to execute said instrument and that the seal affixed is the corporate seal of said corporate seal of said corporation.

GIVEN under my hand and official seal the day and year last above written.

[signature]
NOTARY PUBLIC in and for the State of Washington, residing at ~~Tacoma~~ Puyallup

PARTNERSHIP ACKNOWLEDGMENT

NO. 2

State of CALIFORNIA }
County of SAN MATEO } SS.

On this the 4th day of JUNE 1986 before me, RoseMary Candelaria, the undersigned Notary Public, personally appeared John K. James,

☒ personally known to me
☐ proved to me on the basis of satisfactory evidence

to be the person(s) who executed the within instrument on behalf of the partnership, and acknowledged to me that the partnership executed it.

WITNESS my hand and official seal.

OFFICIAL SEAL
ROSEMARY CANDELARIA
Notary Public-California
SAN MATEO COUNTY
My Comm. Exp. Apr. 25, 1990

RoseMary Candelaria
Notary's Signature

EXHIBIT "A"

CASE NO. Z-4-84

That portion of the Southwest quarter of Section 2 and of the East half of Section 3, Township 19 North, Range 4 East of the Williamette Meridian, described as follows:

Beginning at a point on the East line of the East half of said Section 3, said point bears North 0 degrees 55'34" West 60.10 feet from the Southeast corner of said Section 3 and is also the North margin of 112th Street East (39th Avenue SE) thence along said North margin North 87 degrees 41'32" west 1015.15 feet to the east line of the parcel of land described in Pierce County Auditor's number 2362554; thence leaving said North margin North 1 degree 02'14" West 275.47 feet along said Parcel to the Northeast corner thereof; thence North 0 degrees 56'15" West 2327.24 feet; thence North 88 degrees 53'29" West 1613.90 feet to a point on the North-South centerline of said Section 3, said point bears North 1 degree 12'53" West 12.65 feet from the center of section of said Section 3, said point being a fence post as shown on the Plat of "PARKWOOD DIVISION NO. 3" recorded in volume 61 of Plats, at pages 50 and 51, records of Pierce County, Washington; thence along said North-South centerline North 1 degree 12'53" West 590.27 feet to the Southwest corner of the said Plat of "PARKWOOD DIVISION NO. 3"; thence Easterly along the South line thereof North 88 degrees 46'50" East 167.70 feet to a concrete monument; thence North 77 degrees 54'21" East 588.30 feet to a concrete monument; thence North 88 degrees 10'28" East 165.41 feet; thence North 82 degrees 32'53" East 197.89 feet to a concrete monument; thence North 76 degrees 30'04" East 137.96 feet; thence North 73 degrees 02'16" East 260.92 feet to a concrete monument; thence North 88 degrees 32'11" East 108.02 feet to the Westerly margin of Wildwood Park Drive (School Road East), as conveyed to Pierce county by instrument recorded under Auditor's No. 3125764, 2135764, and the Southeast corner of the said Plat of "PARKWOOD DIVISION NO. 3"; said point also being on a 633.11 foot radius curve to the left (radius point bears North 88 degrees 07'39"); thence Southerly and Easterly along said West margin and said curve 417.45 feet through a central angle of 37 degrees 46'42"; thence South 39 degrees 39'03" East 384.34 feet to the beginning of a 468.22 foot radius curve to the right; thence along said curve 245.16 feet through a central angle of 30 degrees 0'00"; thence South 9 degrees 39'03" East 513.83 feet to the beginning of a 331.56 foot radius curve to the left; thence along said curve 460.40 feet through a central angle of 79 degrees 33'34"; thence South 89 degrees 12'37" East 289.96 feet to the beginning of a 760.23 foot radius curve to the right; thence along said curve 1097.41 feet through a central angle of 82 degrees 42'29"; thence South 6 degrees 30'08" East 19.70 feet to the beginning of a 848.57 foot radius curve to the left; thence along said curve 330.27 feet through a central angle of 22 degrees 18'00"; thence South 28 degrees 48'08" East 158.73 feet to the beginning of a 920.34 foot radius curve to the right; thence along said curve 467.30 feet through a central angle 29 degrees 05'30"; thence South 0 degrees 17'22" West 259.81 feet to the North margin of the said 112th Street East (39th Avenue Southeast); thence along said North margin North 89 degrees 42'26" West 470.95 feet; thence South 9 degrees 31'15" West 5.07 feet; thence North 89 degrees 42'26" West 666.44 feet to a point on said North margin and the East line of said Section 3; thence along said East line North 0 degrees 55'34" West 5.08 feet to the Point of Beginning.

Subject to easements, restrictions, and reservations of record.

RECORDED
86 SEP 29 P 2:52
AUDITOR
PIERCE COUNTY WASH
DEPUTY

9.1.2 Concomitant Agreement August 5, 1987

CLARIFICATION OF CONCOMITANT AGREEMENT
BETWEEN CITY OF PUYALLUP and BEIM & JAMES PROPERTIES II
AND ITS SUCCESSORS IN INTEREST

This letter serves to clarify the Concomitant Agreement entered into between the City of Puyallup and Beim & James Properties II and its successors in interest relating to certain aspects of the storm drainage requirements of the development of Puyallup Science Park Division II.

There is a regional drainage basin comprising approximately 304 acres situated within Pierce County and the City of Puyallup. Storm drainage problems have arisen in a part of this regional drainage basin commonly referred to as the Candlewood Manorwood section.

Beim & James Properties II or any successors in interest are the owners (referred to herein as "Owners") of certain real property (referred to herein as "the Property") located within the City of Puyallup and the regional drainage basin. The Property, commonly referred to as Puyallup Science Park Division 2, has been classified as Industrial through a Concomitant Zoning Agreement with the City of Puyallup (herein referred to as "City") dated May 30, 1986.

The Property is comprised of 122.54 acres, 40 acres of which drain to the southeast section of the site to a retention pond and then through a previously existing culvert under 39th Avenue to the Candlewood Glen portion of the drainage basin. Prior to the zoning reclassification of May 30, 1986, unbeknownst to the City and to the Owners, Pierce County (referred to herein as "County") blocked the culvert under 39th Avenue. Subsequent to the zoning reclassification of May 30, 1986 storm drainage problems have occurred.

After discussions between the County, City and Property Owners the parties agree as follows:

1. The County and the City agree to cooperate in resolving the storm drainage problems which have occurred within the regional drainage basin and more specifically in the area of 39th Avenue.

2. During those discussions it was found that the most favorable solution to the storm drainage problem was the construction of a third detention pond to be located on the property in private ownership but subject to an easement by Bonneville Power Administration. With regard to this alternative

solution, it is agreed that the County will take lead responsibility in implementing this alternative solution including the acquisition of all necessary easements, the design and construction of the third detention pond and the design and construction of appurtenant facilities. As part of the implementation process the County agrees to unblock the culvert under 39th Avenue.

3. In the event that the alternate solution described above is determined to be infeasible, the City and County agree to use their best efforts in determining another solution to the regional drainage problem.

4. The City and the County agree to assume their respective share of the cost of implementing the improvements described in Paragraph 2 or 3 according to a separate agreement between them. Based on the information available at the time of this letter, the area of the Property that drains into this basin comprises approximately 25% of the area of the drainage basin that is presently within the City. With respect to the City's share of the cost of implementing the improvements described in Paragraph 2 or 3 above the City will pay $10,000 and the Owners of the Property (as a portion of the City area) agree to pay the amount of the City's share of this cost that is in excess of $10,000.

5. Upon implementation of the solution described in Paragraph 2 or 3 herein, the City agrees that the Owners have met the requirements contained in the Concomitant Zoning Agreement relating to off-site storm drainage control specifically:

   1. <u>Subsection A, Page 8, Section aa</u>.

   "A detailed analysis will be conducted prior to developing the detention facility in the existing swale along Wildwood Park Drive. The City has preliminary sized this facility at 80,000 square feet. After determining the elevation of the existing high ground water table, storage for the 100 year and 25 year storm will be provided above that elevation."

The City will not require any improvements to the retention pond in the Southeast corner of the Property as set forth in subsection 1e. on page 2 of the Concomitant Agreement or that off-site storm drainage facilities as proposed in Paragraph 2 or 3 herein be implemented prior to the issuance of any building

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permits for the subject property. It is hereby expressly understood that this Paragraph 5 does not pertain to "on-site" storm drainage requirements of the City.

6. The City further agrees that it will impose no further requirements relating to off-site storm drainage than those already stated in the Concomitant Zoning Agreement as amended herein.

CITY OF PUYALLUP

By: ______________________
Its: City Manager

Approved as to From:

____
MARTIN MEUNCH
Attorney for the City of
Puyallup

BEIM & JAMES PROPERTIES II
a California limited partnership

By: Waterbear Partners, a
California limited partnership,
Its general partner

By: ______________________
John K. James
Its: General Partner

87 AUG 5 P 1:09

STATE OF CALIFORNIA)
) ss.
County of San Mateo)

On this 9th day of July, 1987 before me, the undersigned, a Notary Public in and for the State of California, duly commissioned and sworn, personally appeared John K. James, personally known to me to be the person who executed the within instrument on behalf of the partnership, and acknowledged to me that the partnership executed it.

Witness my hand and official seal hereto affixed the day and year first above written.

Rose Mary Candelaria
NOTARY PUBLIC in and for the State of California,
residing at Mountain View, Calif
My commission expires: 4-25-90

OFFICIAL SEAL
ROSEMARY CANDELARIA
Notary Public-California
SAN MATEO COUNTY
My Comm. Exp. Apr. 25, 1990

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9.1.3 Concomitant Agreement June 5, 2003

200306050075 19 PGS
06-05-2003 09:29am $37.00
PIERCE COUNTY, WASHINGTON

Name & Return Address:

CITY OF PUYALLUP – CITY CLERK
218 WEST PIONEER
PUYALLUP, WA 98371

Please print legibly or type information.

Document Title (Or transaction contained therein)

Amendment to Concomitant Agreement dated May 30, 1986 between the City of Puyallup and Beim & James Properties II (property later purchased by Pierce College)

Grantor(s) (Last name first, then first name, middle name)

Puyallup, city of

Grantee(s) (Last name first, then first name, middle name)

Pierce College

Legal Description (Abbreviated: i.e., lot, block & subdivision name or number OR Section/township/range and quarter/quarter section

84.33 acre site located in the southern half of the NE and NW sections of Section 3, and the SE and SW quarter sections of Section 3, Township 19, Range 4

Complete Legal Description on Page ____ of Document

Auditor's Reference Number(s)
8609290435 (Pierce County Recording number)

Assessor's Property Tax Parcel/Account Number(s)

The Auditor/Recorder will rely on the information provided on this cover sheet. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein. IF YOU REPRODUCE THIS FORM, BE SURE MARGINS REMAIN 3 INCHES AT THE TOP AND 1 INCH ON SIDES AND BOTTOM.

Gpcovst.1st 2/98

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Amendment to Concomitant Agreement Dated May 30, 1986
Between the City of Puyallup and Beim & James Properties II

The City of Puyallup and property owner Beim & James Properties II entered into a Concomitant Agreement on May 30, 1986 ("Agreement") describing the use and development of a 84.33 acre site, which property is legally described in the original Agreement and is generally located at the northwest corner of 39th Avenue SE and Wildwood Park Drive (1601 39th Avenue SE). Since executing the agreement, properties to the north of 39th Avenue SE have been sold for the construction and operation of a state funded community college; Pierce College. In recognition of this sole use by Pierce College, the original Concomitant Agreement is in need of amendment to better serve the City and College.

WHEREAS, the community college use is consistent with the original Concomitant Agreement's specific conditions of approval for land use as a "Professional Offices & Services", and

WHEREAS, the City, pursuant to RCW 43.21C, the State Environmental Policy Act, should mitigate any adverse effects which might result in the development of the College's Master Plan, and

WHEREAS, some of the conditions of approval outlined in the Concomitant Agreement may now be in conflict with the mitigation needed to support the College's Master Plan, and

WHEREAS, new mitigation measures may be necessary to properly mitigate impacts presented by the development of the college to satisfy the State Environmental Policy Act;

NOW, THEREFORE, the original Concomitant Agreement entered into on May 30, 1986 shall be amended as follows:

I. Section 1 entitled "SPECIFIC CONDITIONS OF APPROVAL" of the attached Agreement, is amended to read as follows:

1. Paragraph "b." of Section 1 of the Agreement is hereby repealed in its entirety.

2. Paragraph "d." of Section 1 of the Agreement is hereby amended as follows:

That a one hundred foot (100') minimum setback and native vegetation buffer be established along the easterly property line (abutting Wildwood Park Drive) and the north property line (abutting Parkwood subdivision). No construction of improvements other than public streets~~, public or private bicycle and walkways, private drives~~ and utilities shall be permitted in such buffer. Where existing vegetation in such buffer is insufficient to prevent views of interior site development, additional native-type landscaping materials will be installed.

3. Paragraph "e." of Section 1 of the Agreement is hereby amended as follows:

That the property owner ~~dedicate and improve public streets, utilities and storm drainage areas proposed by Site Plan 3 on page 18 of the Draft EIS in accordance with~~

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~~the city Design Standards. Said streets, utilities and storm drainage areas shall be completely installed prior to issuance of any building permit in reliance upon this rezoning, unless a Binding Site Plan, approved pursuant to Title 19 of the Puyallup Municipal Code is in full force and effect~~process a Binding Site Plan that will be subject to approval pursuant to Title 19 of the Puyallup Municipal Code. The Binding Site Plan will identify the project's necessary access locations, utilities and storm drainage facilities.

II. Section 2 entitled "MITIGATING MEASURES – TRANSPORTATION" of the attached Agreement, is amended to read as follows:

4. Paragraph "r." of Section 2 of the Agreement is hereby amended as follows:

~~In the event that the 104th Street extension is not constructed to Meridian, traffic volumes at the intersection of 39th Avenue with the proposed project access road shall be monitored and this intersection signalized when traffic volumes warrant.~~The College will assess the need for additional access to the campus during the development of each major addition in accordance with the College Master Plan. This assessment shall be by a Traffic Access Study meeting the current City requirements at the time of application.

5. Paragraph "s." of Section 2 of the Agreement is hereby amended as follows:

~~Concurrent with development of adjoining properties, construct the proposed project access road from 39th northward to 104th as a 40 foot industrial collector cross-section (consisting of one lane in each direction with paved shoulders and left turn pockets at intersections), appropriate drainage treatment consisting of wither open ditches or curb and gutter, and pedestrian pathways or sidewalks, parallel to, but separated from, the roadway.~~Several options for access have been determined through previous work that would benefit the College and the City. These access locations have been identified as their current access location off 39th Avenue, but with possible improvements such as a signal, if warranted per the MUTCD, access westerly through the campus to a public street such as 5th / 7th connection, and access to Wildwood Park Drive. Access to Wildwood Park Drive to the east of the campus will be evaluated during the development of any major campus addition and only be required when level of service operation would justify additional access and such access is approved by the City Council. Access to Wildwood Park Drive should be selected so it does not align with any existing neighborhood streets that would then promote cut-through traffic, but at such a location that entering sight distance meets current City design standards.

6. Paragraph "t." of Section 2 of the Agreement is hereby amended as follows:

~~Prohibit direct access to Wildwood Park Drive except at the proposed Wildwood and 104th Extension.~~In addition to performing a site access study for each phase of the Master Plan, the college will be required to assess their new trips that may impact the City's street system based on current City requirements for Traffic Impact Studies at the time of application.

7. Paragraph "u." of Section 2 of the Agreement is hereby amended as follows:

~~Construct the 104th Avenue Extension in the northwest portion of the site to a 40-foot industrial collector standard similar to that proposed for the north-south access road previously discussed. This access road should be constructed as adjacent properties are developed.~~ The City supports and encourages the construction of a non-motorized public connection through the campus to connect the neighborhoods to the east side of the campus to Bradley Lake Park. The cost of these improvements will be considered allowable costs to offset transportation proportionate share fees since the improvements will be providing the public an optional means of transportation by connecting a college campus, neighborhoods, public parks and a large commercial core area.

8. Paragraph "v." of Section 2 of the Agreement is hereby repealed in its entirety.

All other provisions of the Concomitant Agreement entered into on May 30, 1986 shall remain in full force and effect as though fully set forth in its entirety.

IN WITNESS WHEREOF the parties hereto have executed this Amendment the date and year indicated.

CITY OF PUYALLUP
APPROVED BY CITY COUNCIL 05/05/2003

James C. Bacon Jr., City Manager
Date: 5-6-3

PIERCE COLLEGE

By: Steven R. Wall
Its: District President
Date: 5-16-03

Approved as to Form:

Gary N. McLean, City Attorney

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RECEIVED
PLANNING & COMMUNITY AFFAIRS

OCT 06 1986

CITY OF PUYALLUP

CONCOMITANT AGREEMENT

THIS AGREEMENT, entered into this 30th day of May, 1986, by and between BEIM & JAMES PROPERTIES II, hereinafter referred to as the "Applicant", and the CITY OF Puyallup, Washington, a municipal corporation, hereinafter referred to as the "City",

W I T N E S S E T H :

WHEREAS the City has authority to enact laws and to enter into agreements to promote the health, safety and welfare of its citizens and thereby control the use and development of property within its jurisdiction, and

WHEREAS the Applicant has applied for a rezone (Case #Z-4-84) of a certain property described in attached Exhibit "A" Case No. Z-4-84 and located within the City's jurisdiction from an "RS" Residential Single-Family District to an "I" Industrial District, and

WHEREAS the City, pursuant to RCW 43.21C, the State Environmental Policy Act, should mitigate any adverse effects which might result because of the proposed rezone, and

WHEREAS the Applicant has indicated willingness to cooperate with the City, its Departments and officials, to ensure compliance with all City ordinances and all other local, state, and federal laws relating to the use and development of the Site, and

WHEREAS, said rezone has been found to comply with the Puyallup Comprehensive Plan and City of Puyallup Municipal Code, and

WHEREAS the City, in addition to civil and criminal sanctions available by law, desires to enforce the rights and interests of the public by this Concomitant Agreement;

NOW, THEREFORE, in the event the Site is rezoned from "RS" Residential Single-Family District to an "I" Industrial District, and subject to the terms and conditions hereinafter stated, the Applicant does hereby covenant and agree as follows:

1. SPECIFIC CONDITIONS OF APPROVAL:

   a. That only the following uses as defined by Condition No. (g), be permitted on the subject property: Professional Offices and Services, Public Service Uses, and Business Park Uses. General Commercial Uses are permitted only as incidental and/or accessory uses to business or office park developments.

EXCISE TAX EXEMPT DATE 9-29-86
Pierce County
By [signature] Auth. Sig

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b. That the following use as defined by Condition No. (g), be permitted south of 104th Street East as proposed on Site Plan 3 on page 18 of the Draft EIS subject to approval of a Conditional Use Permit for such use: Light Manufacturing Uses.

c. That the following development standards be applied to all site development within the project area (all setbacks are measured from interior limit of one hundred foot buffer required by Condition No. (d). Front and street side yards are required to be fully landscaped except for walks and access drives):

1. Minimum Lot Area/Building Site: 20,000 square feet.
2. Minimum Lot Width: 100 feet.
3. Minimum Lot Depth: 150 feet.
4. Minimum Front Yard Setback: 30 feet.
5. Minimum Rear Yard Setback: 25 feet.
6. Minimum Side Yard Setback: 15 feet.
7. Minimum Street Side Yard Setback: 20 feet.
8. Maximum Lot Coverage: 50%.
9. Maximum Building Height: 50 feet.
10. Maximum Floor Area Ratio: 3.0.

d. That a one hundred foot (100') minimum setback and native vegetation buffer be established along the easterly property line (abutting Wildwood Park Drive) and the north property line (abutting Parkwood subdivision). No construction of improvements other than public streets and utilities shall be permitted in such buffer. Where existing vegetation in such buffer is insufficient to prevent views of interior site development, additional native-type landscaping materials will be installed.

e. That the property owner dedicate and improve public streets, utilities and storm drainage areas proposed by Site Plan 3 on page 18 of the Draft EIS in accordance with the city Design Standards. Said streets, utilities and storm drainage areas shall be completely installed prior to issuance of any building permit in reliance upon this rezoning, unless a Binding Site Plan, approved pursuant to Title 19 of the Puyallup Municipal Code is in full force and effect.

f. Developments for which permits are issued, in reliance upon this rezone action, prior to establishment of municipal water, sewer and/or storm drainage utility system development charges shall be required to pay such charges upon their enactment by ordinance of the City Council, provided that such charges are established within two years of the effective date of this rezone action.

g. That the following definitions for permitted and conditionaly permitted uses apply:

1. Business Park Use: A use that involves the manufacturing, compounding or assembly of consumer, business, scientific and medical merchandise, such as electronic equipment, precision instruments, glassware, china, household appliance, cabinets, furniture, or jewelry, from the following previously-prepared typical materials: Clay, cloth or fiber, cork, fur, glass, leather, paper (no milling), precious or semi-precious stones or metals, non ferrous metals, plaster, plastics, shells, textiles, tile and wood. Also includes scientific and research labs. Such uses typically do not employ the use of hazardous materials or volatile chemicals, except as a minor or incidental part of the production process.

2. Commercial Use, General: A use that involves the purchase, sale, lease, rental, repair or other transaction involving the handling of any article, service, substance or commodity commonly used for consumer or household use. Typical uses include arcades, art specialty and retail shops, consumer services enterprises (laundries, dry cleaners, shoe repair, appliance and electronic repair, tailoring, printing shops and photo finishing, etc.), shopping centers or malls, food stores and super markets, health spas and studios; indoor theaters, and restaurants (including sale of alcoholic beverages). General Commercial Uses may be profit or non-profit and are typically conducted entirely within an enclosed building and do not involve outdoor storage of materials. Does not include Road Service Uses.

3. Light Manufacturing Use: A use involving the manufacturing, assembly, processing or treatment of parts, materials, goods, foodstuffs and products intended for general distribution. Production processes may employ the use of hazardous or volatile materials or chemicals, or continuous high levels of noise. Typical uses include blacksmith shops,

custom boat building, indoor storage of bulk materials and machinery, non-flammable gas production, warehousing, publishing plants, pharmaceutical and cosmetics manufacture, veterinary hospitals or kennels. No single such use shall exceed six hundred thousand (600,000) square feet or three thousand (3,000) employees.

4. Professional Offices & Services: A use that provides service for individual, in contrast to sales or services of objects, or an office for business, professional, educational or government use. The service or office may be public or private, profit or non-profit. Typical uses include: barber and beauty shops, insurance stockbrokers, clinics, governmental, business or medical offices, including architects, lawyers, realtors or travel agents.

5. Public Service Use: A use involving government of community function or public service or utility. Typical uses include emergency service (ambulance or rescue), public parking lots (but not garages), broadcasting stations, towers or facilities, government buildings and facilities, and public parks and open space.

2. MITIGATING MEASURES:

EARTH

a. In as much as the intent of the project is to provide a campus environment in a natural "northwest" setting, earthwork will be restricted as much as possible. Buildings, parking areas and access roads will be situated so as to minimize impacts on the natural topography.

b. No building will occur on the steep slopes (30%+) above the swale in the southeast corner of the site.

c. To avert the beginning of active erosion, earthwork in areas of potential erosion will occur during the dry season and care will be taken to prevent disturbing the vegetative cover on steep slopes. Any exposed soil on steep slopes will be quickly revegetated and replanted.

d. Temporary erosion control and sedimentation plans will also be developed. Temporary siltation basins, siltation fences and hay bales will be used as required.

AIR

e. During the temporary clearing and construction phases, the continuing application of effective maintenances, and operating procedures, the correct use of properly maintained equipment and vehicles, and appropriate treatment of disturbed areas will keep the generation of dust within acceptable limits. Any exposed soil will be covered with building, paved areas, formal landscaping or natural vegetation.

f. No trades, services or activities shall be conducted nor shall anything else be done which may be or become an annoyance or nuisance to the owners or occupants by reason of unsightliness or excessive emission of fumes, odors, glare, vibration, gases, radiation, dust, liquid wastes, smoke, debris or noise.

g. No significant industrial sources of suspended particulates will be allowed to locate within the site.

NOISE

h. There will be no significant perception of noise beyond the project boundaries.

i. Construction noise can be mitigated by proper operation and maintenance of construction equipment, keeping construction equipment as far away as possible form noise sensitive areas, and limiting hours of construction to the normal work day (i.e., 7:00 a.m. - 6:00 p.m.).

j. Noise levels of actual development shall not exceed the maximum allowed by applicable law.

k. All street and parking lot lighting will be located as close as possible to the ground and directed away from residential properties.

LAND USE

l. Parking, loading and unloading area - All parking areas shall be buffered as well as practicable by the use of landscaping materials, all driveways and areas for parking, maneuvering, loading and unloading shall be paved with asphalt, concrete or similar materials. Off-street loading spaces shall be designated to include an additional area or means of ingress and egress, which shall be adequate for maneuvering.

m. Garbage and refuse containers shall be contained within buildings, or shall be concealed by means of shrubbery or screening walls of materials similar to and compatible with that of the building. Fuel and other storage tanks and coal bins shall be installed underground whenever practicable or screened from public view. Such improvements shall be integrated with the concept of the building plan, be designed so as not to attract attention and shall be inconspicuously located. Unless specifically approved in writing for display and similar purposes, no materials, supplies or equipment shall be stored in any area on a building site except inside a closed building, or behind a visual barrier which screens such areas, so they are not visible from neighboring building sites or streets; the materials used for said screening barriers shall be wood or masonry in type and must be similar to and compatible with those materials used on the buildings.

n. Exterior materials, color - architecturaly and aestheticaly suitable building materials shall be applied to, or used on all sides of buildings which are visible to the general public and shall be harmonious and compatible with colors of the natural surroundings and other adjacent buildings.

o. All utility lines, including electrical, shall be underground. Pad mounted transformers, switch gear and similar equipment which must be installed above ground line, shall be screened with suitable landscaping. Equipment shall be located or screened so as not to be visible from the street view of the general public, or from the front view of other building sites. Penthouses and mechanical equipment screening walls shall be of design and materials compatible with those of the building. Antennae shall be visually masked to the extent practicable and consistent with electro-magnetic considerations. All mechanical devices shall be operated so as not to disturb the peace, quite and comfort of neighboring residents.

p. Exterior lighting - All exterior and security lighting shall have underground service and shall be designed, erected, altered and maintained to the end that lighting shall be compatible and harmonious throughout the park. Outdoor lighting and aerial mounted flood lights shall be shielded from above, in such a manner that the bottom edge of the shield shall be shielded so that the direct illumination shall be confined to the property boundaries of the light source. Ground mounted flood lighting or light projection above the horizontal plane is prohibited between midnight and sunrise.

q. Pollutants - No trades, services or activities shall be conducted nor shall anything else be done which may be or become an annoyance or nuisance to the owners or occupants by reason of unsightliness or excessive emission or fumes, odors, glare, vibration, gases, radiation, dust, liquid wastes, smoke, debris or noise.

TRANSPORTATION

r. In the event that the 104th Street extension is not constructed to Meridian, traffic volumes at the intersection of 39th Avenue with the proposed project access road shall be monitored and this intersection signalized when traffic volumes warrant.

s. Concurrent with development of adjoining properties, construct the proposed project access road from 39th northward to 104th as a 40-foot industrial collector cross-section (consisting of one lane in each direction with paved shoulders and left-turn pockets at intersections), appropriate drainage treatment consisting of either open ditches or curb and gutter, and pedestrian pathways or sidewalks, parallel to, but separated from, the roadway.

t. Prohibit direct access to Wildwood Park Drive except at the proposed Wildwood and 104th Extension.

u. Construct the 104th Avenue Extension in the northwest portion of the site to a 40-foot industrial collector standard similar to that proposed for the north-south access road previously discussed. This access road should be constructed as adjacent properties are developed.

v. Individual development projects including applicant's may be required to participate in their proportional share of measures designed to mitigate impacts to transportation facilities in the vicinity of the proposal, including that included in paragraph "r" above.

FIRE PROTECTION

w. Any uses requiring hazardous or flammable materials will be reviewed on a case-by-case basis. The delivery, handling, storage and disposal of any such materials will be approved by the City.

x. The proposed street layout will be designed to permit easy access to all building and other land uses within the project site. Sufficient street widths and turning radii will be provided to facilitate the movement of emergency vehicles.

UTILITIES

y. All potential users with significant quantities of process water or process waste water will be reviewed on a case-by-case basis.

z. All industrial effluent will be treated per City standards prior to entering the City's sewer or surface water drainage system.

aa. A detailed analysis will be conducted prior to developing the detention facility in the existing swale along Wildwood Park Drive. The City has preliminary sized this facility at 80,000 square feet. After determining the elevation of the existing high ground water table, storage for the 100 year and 25 year storm will be provided above that elevation.

bb. Oil pollution control will separate oil pollutants and silt from the run-off prior to its release. Upon completion of the project, the quantity and rate of run-off leaving the site will not be significantly different from that generating by the property in its present state.

AESTHETICS

cc. Temporary erosion and sediment control will be provided as necessary during each construction phase. Disturbed areas will be re-seeded or surfaced soon after construction.

dd. As streets and buildings are constructed, vegetation will be re-established in cleared areas. All areas not initially improved with buildings, parking, or formal landscaping, must be landscaped in either a natural or formal manner

ee. Landscaping would consist of lawns with a mixture of street trees and other plantings. If appropriate, the setback area would be bermed in an undulating fashion. Flower beds or other landscape features may be incorporated around signs, entry drives, etc. All landscaping will be required to be regularly serviced and maintained.

3. No modifications of this agreement shall be made unless mutually agreed upon by the parties in writing.

4. The City may, at its discretion, bring a lawsuit to compel specific performance of the terms of this agreement.

5. If any condition or covenant herein contained is not performed by the applicant, the Applicant hereby consents to entry upon the Site by the City of Puyallup or any entity, individual, person, or corporation acting on behalf of the City of Puyallup for purposes of curing said defect and performing said condition or covenant. Should the City in its discretion exercise the rights granted herein to cure said defect, the Applicant, his successors and assigns, consent to the entry of the City on the above described property and waive all claims for damages of any kind whatsoever arising from such activity, and the applicant further agrees to pay the City all costs incurred by the City in remedying said defects or conditions. The obligations contained in this section are covenants running with the land, and burden the successors and assigns of the respective parties.

6. In the event that any term or clause of this agreement conflicts with applicable law, such conflict shall not affect other terms of this agreement which can be given effect without the conflicting term or clause, and to this end, the terms of this agreement are declared to be severable.

IN WITNESS WHEREOF the parties hereto executed this agreement as of the day and year first above written.

ATTEST: Robin Wohlhueter
City Clerk

CITY OF Puyallup
by [signature]
Mayor

Approved as to Form: [signature]

BEIM & JAMES PROPERTIES II
By: Waterbear Partners
by [signature]
Its GENERAL PARTNER

STATE OF Washington)
: SS.
COUNTY OF Pierce)

I, THE UNDERSIGNED, a Notary Public in and for the State of Washington, do hereby certify that on this 15th day of September, 1986, personally appeared before me Ron Crowe of said corporation which executed the above instrument, and acknowledge said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes above mentioned, and on oath stated that he was authorized to execute said instrument and that the seal affixed is the corporate seal of said corporate seal of said corporation.

GIVEN under my hand and official seal the day and year last above written.

[signature]
NOTARY PUBLIC in and for the State of Washington, residing at ~~Tacoma~~ Puyallup

PARTNERSHIP ACKNOWLEDGMENT

NO. 2

State of CALIFORNIA }
County of SAN MATEO } SS.

On this the 4th day of JUNE 1986 before me,
RoseMary Candelaria
the undersigned Notary Public, personally appeared
John K. James

X personally known to me
☐ proved to me on the basis of satisfactory evidence
to be the person(s) who executed the within instrument on behalf of the partnership, and acknowledged to me that the partnership executed it.
WITNESS my hand and official seal.

OFFICIAL SEAL
ROSEMARY CANDELARIA
Notary Public-California
SAN MATEO COUNTY
My Comm. Exp. Apr. 25, 1990

RoseMary Candelaria
Notary's Signature

7130 122

NATIONAL NOTARY ASSOCIATION • 23012 Ventura Blvd. • P.O. Box 4625 • Woodland Hills, CA 9136

EXHIBIT "A"

CASE NO. Z-4-84

That portion of the Southwest quarter of Section 2 and of the East half of Section 3, Township 19 North, Range 4 East of the Williamette Meridian, described as follows:

Beginning at a point on the East line of the East half of said Section 3, said point bears North 0 degrees 55'34" West 60.10 feet from the Southeast corner of said Section 3 and is also the North margin of 112th Street East (39th Avenue SE) thence along said North margin North 87 degrees 41'32" west 1015.15 feet to the east line of the parcel of land described in Pierce County Auditor's number 2362554; thence leaving said North margin North 1 degree 02'14" West 275.47 feet along said Parcel to the Northeast corner thereof; thence North 0 degrees 56'15" West 2327.24 feet; thence North 88 degrees 53'29" West 1613.90 feet to a point on the North-South centerline of said Section 3, said point bears North 1 degree 12'53" West 12.65 feet from the center of section of said Section 3, said point being a fence post as shown on the Plat of "PARKWOOD DIVISION NO. 3" recorded in volume 61 of Plats, at pages 50 and 51, records of Pierce County, Washington; thence along said North-South centerline North 1 degree 12'53" West 590.27 feet to the Southwest corner of the said Plat of "PARKWOOD DIVISION NO. 3"; thence Easterly along the South line thereof North 88 degrees 46'50" East 167.70 feet to a concrete monument; thence North 77 degrees 54'21" East 588.30 feet to a concrete monument; thence North 88 degrees 10'28" East 165.41 feet; thence North 82 degrees 32'53" East 197.89 feet to a concrete monument; thence North 76 degrees 30'04" East 137.96 feet; thence North 73 degrees 02'16" East 260.92 feet to a concrete monument; thence North 88 degrees 32'11" East 108.02 feet to the Westerly margin of Wildwood Park Drive (School Road East), as conveyed to Pierce county by instrument recorded under Auditor's No. 3125764, 2135764, and the Southeast corner of the said Plat of "PARKWOOD DIVISION NO. 3"; said point also being on a 633.11 foot radius curve to the left (radius point bears North 88 degrees 07'39"); thence Southerly and Easterly along said West margin and said curve 417.45 feet through a central angle of 37 degrees 46'42"; thence South 39 degrees 39'03" East 384.34 feet to the beginning of a 468.22 foot radius curve to the right; thence along said curve 245.16 feet through a central angle of 30 degrees 0'00"; thence South 9 degrees 39'03" East 513.83 feet to the beginning of a 331.56 foot radius curve to the left; thence along said curve 460.40 feet through a central angle of 79 degrees 33'34"; thence South 89 degrees 12'37" East 289.96 feet to the beginning of a 760.23 foot radius curve to the right; thence along said curve 1097.41 feet through a central angle of 82 degrees 42'29"; thence South 6 degrees 30'08" East 19.70 feet to the beginning of a 848.57 foot radius curve to the left; thence along said curve 330.27 feet through a central angle of 22 degrees 18'00"; thence South 28 degrees 48'08" East 158.73 feet to the beginning of a 920.34 foot radius curve to the right; thence along said curve 467.30 feet through a central angle 29 degrees 05'30"; thence South 0 degrees 17'22" West 259.81 feet to the North margin of the said 112th Street East (39th Avenue Southeast); thence along said North margin North 89 degrees 42'26" West 470.95 feet; thence South 9 degrees 31'15" West 5.07 feet; thence North 89 degrees 42'26" West 666.44 feet to a point on said North margin and the East line of said Section 3; thence along said East line North 0 degrees 55'34" West 5.08 feet to the Point of Beginning.

Subject to easements, restrictions, and reservations of record.

RECORDED
86 SEP 29 P 2:52
AUDITOR
PIERCE COUNTY WASH
DEPUTY

CLARIFICATION OF CONCOMITANT AGREEMENT
BETWEEN CITY OF PUYALLUP and BEIM & JAMES PROPERTIES II
AND ITS SUCCESSORS IN INTEREST

This letter serves to clarify the Concomitant Agreement entered into between the City of Puyallup and Beim & James Properties II and its successors in interest relating to certain aspects of the storm drainage requirements of the development of Puyallup Science Park Division II.

There is a regional drainage basin comprising approximately 304 acres situated within Pierce County and the City of Puyallup. Storm drainage problems have arisen in a part of this regional drainage basin commonly referred to as the Candlewood Manorwood section.

Beim & James Properties II or any successors in interest are the owners (referred to herein as "Owners") of certain real property (referred to herein as "the Property") located within the City of Puyallup and the regional drainage basin. The Property, commonly referred to as Puyallup Science Park Division 2, has been classified as Industrial through a Concomitant Zoning Agreement with the City of Puyallup (herein referred to as "City") dated May 30, 1986.

The Property is comprised of 122.54 acres, 40 acres of which drain to the southeast section of the site to a retention pond and then through a previously existing culvert under 39th Avenue to the Candlewood Glen portion of the drainage basin. Prior to the zoning reclassification of May 30, 1986, unbeknownst to the City and to the Owners, Pierce County (referred to herein as "County") blocked the culvert under 39th Avenue. Subsequent to the zoning reclassification of May 30, 1986 storm drainage problems have occurred.

After discussions between the County, City and Property Owners the parties agree as follows:

1. The County and the City agree to cooperate in resolving the storm drainage problems which have occurred within the regional drainage basin and more specifically in the area of 39th Avenue.

2. During those discussions it was found that the most favorable solution to the storm drainage problem was the construction of a third detention pond to be located on the property in private ownership but subject to an easement by Bonneville Power Administration. With regard to this alternative

solution, it is agreed that the County will take lead responsibility in implementing this alternative solution including the acquisition of all necessary easements, the design and construction of the third detention pond and the design and construction of appurtenant facilities. As part of the implementation process the County agrees to unblock the culvert under 39th Avenue.

3. In the event that the alternate solution described above is determined to be infeasible, the City and County agree to use their best efforts in determining another solution to the regional drainage problem.

4. The City and the County agree to assume their respective share of the cost of implementing the improvements described in Paragraph 2 or 3 according to a separate agreement between them. Based on the information available at the time of this letter, the area of the Property that drains into this basin comprises approximately 25% of the area of the drainage basin that is presently within the City. With respect to the City's share of the cost of implementing the improvements described in Paragraph 2 or 3 above the City will pay $10,000 and the Owners of the Property (as a portion of the City area) agree to pay the amount of the City's share of this cost that is in excess of $10,000.

5. Upon implementation of the solution described in Paragraph 2 or 3 herein, the City agrees that the Owners have met the requirements contained in the Concomitant Zoning Agreement relating to off-site storm drainage control specifically:

   1. <u>Subsection A, Page 8, Section aa</u>.

   "A detailed analysis will be conducted prior to developing the detention facility in the existing swale along Wildwood Park Drive. The City has preliminary sized this facility at 80,000 square feet. After determining the elevation of the existing high ground water table, storage for the 100 year and 25 year storm will be provided above that elevation."

The City will not require any improvements to the retention pond in the Southeast corner of the Property as set forth in subsection 1e. on page 2 of the Concomitant Agreement or that off-site storm drainage facilities as proposed in Paragraph 2 or 3 herein be implemented prior to the issuance of any building permits for the subject property. It is hereby expressly understood that this Paragraph 5 does not pertain to "on-site" storm drainage requirements of the City.

6. The City further agrees that it will impose no further requirements relating to off-site storm drainage than those already stated in the Concomitant Zoning Agreement as amended herein.

CITY OF PUYALLUP

By: ______________________

Its: City Manager

Approved as to From:

____

MARTIN MEUNCH
Attorney for the City of
Puyallup

BEIM & JAMES PROPERTIES II
a California limited partnership

By: Waterbear Partners, a
California limited partnership,
Its general partner

By: ______________________
John K. James
Its: General Partner

87 AUG 5 P 1:09

STATE OF CALIFORNIA)
) ss.
County of San Mateo)

On this 9th day of July, 1987 before me, the undersigned, a Notary Public in and for the State of California, duly commissioned and sworn, personally appeared John K. James, personally known to me to be the person who executed the within instrument on behalf of the partnership, and acknowledged to me that the partnership executed it.

Witness my hand and official seal hereto affixed the day and year first above written.

Rose Mary Candelaria
NOTARY PUBLIC in and for the State of California,
residing at Mountain View, Calif
My commission expires: 4-25-90

OFFICIAL SEAL
ROSEMARY CANDELARIA
Notary Public-California
SAN MATEO COUNTY
My Comm. Exp. Apr. 25, 1990

8708050428

9.2 Landscape Master Plan

Pierce College

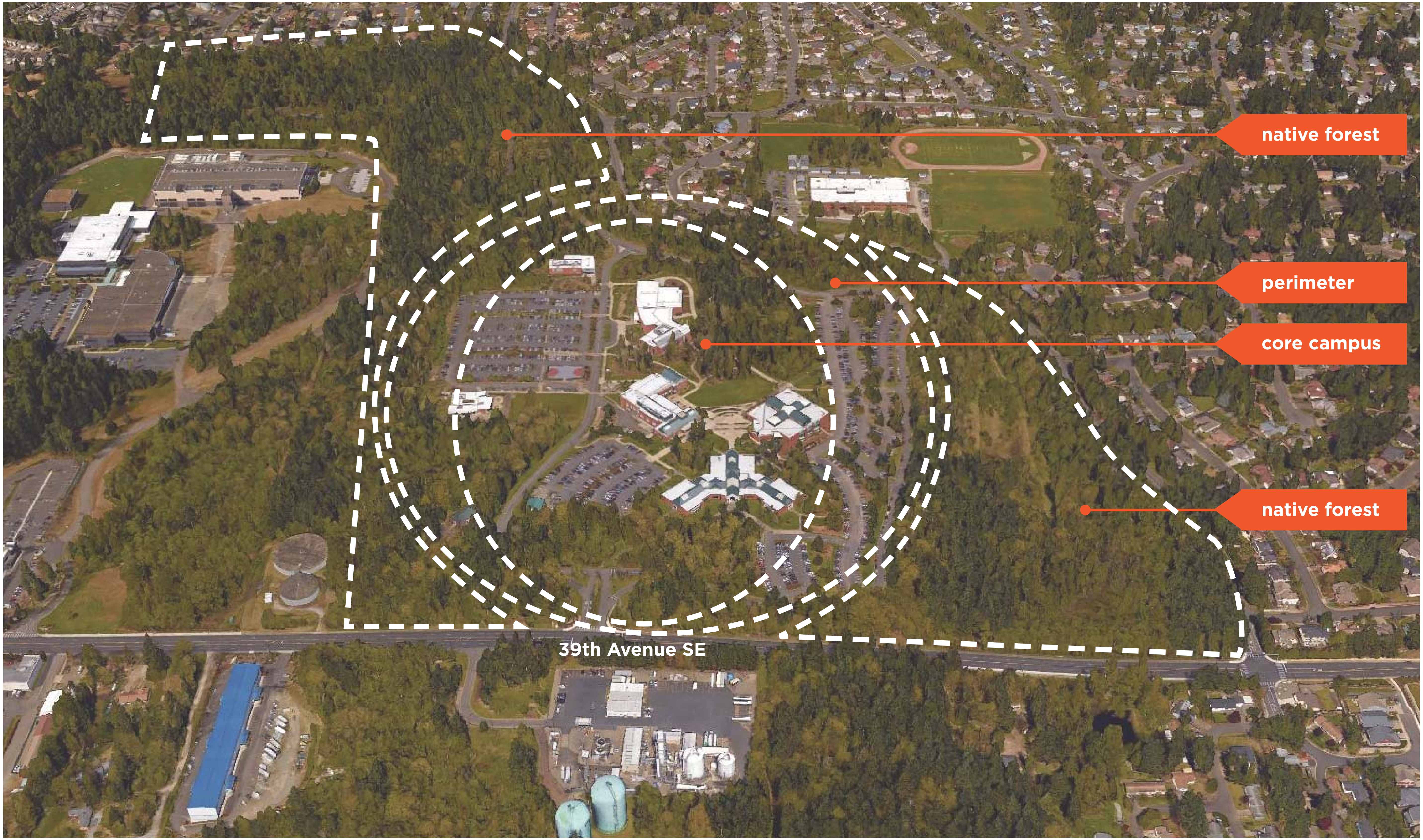
Puyallup

LANDSCAPE MASTER PLAN

TABLE OF CONTENTS

1.0 SUMMARY OBSERVATIONS AND RECOMMENDATIONS

1.1 Puyallup Campus



85 acres, 82 acres studied

Coverage of studied site

Maintained landscape = ~19 acres, 23% of site studied

Native forest = ~40 acres, 49% of site studied

Hardscape = ~19 acres, 23% of site studied

Buildings = ~4 acres, 5% of site studied

Tree Canopy = ~50 acres, 61% of site studied

Existing Campus

1.2 Circulation and Parking

Observations

1. Missing any sense of ceremonial arrival from the street.
2. ADA routes are not marked. Some of this might be addressed through better initial directional signage.
3. The perimeter of the campus is primarily for vehicles while the core campus is primarily for pedestrians.
4. Future expansion of parking is likely if and when the campus expands.

Recommendations

1. Start the arrival sequence sooner. Improve identity and wayfinding signage.
2. Mark ADA routes.
3. Connect pedestrian routes within the core campus. Improve ADA and pedestrian access to parking lots.
4. Enhance pedestrian crosswalks.
5. Reinforce pedestrian hierarchy using different paving types for pedestrians and vehicles, including crosswalks.
6. Retain parking outside the core campus.
7. Replant parking lot B with a mixture of rain gardens and low plants 3' in height or less. The plant palette should be composed of grasses, sub-shrubs, and perennials. Avoid large woody shrubs.

additional pedestrian route

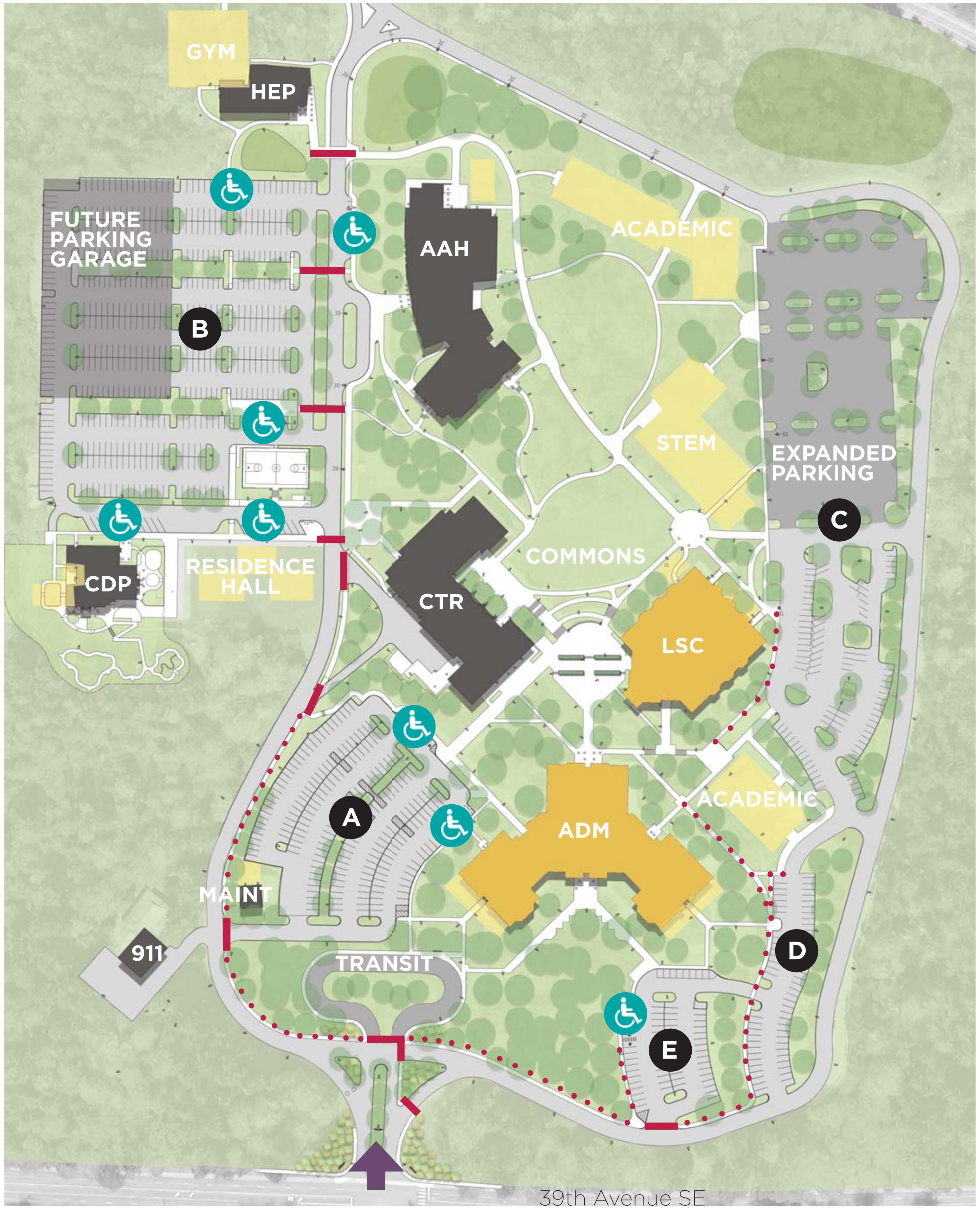
enhanced crosswalks

campus entry

future parking

future building

future renovation



Circulation and Parking 1" = 200'

1.3 Ecology

Observations

1. The surrounding native forest and core campus urban forest provide great overall ecological value to the campus.
2. Manage core campus as an urban forest in addition to individual trees.

Recommendations

1. Establish ecological goals for the campus.
2. Set tree canopy coverage goals. Suggest maintaining a 60% canopy coverage.
3. Implement an Integrated Pest Management (IPM) program.
4. Maintain perimeter for habitat and wildlife viewing.
5. Develop a tree management plan to outline management steps to identify potential trees for removal, maintain a certain percentage of canopy, and develop a tree diversity planting plan.
6. Reduce the number of current problem areas on campus.
7. Focus maintenance resources on the core campus.

Forest perimeter and native forest beyond

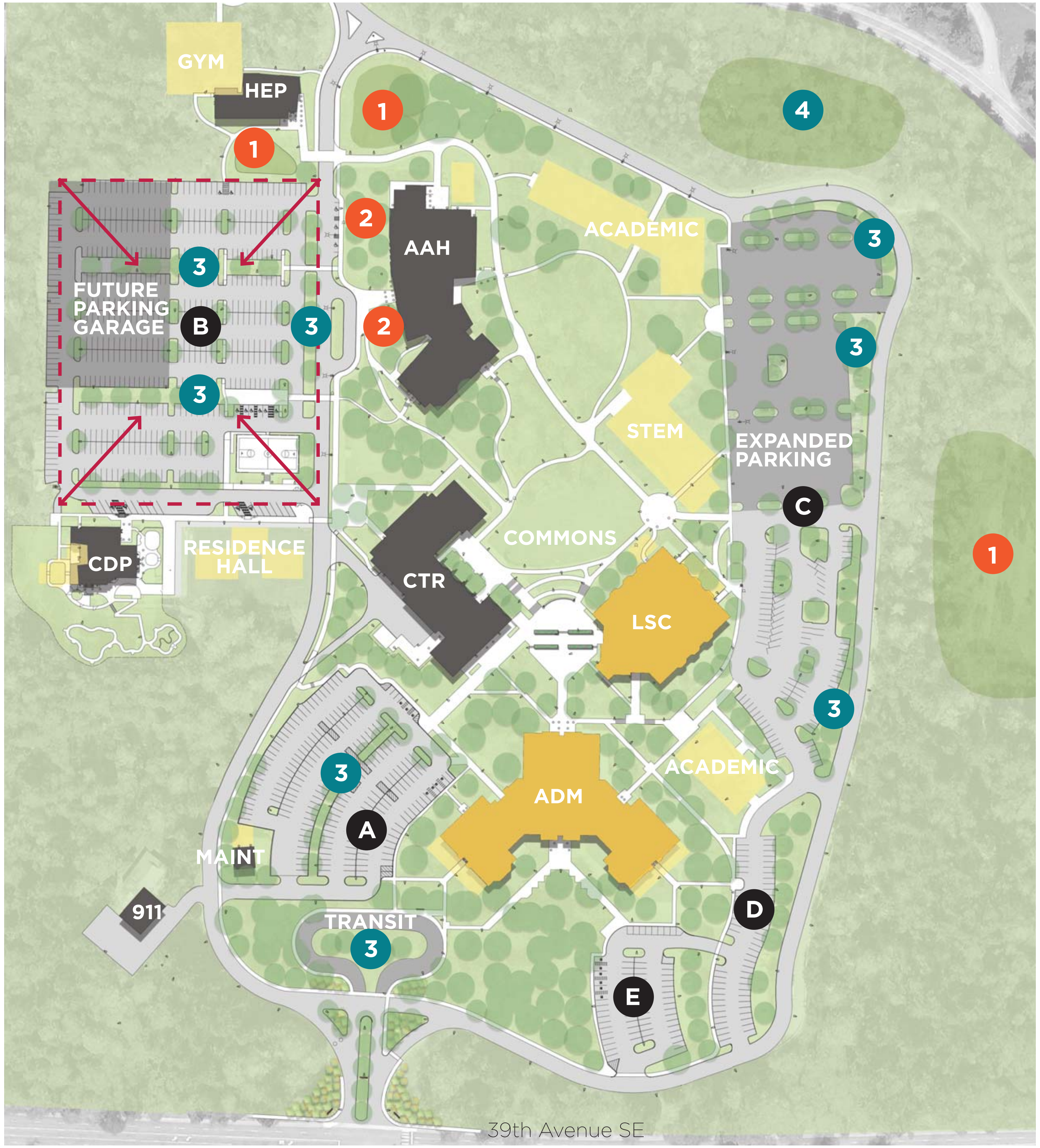
1.4 Stormwater Manangement

Observations

1. The campus has begun a stormwater managment program with the rain gardens adjacent to the Arts and Allied Health Building.
2. There are numerous small and difficult areas to mow that can be converted into rain gardens.

Recommendations

1. Try to manage stormwater on site and reduce grey infrastructure as much as possible. Largest opportunity for reducing pollution would be to address stormwater at the parking areas.
2. Focus on having more smaller stormwater cells rather than fewer larger cells.
3. For parking lot B, concentrate stormwater treatment within the lot rather than discharging it to ponds outside the lot.



1 existing bioretention

2 existing rain garden

3 site of future rain garden

4 future bioretention pond

Stormwater Management

1" = 200'

1.5 Landscape Experience

Observations

1. Landscape experience is generally very good.
2. The open space within the campus core provides a feeling of expansiveness.
3. The campus setting and acreage is a great asset for the college providing a uniquely Pacific Northwest identity.
4. The native forest perimeter nicely defines the campus boundary.

Core campus open space

Recommendations

1. Preserve and expand core campus open space by removing select areas of native forest in the campus core.
2. Preserve native forest along the perimeter of campus.
3. Manage the layers of the forest within the core campus to maintain sight lines.

Forest perimeter

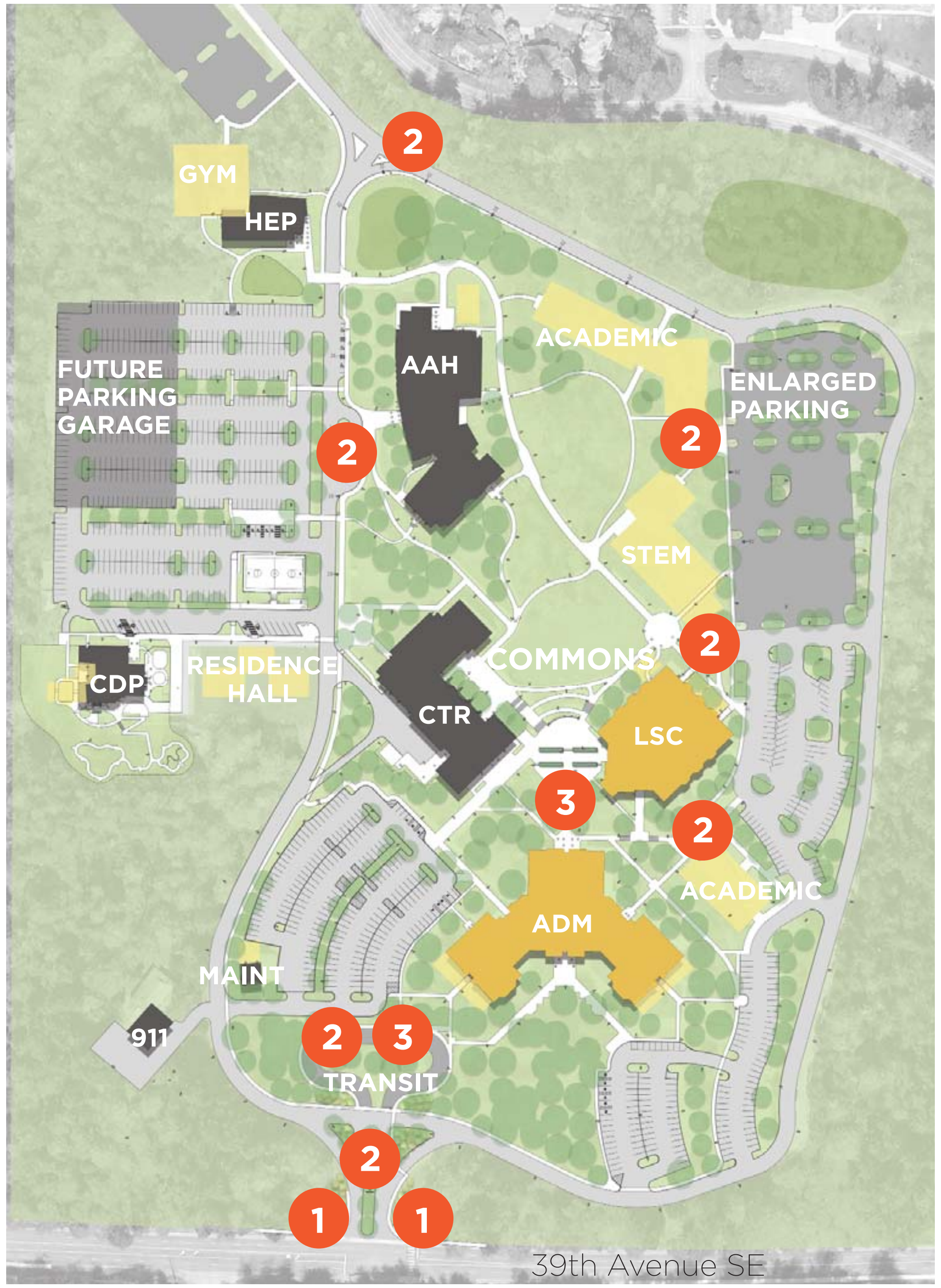

possibilities. realized.

2.0 CIRCULATION SYSTEMS

2.1 WAYFINDING
2.2 CAMPUS GATEWAY

2.1 Wayfinding

1. Wayfinding
   a. New sign locations
   b. ADA markings
   c. Create a hierarchy of signage: identity, directional, informational



Campus Wayfinding 1" = 300'

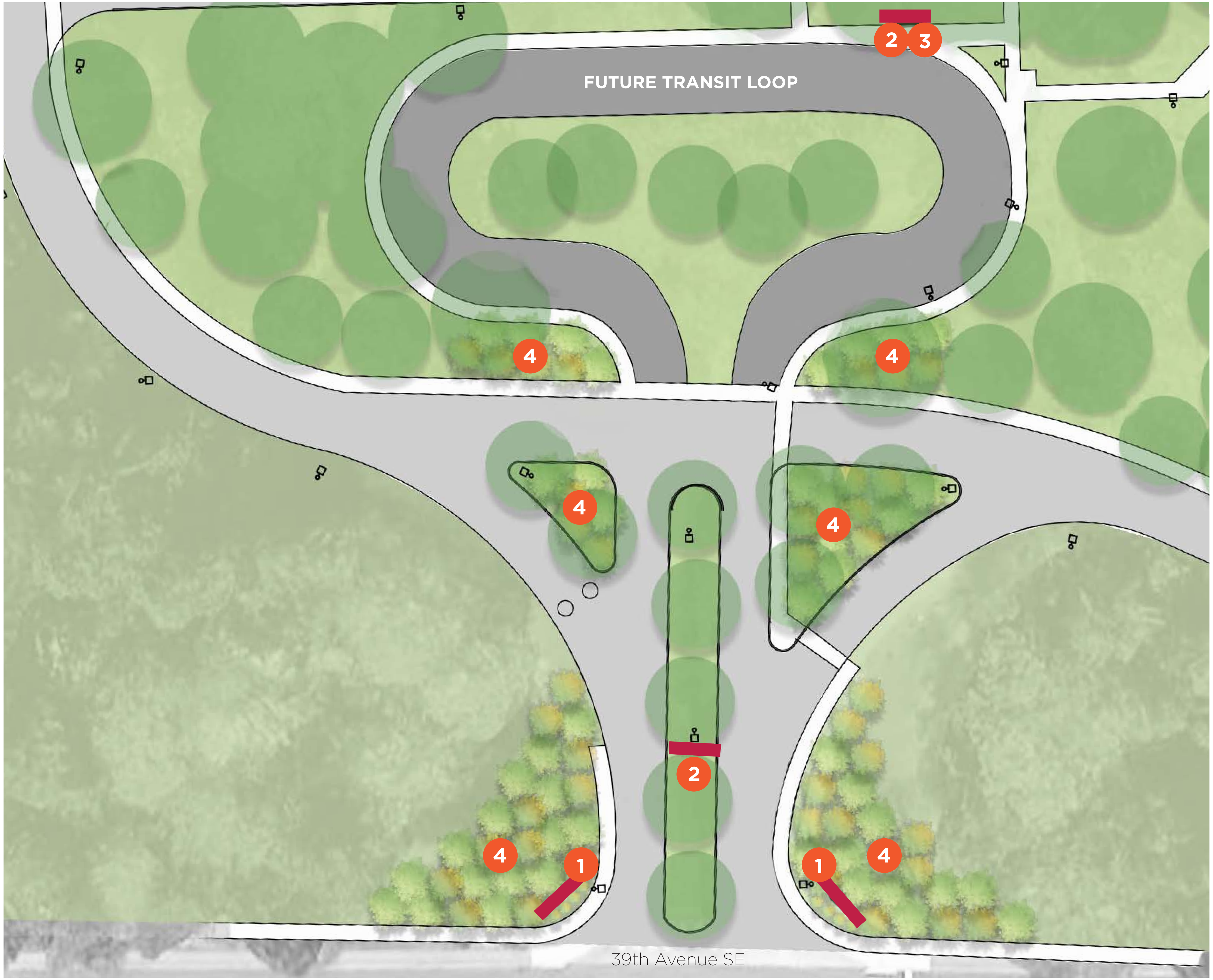
Proposed Signage

1 identity signage

2 directional signage

3 informational signage

2.2 Gateway



1 identity signage
2 directional signage
3 informational signage
4 entry planting

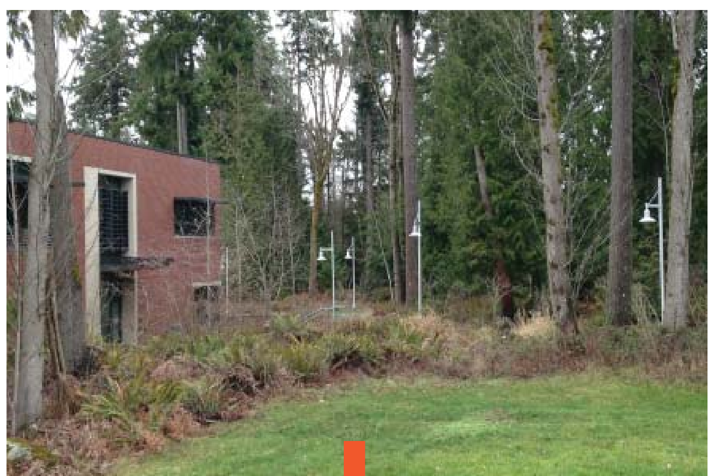
Campus Entry and Wayfinding

3.0 PLANTING SYSTEMS

3.1 Planting Concepts

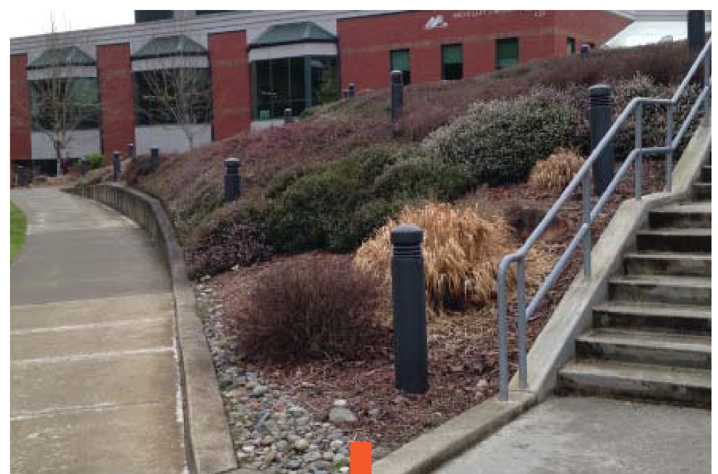
Forest

Native forest as inspiration: the planting on campus serves as the backdrop for learning and helps define the campus experience. One of the greatest assets to the campus is the native forest that surrounds it. This landscape serves as an amenity to the campus and to the community at large. The surrounding native forest should serve as inspiration for planting palettes for the campus and any planting should carefully consider a varied selection of native species. Well adapted non-native species should be used sparingly with a specific purpose or selected for a particular characteristic that makes them especially well suited to the application. Native species often reduce the maintenance burden and provide the greatest ecological benefit.



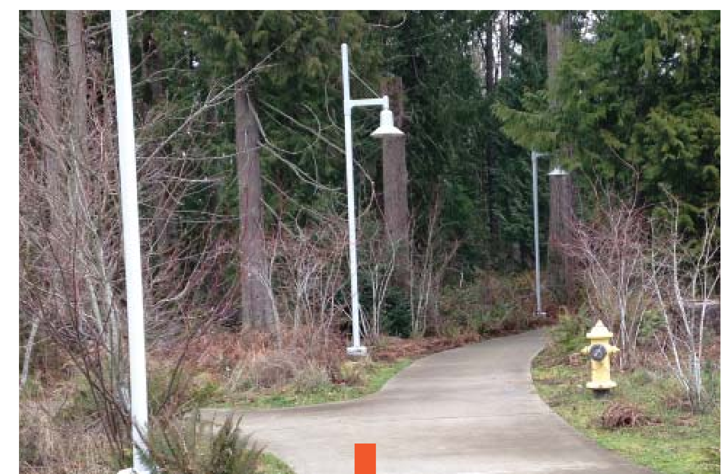
Diversity

Avoid planting monocultures: all plantings should be varied in type. Monocultures are far more labor intensive to maintain, show weeds more readily, are less resilient to disease, and provide lower ecological value.



Understory

Understory: encourage development of the understory as a mix of herbaceous grasses, perennials, woody sub-shrubs and groundcovers. Choose low growing species to prevent the obstruction of sight lines and increased maintenance to maintain those sight lines.



Eco-Lawns

Plant and manage eco-lawns: turf management is consuming a large portion of the maintenance resources. Reduce the need to irrigate, mow, and fertilize.

3.2 Vegetation and Urban Forest Management

Sight Lines

Plant to maintain sight lines and eliminate hiding places: ensure planting palettes and tree locations are considered carefully to avoid obscuring sight lines particularly around the core campus. There are a few instances on campus with a particularly full understory that offer ideal hiding spots and are well obscured from lines of sight. This is mostly attributed to large masses of woody shrubs and trees that are taller than 6' and close to walkways. Generally we would like to keep the zone between 3-8' clear of vegetation. In parking lots planting should be depressed rather than mounded to avoid additional height.

Lighting

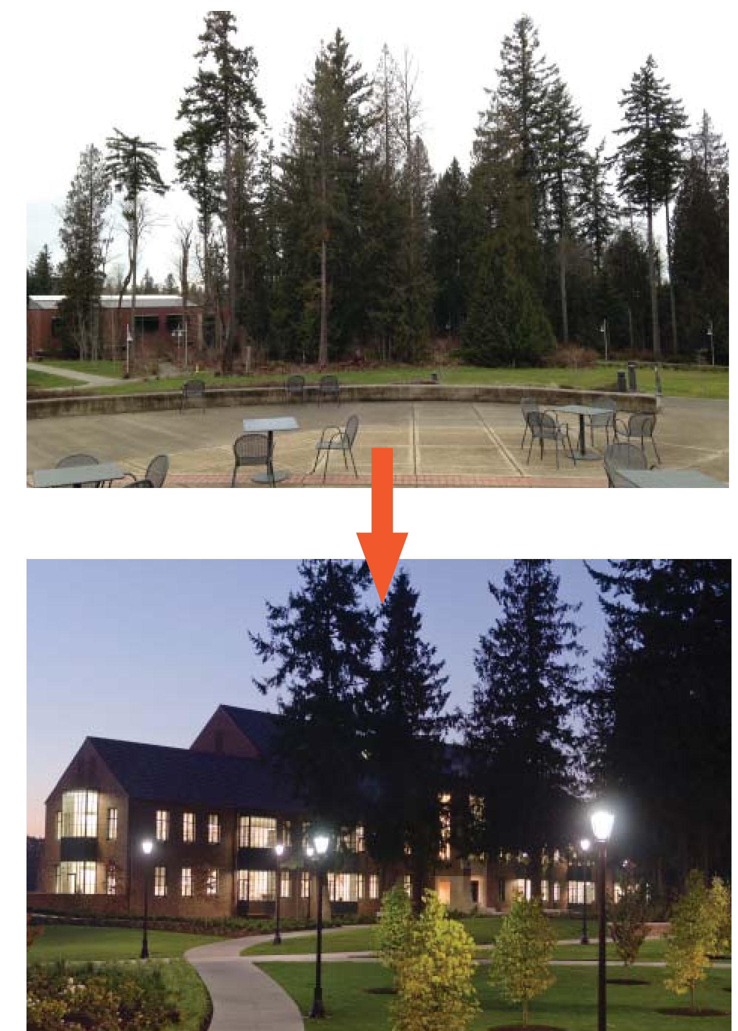
Reduce lighting conflicts: prune and/or remove trees blocking pole mounted light fixtures particularly in the parking areas.

Irrigation

Irrigate less: we do not have a good understanding of exactly how much water is currently being used on campus, but we should try to find out. It's uncertain whether the current systems are sound or not and whether we are losing water to leakage. Assuming irrigation systems are sound, would recommend installing rain sensors and or solar syncs to make the systems climate responsive. Adjust irrigation settings seasonally and taper to no irrigation on plantings where feasible.

Trees

Remove volunteer Western Red Cedar from the core campus because of its density and propensity to block views. Existing trees should be limbed up and the middle part of the understory cleaned out to maintain sight lines. Standing dead trees should be addressed for hazard potential. Recommend standing dead native trees be reduced to snags for habitat where viable.



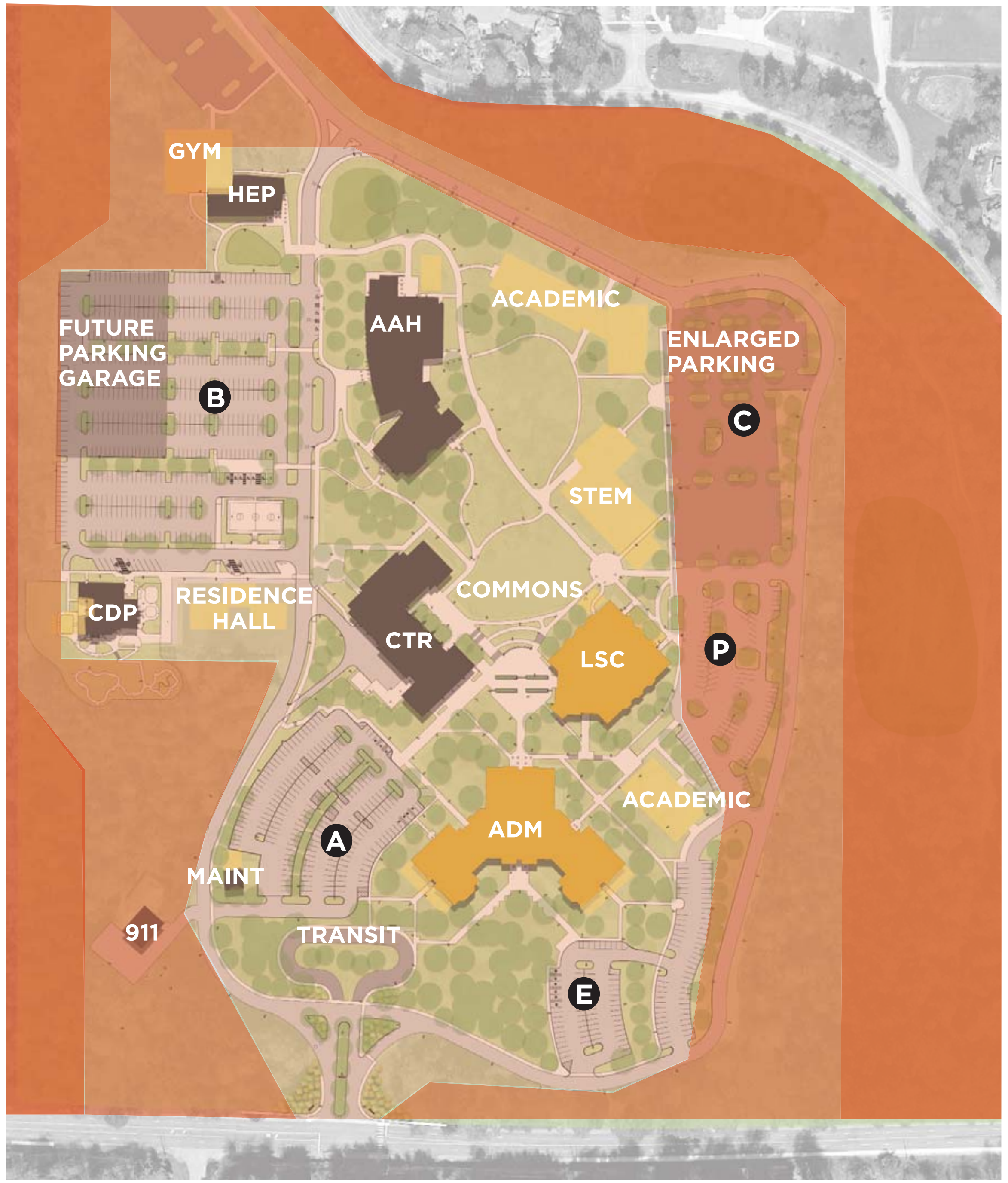
3.3 Maintenance

1. Overall the landscape wants to be extremely simple, easy to maintain, and take advantage of the native backdrop.
2. Strive to reduce the amount of mowing and edging. A high percentage of resources are dedicated to these tasks.
3. Suggest that no lawn area be smaller than 8' to reduce the amount of time spent using a small mower.
4. Think of the campus as zones: core campus, perimeter, and native forest. Most maintenance should occur in the core campus area followed by the perimeter.
5. Choose plants carefully for their location. Avoid plants that are too tall, large, or require a lot of time to maintain them for their location.
6. Trees planted to close to walkways can cause pavement damage. Root barrier or rigid foam under paving can be used in the future to avoid uplift. For existing uplift, paving can be removed and an air spade used to excavate around tree roots. Some roots can be cut and the area around the roots can be backfilled with graded base and the paving replaced with concrete.

Reduce small areas of lawn such as those in parking lot islands. Replace with drought tolerant groundcover, low growing shrubs, and small trees to reduce the need for irrigation and mowing.

Mowing and edging should only occur in the core campus area.

core campus perimeter native forest



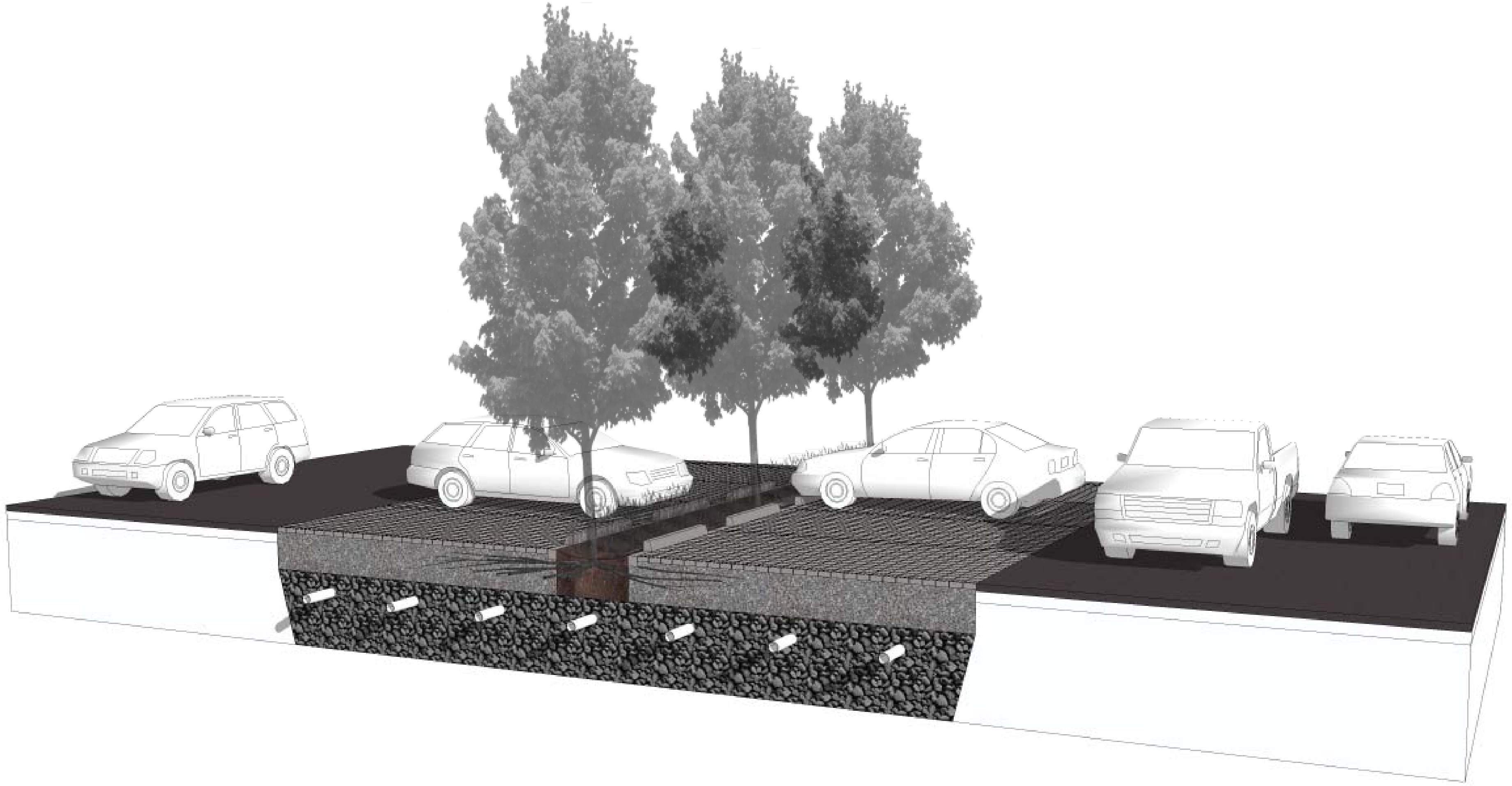
Campus Zones 1" = 300'

4.0 WATER MANAGEMENT

4.1 STORMWATER MANAGEMENT

4.1 Stormwater Management

1. Parking islands provide a good location for stormwater management in the form of rain gardens.



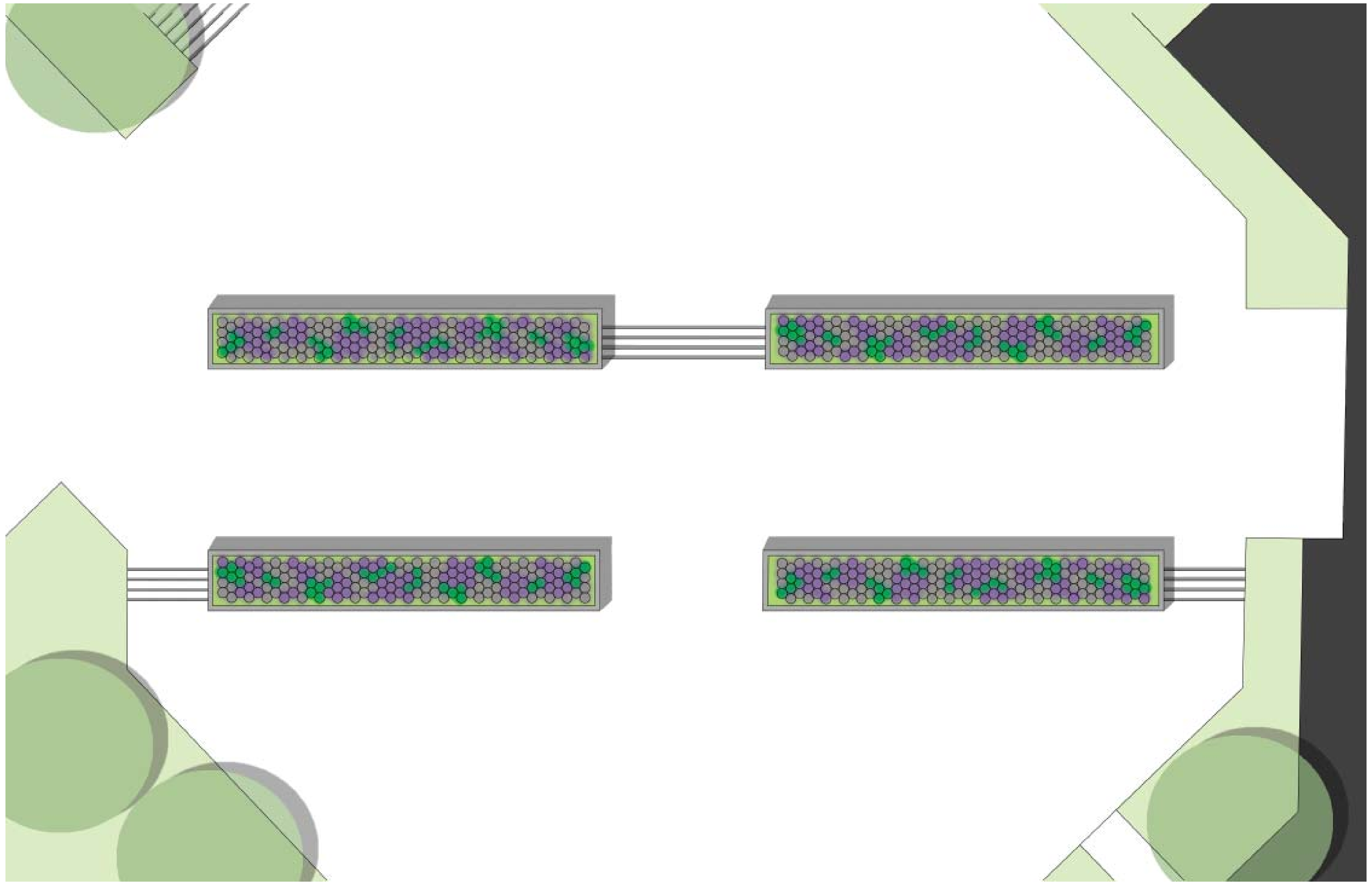
5.0 PLAN AND ENLARGEMENTS

5.1 Campus Plan - Future Conditions

5.2 Commons Plaza Planting

Replant the raised beds in the Commons Plaza with a fall meadow mixture. Planting should be composed of native and adaptive plants and edged by sedums.

Adaptives Mixture   Sedums Mixture   Natives Mixture

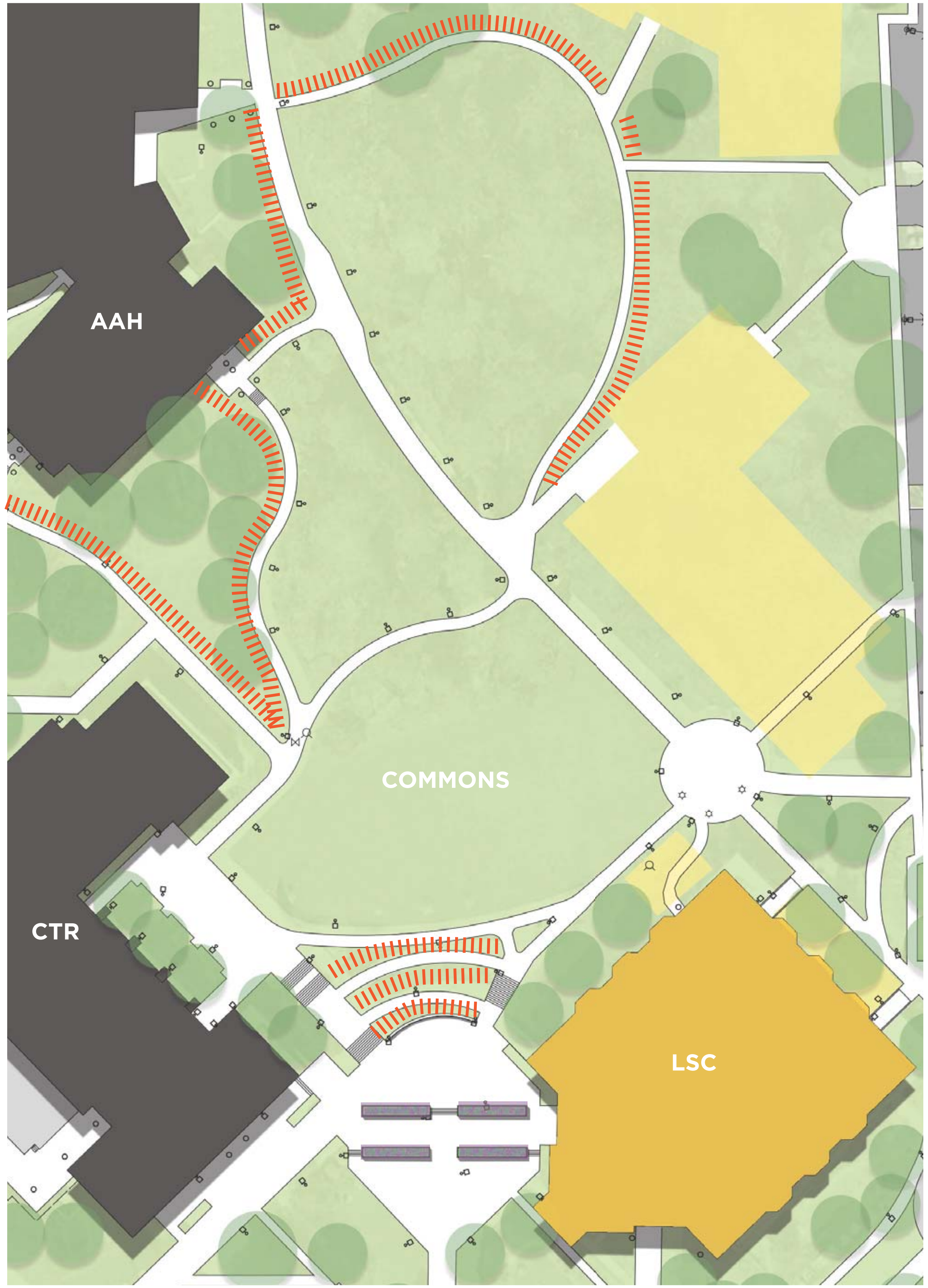


Plaza Planting - Fall Meadow

1/16" = 1'

5.2 Commons Perimeter Planting

Repeat the fall meadow mixture (found in the Commons Plaza planters) throughout the beds surrounding the plaza and along the perimeter of the commons green.



Commons Perimeter Planting

1" = 80'

FALL MEADOW PALETTE

ADAPTIVES - 1 gal. pots at 12" O.C.


Aster lateriflorus 'Prince'
Calico Aster


Agastache 'Black Adder'
Giant Hyssop


Thalictrum 'Elin'
Elin Meadow Rue


Sesleria autumnalis
Autumn Moor Grass


Salvia sylvestris
Little Night Sage


Eryngium amethystinum
Blue Sea Holly

SEDUMS - 4" pots at 8" O.C.


Sedum rupestre 'Angelina'
Stonecrop


Sedum oreganum
Oregon Stonecrop


Sedum hakonense 'Chocolate Ball'
Stonecrop

NATIVES - 1 gal. pots at 12" O.C.


Rudbeckia occidentalis
Western Coneflower


Penstemon fruticosus
Shrubby Penstemon


Festuca occidentalis
Western Fescue


Thalictrum occidentale
Western Meadow Rue

6.0 PLANT LISTS

6.1 Planting - Core Campus Plant Palette

PERENNIALS


Achillea millefolium
Yarrow


Helleborus 'Grape Galaxy'
Grape Galaxy Lenten Rose


Helleborus 'Ivory Prince'
Ivory Prince Lenten Rose


Phlomis fruticosa
Jerusalem Sage


Baptisia alba
Wild Indigo


Baptisia australis
Wild Indigo


Sedum rupestre 'Angelina'
Stonecrop


Aster lateriflorus 'Prince'
Calico Aster


Salvia sylvestris
Little Night Sage


Echinacea purpurea 'Vintage Wine'
Cone Flower


Penstemon digitalis 'Husker Red'
Husker Red Penstemon


Salvia 'May Night'
May Night Sage


Anemone 'Wild Swan'
Wild Swan Windflower


Mondarda 'Petite Delight'
Dwarf Bee Balm


Heuchera 'Coco'
Coral Bells


Agastache 'Black Adder'
Giant Hyssop


Thalictrum 'Elin'
Elin Meadow Rue


Liriope muscari
Lily Turf


Liriope spicata
Spike Lily Turf


Veronica spicata
Spike Speedwell


Asclepias tuberosa
Butterfly Weed


Nepeta x 'Walker's Low'
Walker's Low Catnip


Sedum rupestre
Stonecrop


Sedum x 'Purple Emperor'
Purple Emperor Stonecrop


Achillea x 'Moonshine'
Moonshine Yarrow


Sedum spurium 'Dragon's Blood'
Dragon's Blood Stonecrop

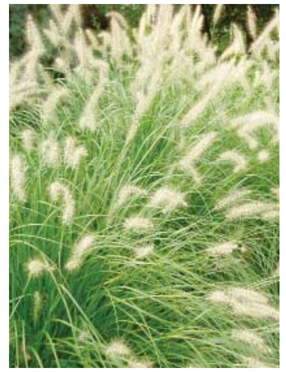

Sedum acre
Goldmoss Stonecrop

6.1 Planting - Core Campus Plant Palette

GRASSES


Deschampsia cespitosa
Tufted Hair Grass


Festuca glauca 'Elijah Blue'
Blue Fescue


Pennisetum alopecuroides 'Hameln'
Dwarf Fountain Grass


Pennisetum alopecuroides 'Karley Rose'
Fountain Grass


Pennisetum alopecuroides 'Little Bunny'
Dwarf Fountain Grass


Sesleria autumnalis
Autumn Moor Grass


Carex testacea
New Zealand Orange Sedge


Carex morrowii 'Ice Dance'
Ice Dance Japanese Sedge


Carex elata 'Bowles Golden'
Bowles Golden Sedge


Imperata cylindrica
Blood Grass


Miscanthus sinensis 'Adagio'
Dwarf Maiden Grass


Helictotrichon sempervirens
Blue Oat Grass


Stipa tenuissima
Mexican Feather Grass

SHRUBS

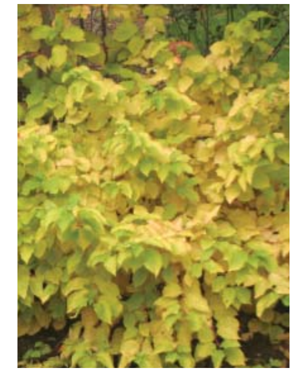

Erica
Heather


Cornus sericea 'Kelseyi'
Kelsey Dwarf Red Twig Dogwood


Viburnum davidii
David Viburnum


Caryopteris incana
Common Bluebeard


Daphne x 'Summer Ice'
Summer Ice Daphne


Cornus sanguinea 'Cato'
Arctic Sun Red Twig Dogwood


Rhododendron
Rhododendron


Cornus sanguinea 'Farrow'
Artic Fire Red Twig Dogwood


Garrya elliptica
Silk Tassel

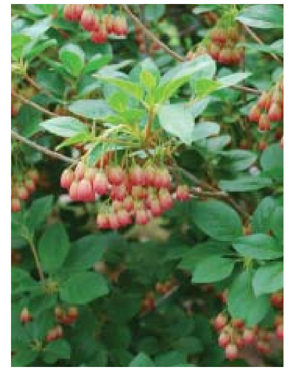

Arctostaphylos columbiana
Hairy Manzanita

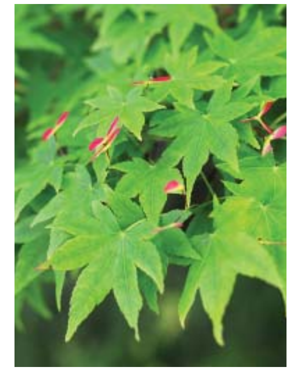
6.1 Planting - Core Campus Plant Palette

SMALL TREES


Chionanthus retusus
Chinese Fringe Tree


Cornus mas
Cornelian Cherry


Enkianthus
Enkianthus


Acer palmatum
Japanese Maple


Cornus x 'Venus'
Venus Dogwood


Parrotia persica
Persian Ironwood


Prunus serrulata 'Shirotae'
Shirotae Cherry


Prunus serrulata 'Kwanzan'
Kwanzan Cherry

MEDIUM & LARGE TREES


Nyssa sylvatica
Black tupelo


Ginkgo biloba
Ginkgo


Ulmus x parvifolia 'Emer II'
Chinese Elm


Ulmus americana 'Jefferson'
American Elm


Liquidamber styraciflua
Sweet Gum

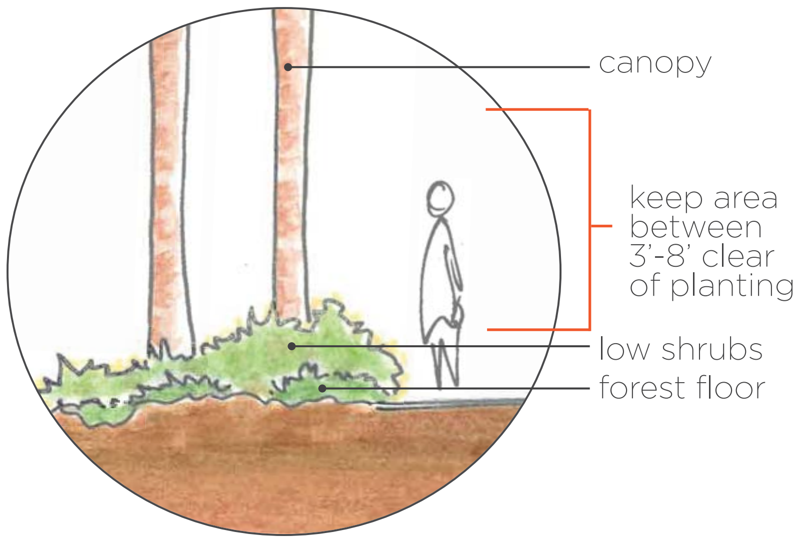

Cercidiphyllum japonica 'Heronswood Globe'
Heronswood Globe Katsura


Cercidiphyllum japonica 'Red Fox'
Red Fox Katsura


Fraxus americana
White Ash

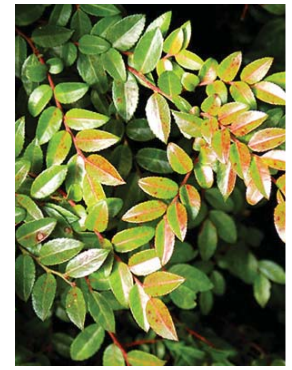

Fraxus pennsylvania
Green Ash

6.2 Planting - Perimeter and Forest Plant Palette



LOW SHRUBS


Gaultheria shallon
Salal

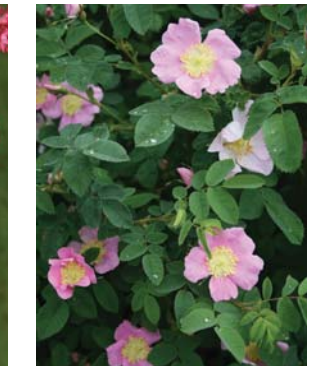

Vaccinium ovatum
Evergreen Huckleberry


Menziesia ferruginea
Fool's Huckleberry


Symphoricarpos albus
Snowberry


Rubus parviflorus
Thimbleberry


Ribes sanguineum
Red Flowering Currant


Rosa nutkana
Nootka Rose

FOREST FLOOR


Arctostaphylos uva-ursi
Kinnikinnick


Oxalis oregana
Redwood Sorrel


Polystitchum munitum
Western Sword Fern


Asarum caudatum
Wild Ginger


Achlys triphylla
Vanilla Leaf


Cornus canadensis
Bunchberry


Tiarella trifoliata
Foamflower

9.3 Site Lighting Master Plan

Site Lighting Master Plan

State of Washington

Pierce College

Fort Steilacoom and Puyallup Campuses

Lakewood and Puyallup, Washington

FINAL REPORT

HARGIS

JUNE 24, 2016

Table of Contents

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Hargis Engineers, Inc. (Hargis) was contracted to evaluate the complete existing campus site lighting at the Pierce College Fort Steilacoom and Puyallup campuses, and to develop design criteria for future landscaping and site lighting improvements.

It was conveyed that areas of both campuses may not have existing adequate site lighting, and that there have not been any standards for design of site lighting to date. Within the scope of this study and report, we reviewed the existing conditions and defined criteria and layout for future improvements to site lighting to meet those design criteria. The goals of the study are to provide uniform and consistent lighting across both campuses, with security, energy efficiency, dark sky/light pollution, and maintenance being key considerations in development of design criteria and standards.

1.2 REFERENCES

The following are referenced in design criteria and product literature associated with the findings of this study and report:

1. Illuminating Engineering Society, RP-20: Lighting for Parking Facilities
2. Illuminating Engineering Society, RP-33: Lighting for Exterior Environments
3. AGI – Lighting Modeling Software – AGI32 Lighting Software version 2.36

1.3 OBJECTIVES

Within the scope of this report, the following are our objectives:

1. Existing Conditions: Review and document existing site lighting conditions at both campuses
2. Design Criteria: Develop criteria for site parking, site pedestrian circulation, and building entry zones.
3. Master Plan for Future Improvements: Develop a specific plan, considering existing infrastructure, to meet design criteria established in report

2. EXISTING CONDITIONS ASSESSMENT

2.1 INTRODUCTION AND OVERVIEW

The existing conditions assessment and review were conducted during the evening hours on four evenings over the course of January and February of 2016. The goals of the site assessment and survey were to document all existing site lighting fixtures and associated photometric performance on both campuses, both building-mounted and mounted independently to structures on the site. Limited documentation for existing site lighting was available for both campuses, observations regarding existing lighting fixtures were based on visual observation only – additional information would require detailed electrical survey and access to each fixture to assess condition and lamp source type/wattage.

2.2 METHODOLOGY AND INSTRUMENTATION USED

To observe existing illuminance levels, a Minolta T-1 illuminance meter was utilized. In reviewing existing site conditions, areas with similar photometric performance were grouped by zone. A general understanding of the average illuminance was developed by a rolling average of the illuminance levels throughout areas of each zone of the site, discrete measurements on specific intervals were not provided based on the extents of area included in the study. Minimum and maximum levels were observed in each area and documented by zone. Where areas of each zone contained non-operable fixtures, these areas were generally excluded from the analysis to provide a baseline equivalent to when all fixtures within the zone are operational.

2.3 GENERAL OBSERVATIONS

On both campuses, a variety of design approaches and existing illuminance levels were observed. Both campuses include a combination of fluorescent, metal halide, high pressure sodium, and LED sources. Illumination levels vary significantly across the campuses. At both campuses, it was observed there are a number of fixtures in need of repair or maintenance, with some functioning at less than optimal levels based on damage to fixture or failing lamps, and others completely non-operational based on factors beyond the scope of this study. Many of the pedestrian circulation areas are illuminated from lighted bollards. No motion or occupancy based controls were observed on either campus. In general, most building entry areas included adequate lighting relative to proposed design criteria and do not require significant improvement to meet design criteria, though replacement with fixtures consistent with master planning design criteria may be considered for energy efficiency and maintenance benefits.

2.3.1 FORT STEILACOOM CAMPUS

The primary pedestrian circulation courtyard area is northeast of the Cascade Building, between the Olympic, Sunrise, Rainier and Cascade buildings. This area is predominantly lighted by bollard-scale fixtures, and while it provides a level of pathway illumination, does not meet IES design criteria for pedestrian circulation areas. The parking areas west and south of the Cascade Building have been retrofit with LED-type parking fixtures, and those areas appear to generally be well illuminated. The parking areas of the north of campus primarily include canopy-style fixtures mounted vertically on poles, and are a negative source of light trespass. The parking areas to the east of the Cascade Building are significantly below illuminance design criteria, and the service drive which runs through the Cascade Building is also significantly under illuminated for the type of use and potential security issues within this area. The main entry drive off Farwest Drive Southwest, and the areas west of the Olympic Building (between main entry drive and building) were also not illuminated to design criteria. The pedestrian areas adjacent to the Health Education Center and Cascade Building have newer pedestrian scale lighting that may have an aesthetic significance, similar fixtures were utilized at both buildings which appear to be of different specific vintages.

2.3.2 PUYALLUP CAMPUS

The primary pedestrian circulation areas on campus include the courtyard area between the Gaspard Administration Building, College Center, and Brouillet Library Buildings, at these areas, there is a mix of building, planter-mounted, pole, and bollard mounted lighting of varying lamp sources and illuminance levels. At the pedestrian walkway areas north of the Brouillet Library and east/north of the Arts and Allied Health Building, these areas primarily include pole-mounted lighting with metal halide lamping, and generally appear to be well illuminated in comparison to other similar areas of campus. The parking areas on the east side of the campus include mounded landscape features high pressure sodium pole-mounted fixtures and inadequate illumination throughout most of these areas, influenced also by fixture spacing and wattage/type. The west parking areas are lit by metal halide pole-mounted fixtures, and was particularly subject to multiple lamps being out, assumed that maintenance is needed to restore operation. Drive areas on the perimeter of campus generally include high pressure sodium pole-mounted fixtures, with illumination below design criteria.

3. SITE LIGHTING MASTER PLAN

3.1 INTRODUCTION AND OVERVIEW

At all pedestrian circulation and parking areas throughout both campuses, the primary goal of the master plan is to identify a design approach to modify the existing site lighting systems to meet the selected design criteria. Consideration was given to the existing infrastructure in place, including electrical rough-in (conduit and wiring to location of fixture), and existing poles and site lighting bases to help identify an approach that would be the most cost-effective way to promote the goals of the master planning study.

3.2 METHODOLOGY

To maximize effectiveness and cost, existing poles were considered for re-use in master plan layouts, especially at parking areas, where existing poles are of sufficient height to promote effective area lighting. Within pedestrian areas, pole-mounted fixtures were utilized at a mounting height of 15’ above grade. Within parking areas, where new pole-mounted fixture were required, the mounting height was selected to match existing adjacent fixtures in same area. Fixture-mounted occupancy controls at pole-mounted fixtures could be utilized to reduce light levels to 50% (or as desired by college) during periods when the area is unoccupied, while still providing a level of lighting to facilitate campus security operations.

For purposes of site modeling in the AGI lighting calculation platform, the following fixtures were utilized, which meet the design criteria established by the study:

1. Pole Mounted Parking Areas: Philips Gardco Ecoform, 15,000 Lumens
2. Pedestrian Circulation Areas, Pole Mounted: Philips Gardco Slenderform, 5,500 or 10,000 Lumens
3. Pedestrian Circulation Areas, Bollard Mounted: Philips Gardco School Bollard
4. Surface Mounted Canopy: Philips Gardco G3 Series, 12,000 Lumens

To simplify the modeling process, the site was modeled as flat. Project-specific enhancements to site lighting should consider changes in elevation and provide additional modeling and adjust placement of fixtures as appropriate.

3.3 DESIGN CRITERIA – LIGHTING LEVELS AND UNIFORMITY, LIGHT TRESPASS

The proposed lighting design criteria for the master plan is based on the Illumination Engineering Society (IES), Recommended Practice (RP) publications for parking and exterior lighting, and are influenced by the level of activity, type of area, and surface being illuminated. All fixtures included in analysis are based on meeting IES "full cutoff" requirements, which requires that no light is transmitted above the height of the fixture to the environment above (and limits pollution to adjacent areas).

Proposed Lighting Design Criteria*			
Area	Minimum Horizontal Illumination (Lux)**	Uniformity Ratio (Avg: Min)	Reference
Parking Lot - Asphalt***	5	4:1	IES RP-20, Table 2
Parking Lot - Concrete***	10	4:1	IES RP-20, Table 2
Building Entries - Primary	20	2:1	IES RP-33, Table 2
Building Entries - Other	10	2:1	IES RP-33, Table 2
Pedestrian Plaza/Walkway	15-30****	4:1	IEP RP-33, Table 1

* Considering site as type LZ2, default zone for light commmercial business districts
** 10.8 Lux = 1 Footcandle, Observer Age 25-65, assume light loss factor of 0.7
*** Includes associated drive aisles
****Represents target (average) illumination level, Category G-I Activity Level

3.4 DESIGN CRITERIA – LIGHTING FIXTURES AND ASSOCIATED CONTROLS

HARGIS

It is not the intent or goal of this study to create a specific product to be utilized in design of site lighting systems at the campuses, but rather, define a specific set of criteria which can then be applied to multiple fixture types and manufacturers, to allow flexibility for selection and integration with design goals in specific areas of the campus. The determining criteria and impact to fixture selection criteria is noted below:

First Cost: Overall sum of construction cost associated with the described option, including contractor's material and labor costs, overhead, profit and contingency

Visual/Aesthetics: The look and appearance of the light fixtures in relationship to the existing campus

Security: Due to the nature of this facility and the increased nighttime activity it is important that the lighting systems maintain a high degree of visibility. This criterion evaluates the option compared to IES standards for illuminance levels. Pole-mounted fixtures provide an enhanced level of visibility in comparison to bollard or ground-mounted lighting, based on the transmission of light more uniformly across the vertical component of the lighting subject.

Maintenance & Operations: Energy savings and activities required to maintain the lighting system. These activities would include lamp replacement, component replacement and servicing in the event of a unit failure.

Uniformity: Evaluates the option based on the uniformity of the light and a person's ability to perceive the appearance of higher light levels.

Efficacy and Energy Efficiency: Evaluates the efficiency of the fixture and light source to efficiently convert electrical energy into light, measured by lumens per watt. Fixture mounted controls with the potential to reduce usage during unoccupied hours.

Light Pollution/Dark Sky: Evaluates the ability of a fixture to effectively communicate the light to the desired area, while minimizing the impact on the surrounding environment.

3.4.1 BASIS OF STUDY

For the purposes of photometric modeling, a sample set of light fixtures were included, to help quantify the potential improvements to the existing site lighting to bring into conformance with master planning design criteria. Those fixtures, as noted in the drawings associated with this report, are intended to be representative of potential types used, but are not intended to be used as a sole-source fixture for a campus standard. The intent is to include a flexible set of design criteria to allow for competitive bidding/quoting for future site lighting improvement projects.

3.4.2 POLE MOUNTED

Pole heights in parking areas to be 25-40' depending on existing and adjacent pole heights. Pole heights in pedestrian areas to be 10-15'. All lamp sources shall be LED, at neutral white color temperature (4500K nominal). Efficacy of all pole mounted fixtures to meet minimum 100 lumens/watt. Distribution type shall be selected based on maximizing layout towards design criteria. Fixture or pole-mounted occupancy sensors utilized to reduce light to 50% during unoccupied periods. Fixture to meet IES full cutoff criteria, and be mounted with illuminated face of fixture parallel to grade below (oriented downwards). Fixtures to include minimum 5 year warranty for all LED array and driver components.

3.4.3 BUILDING MOUNTED

Fixtures utilized for building mounted lighting shall be selected to primarily provide lighting at building entries and at areas of the perimeter as needed to enhance site lighting levels. All lamp sources shall be LED, at neutral white color temperature (4500K nominal). Efficacy of all building mounted fixtures to meet minimum 70 lumens/watt. Fixture to meet IES full cutoff criteria, and be mounted with illuminated face of fixture parallel to grade below (oriented downwards). Fixtures to include minimum 5 year warranty for all LED array and driver components.

3.4.4 BOLLARD OR GROUND MOUNTED

Bollard mounted fixtures may be utilized to enhance the desired aesthetic within a specific area of campus, subject to review and approval of college. All lamp sources shall be LED, at neutral white color temperature (4500K nominal). Efficacy of all building mounted fixtures to meet minimum 70 lumens/watt. Design considerations shall include light trespass, as this type of fixture is less likely to be available as meeting the IES cutoff criteria. Façade lighting at buildings is discouraged, and subject to approval of the college on a project-specific basis. Fixtures to include minimum 5 year warranty for all LED array and driver components.

3.5 DESIGN CONCEPT FOR INCORPORATING BOLLARD OR OTHER SMALLER-SCALE PEDESTRIAN LIGHITNG CONCEPTS

Subject to review and approval by the college, there may be areas on campus where bollard lighting and pedestrian-scale lighting concepts may be appropriate for the desired aesthetic within an area of campus. Where these design concepts are utilized, the design criteria for lighting levels and uniformity should be maintained the extent possible and practical. It is recommended that the use of pedestrian-scale pole lighting be included within the overall scheme to help maintain the desired uniformity.

1. APPENDICES/DRAWING ATTACHMENTS

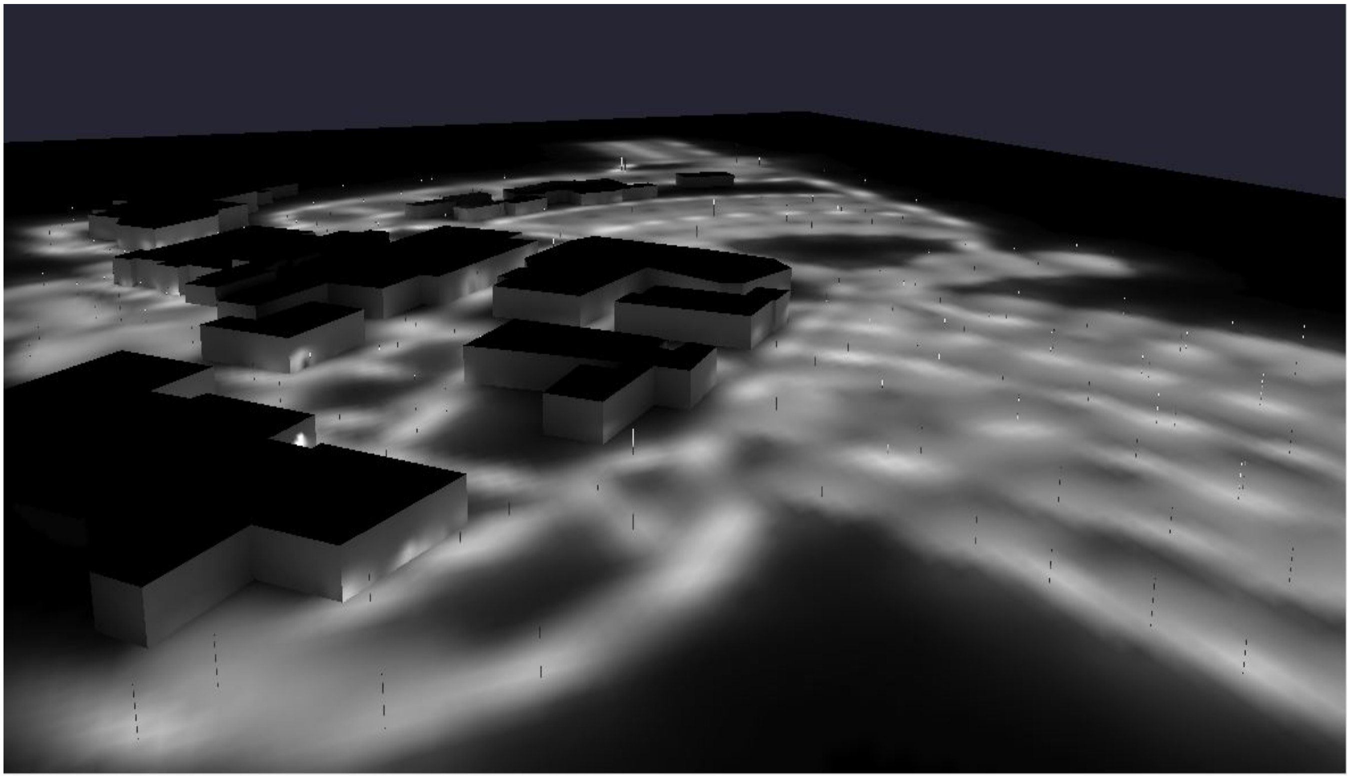
APPENDIX 1: Fort Steilacoom, Visual Renderings of Photometric Modeling

APPENDIX 2: Fort Steilacoom, Visual Renderings of Photometric Modeling

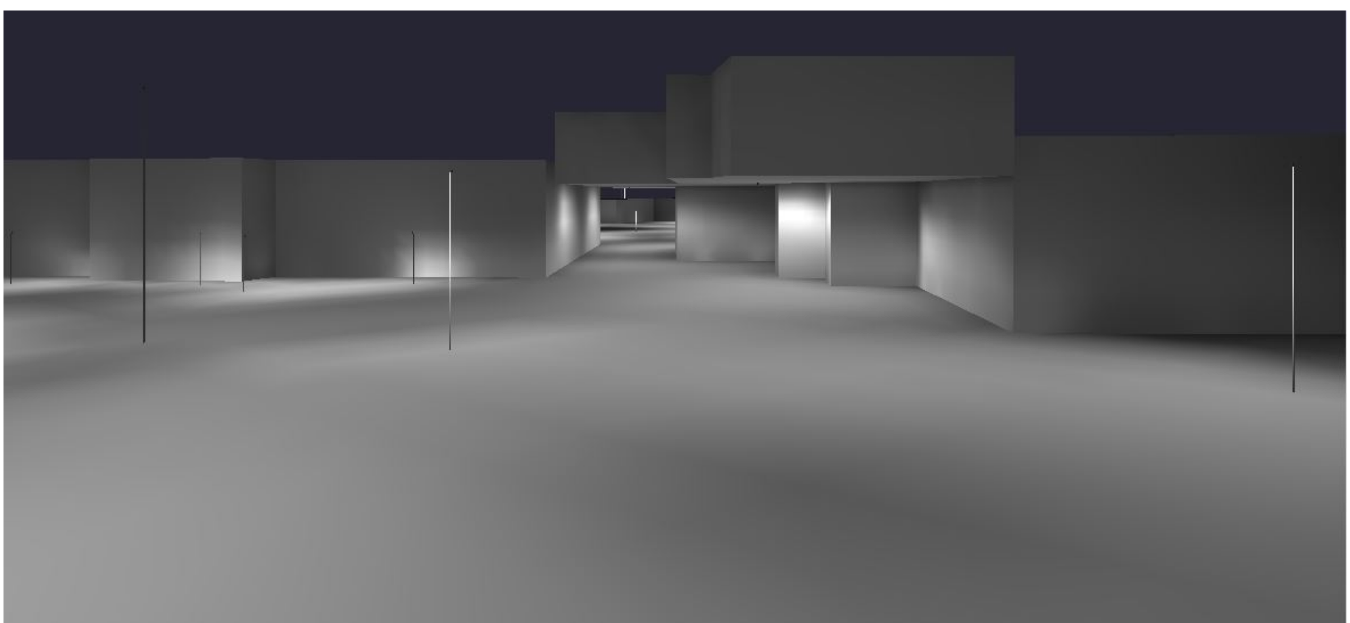
APPENDIX 3: Master Planning Drawings, Fort Steilacoom and Puyallup Campuses

APPENDIX 4: Conceptual Plans and Renderings for Bollard or Small-Scale Pedestrian Lighting

APPENDIX 1 – FORT STEILACOOM RENDERINGS

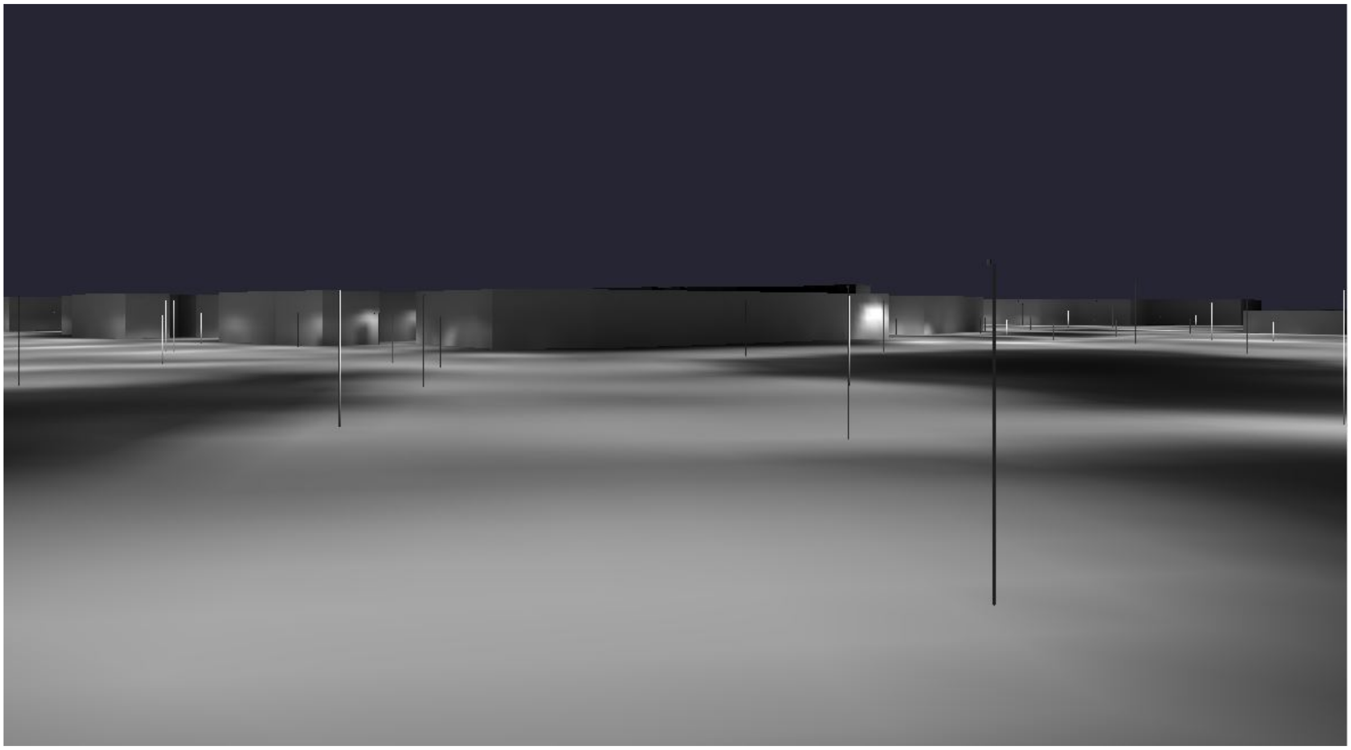


View from north of Rainier Building looking south

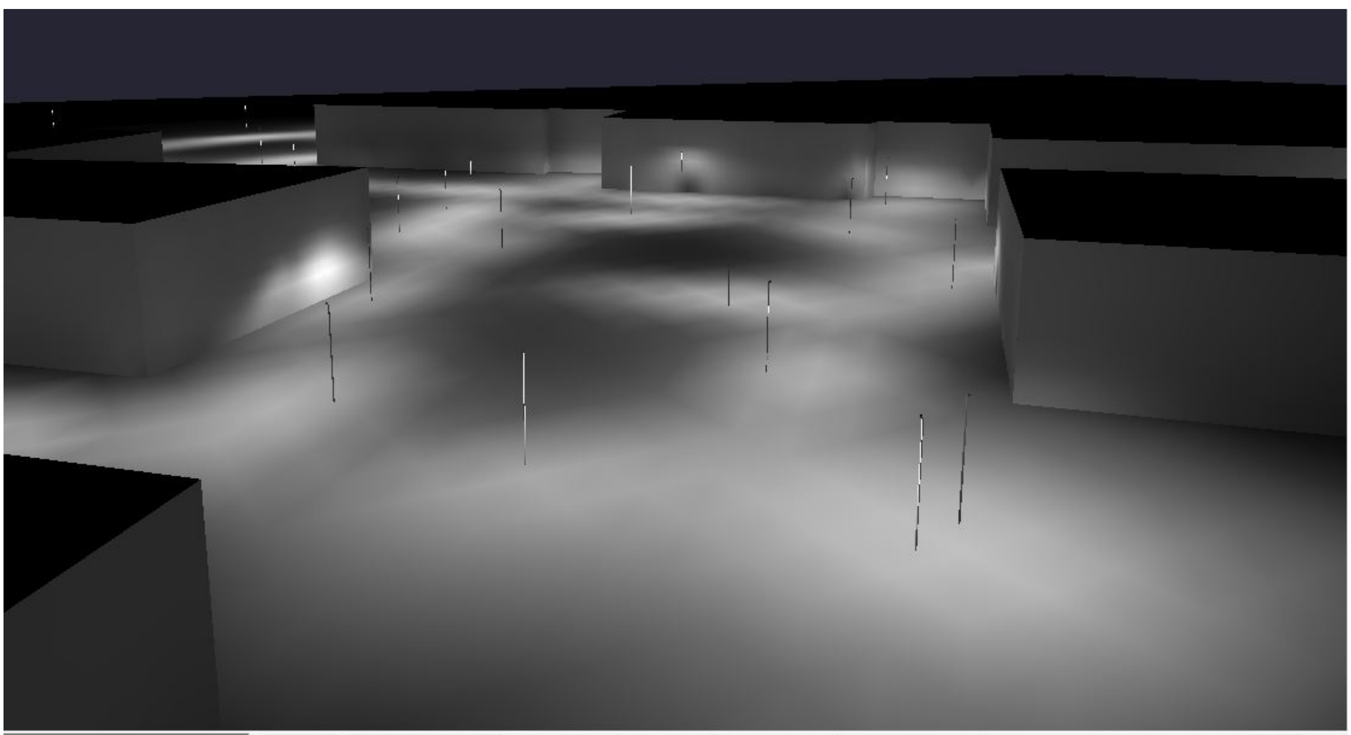


View from east of Cascade Building, looking west towards service drive (thru building)

HARGIS

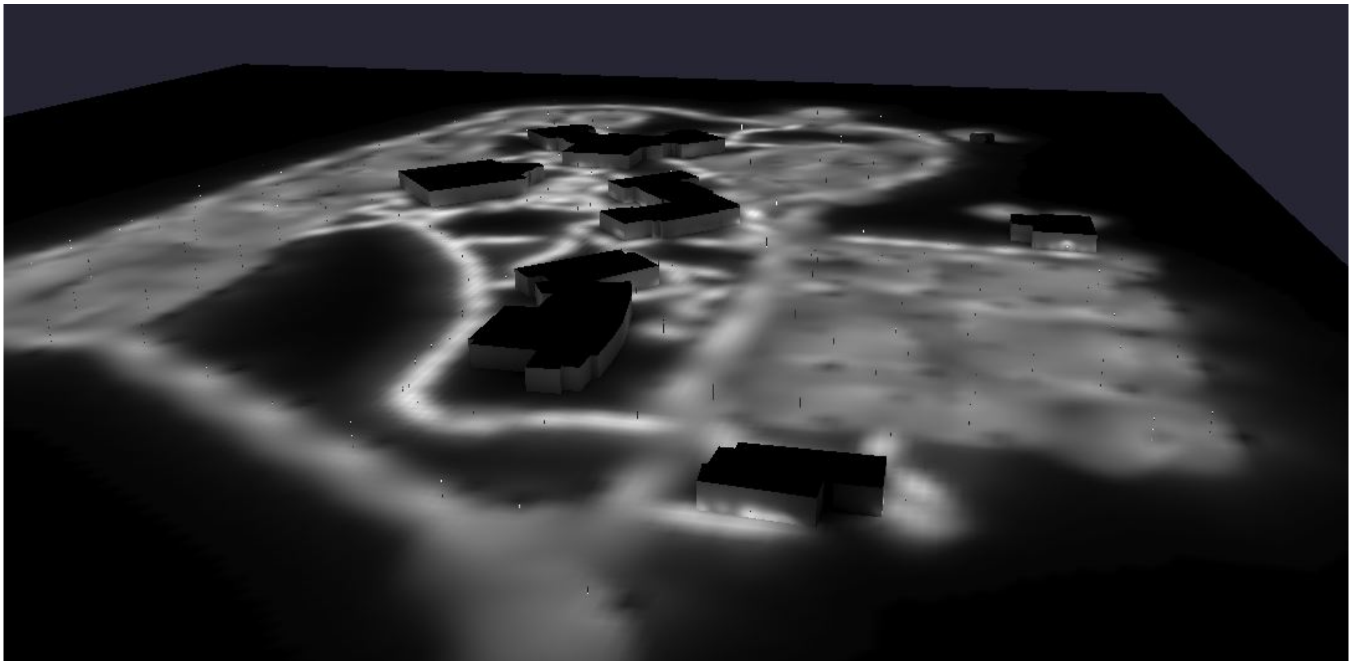


View looking east on main entry drive towards Olympic building

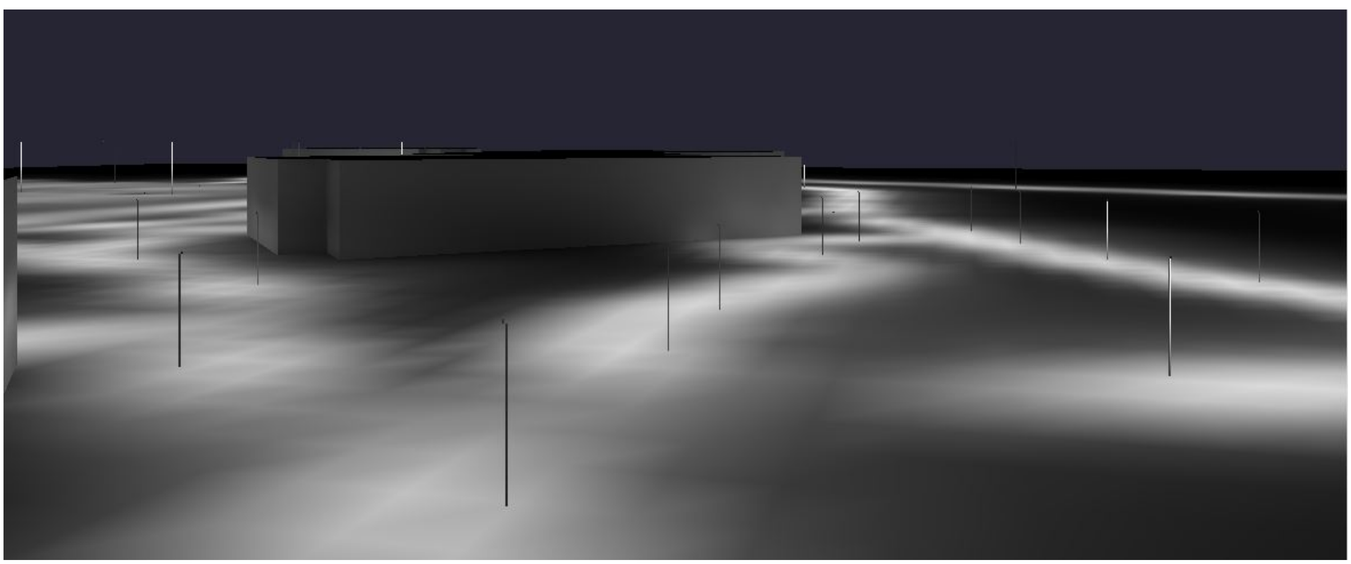


View looking east across pedestrian plaza between Cascade, Rainier, Olympic, Sunrise buildings

APPENDIX 2 – PUYALLUP RENDERINGS



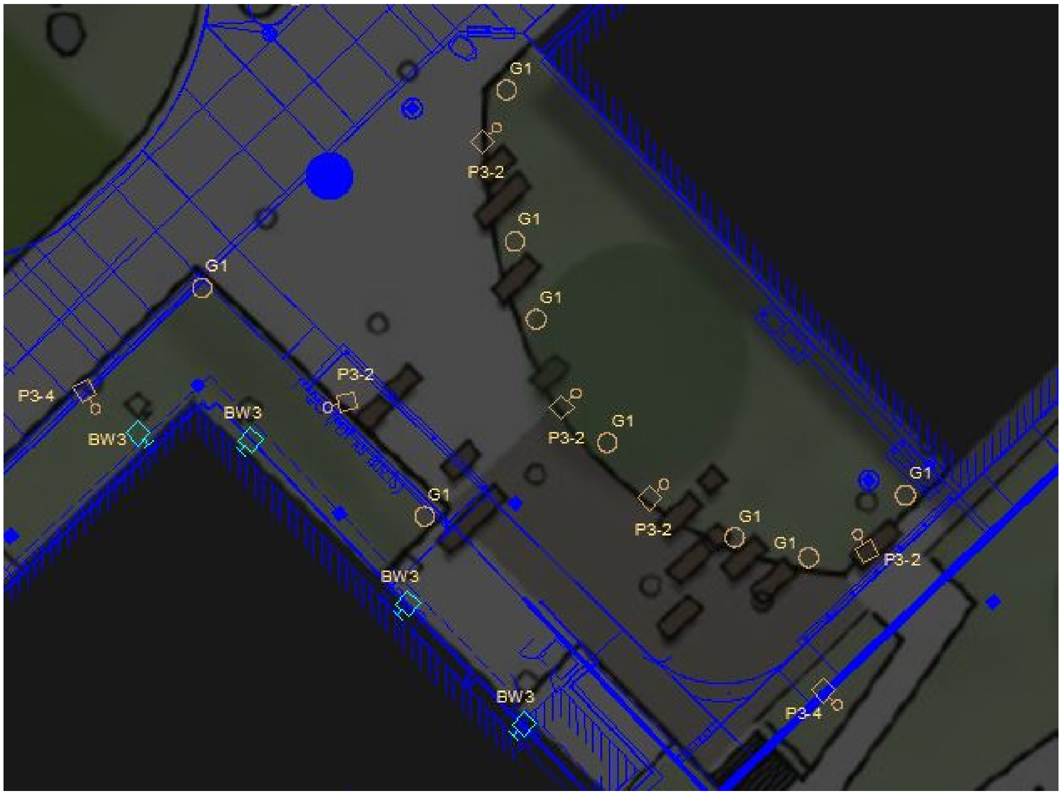
View from north end of campus looking south

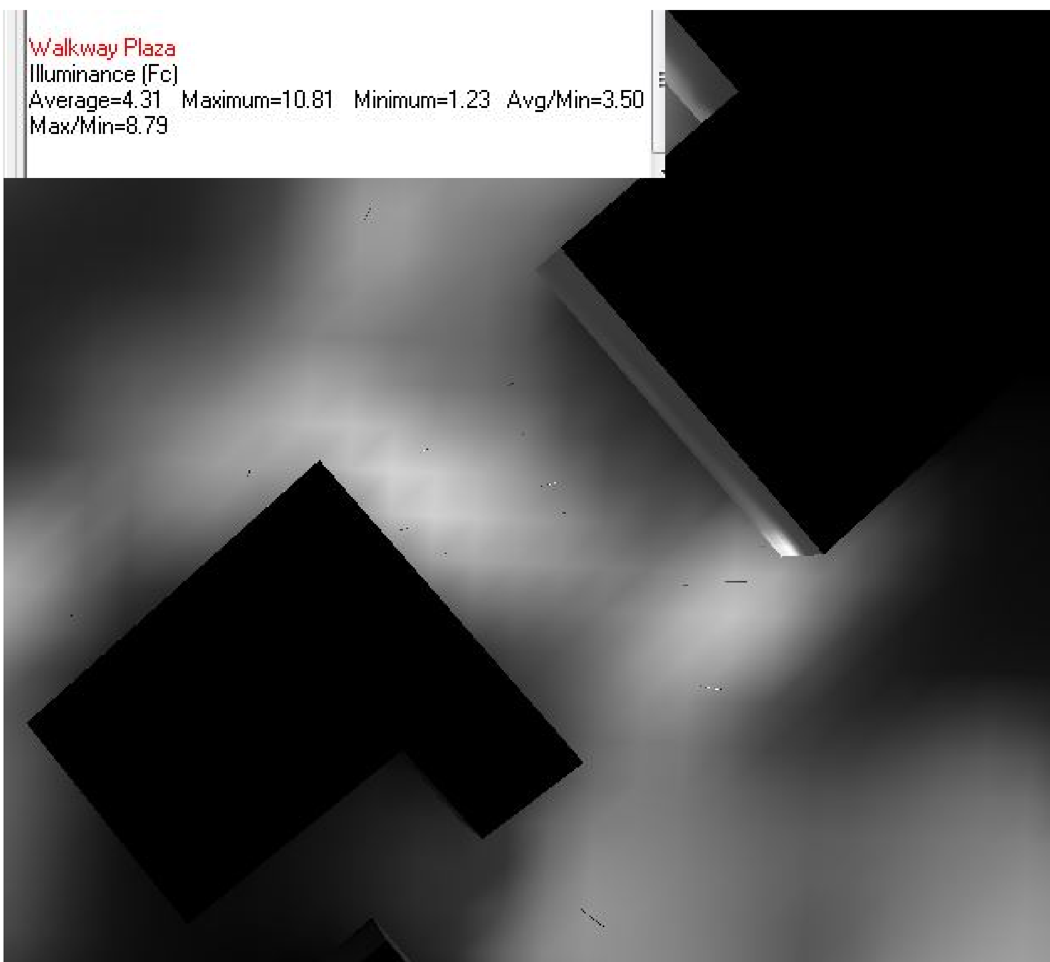


View from east of College Center building, looking north towards Arts and Allied Health building

APPENDIX 3 – SEE DRAWINGS

APPENDIX 4 – CONCEPTUAL PLANS AND RENDERINGS FOR BOLLARD OR SMALL-SCALE PEDESTRIAN LIGHTING





9.4 Sign Programming Guide

PIERCE
COLLEGE

> Sign Programming Guide

Volume A

EXTERIOR SIGN STANDARDS

Section 1 > Introduction

Section 2 > General Information

Section 3 > Sign Overview

Overview

This volume of the Exterior Sign System provides an overview of the Pierce College exterior sign system for administrators, staff and consultants who require a broad understanding of the sign program without the details related to ordering or fabricating the signs.

Designed to assist Pierce College as the campuses grow and change and new signs or updates to existing signs are needed, this Programming Guide has been created to ensure:

1. Consistent and appropriate programming of sign locations.
2. Consistency with overall Pierce design guidelines.
3. Consistent use of high-quality signage materials in all sign applications.

How to use this book

This book (volume A) will assist Pierce College staff in programming new signage for either campus, as well as updating existing signage. The programming notes identify which signs and messages are needed for each location, and how the signs should be used.

Once programmed, use the accompanying Ordering Workbook (volume B) to communicate with sign fabricators for procurment.

Scope

Information outlined in this Guide pertains to both Pierce College campuses. Pierce College is charged with maintaining the Sign Programming Guide and the Ordering Workbook. If you have questions about either of these documents or need assistance with a project, please contact:

Jim Taylor
Director of Facilities
Pierce College District
9401 Farwest Drive
Lakewood, WA 98498
(253) 964-6589

Any unique requests that are not covered within this Guide should be presented to the above contact for case-by-case review and approval.

Delta Jaeger Light

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Frutiger Bold Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Frutiger Black

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Typography

The Delta Jaeger family and the Frutiger family of fonts is used for all sign types in the Pierce College exterior sign program.

Delta Jaeger Light is used for displaying the College and Campus names, as well the building name in dimensional letters.

Frutiger Bold Condensed is used on all free-standing signs. Due to it’s condensized nature, a greater number of characters can fit on the sign panels.

Frutiger Black is used for the building name acronyms on free-standing signs only. It’s extra bold nature helps the acronym stand out from the rest of the message.

The typefaces are illustrated on sample layouts throughout this booklet and detailed specifications are provided in the Ordering Workbook.

Content

Sign content and wording are designed into the Sign Standards. Examples of sign wording and maximum character count are provided on typical layouts.

General conventions such as avoiding the use of words like 'the' in naming buildings, programs and facilities will be applied whenever possible.

Additional message conventions include the following:

Use of "Building"

In general, avoid the word "Building" on any signage. For example, signing "Arts & Allied Health" as opposed to "Arts & Allied Health Building". The use of the word "Building" is redundant in this case, and the name of the building is sufficient.

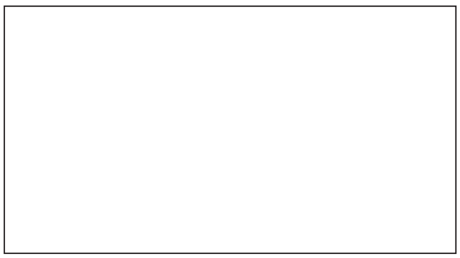
Use of the Ampersand

An ampersand will be used instead of the word 'and' in most conditions. This approach conserves valuable sign space and is sufficient in conveying the same message.

Abbreviations:

Abbreviations shall be used only when generally understood by the viewing population. This includes the use of building name abbreviations. Ensure that the accurate abbreviation is used in all cases.

"Black"



"White"

"Silver"

"Charcoal"

"Red"

Color Palette

This color palette is used for all exterior signs. “Red” matches the approved school color, while the “Charcoal” and “Silver” act as neutral foils. “White” and “Black” are used for text to achieve maximum contrast with the background color.

Color specifications are provided in Volume B, Ordering Workbook.

Solid Logo

Outline Logo

Logos

While the design of the Pierce College logo is dictated by Pierce College, adapted versions of the logo have been developed for use in the exterior sign system.

There are two adapted logos used in this sign system: Solid Logo and Outline Logo. The logos shall be used as dictated in the sign specifications (see Volume B); they are not interchangeable. One version of the logo shall not be substituted for another version.

Arrows

Arrows point left, up or right, indicating the direction of travel. An arrow pointing up indicates a forward path of travel. Arrow sizes will change throughout the sign program to fit each sign type, however the proportions of the arrow must always remain the same.

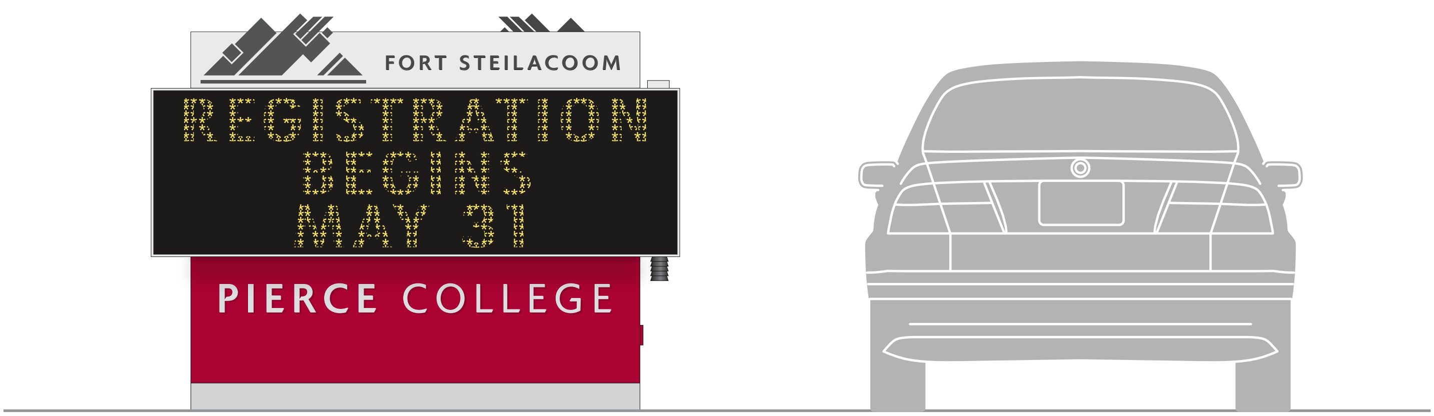
Sign Overview

Signs in this section include all signs in the current program. If specialized or unique sign applications require deviation from these standards, contact the Director of Facilities.

The messages shown are typical examples and do not represent all message types required.

The following pages will help in identifying which signs and messages are needed, and how the signs should be used.

Sign Type E/A



Sign Type E/B

Site ID

E/**A**

A site ID marks the threshold through which one passes to enter campus. It creates the first impression for the campus and enhances campus identity.

At each campus entry a site ID shall be programmed to welcome visitors and identify the campus. The sign includes the college name and logo, the individual campus name and the campus address.

Placement Criteria

Signs shall be located on Pierce College property, perpendicular to the roadway, with both sides of the sign visible to oncoming traffic. If conditions do not allow for this sign placement, determine the primary visitor approach and situate sign to be visible in that line of sight. If needed, program Perimeter Markers to aid visitors approaching from the secondary approach. This sign requires a permit. Contact local jurisdictions to determine compliance.

Electronic Message Center (EMC)

E/**B**

In addition to a Site ID, an exterior electronic message center is designed to display the college and campus names, as well as temporary digital messages to passing vehicles. Messages shall be kept short and concise; duration time for each message is dictated by the City.

Placement Criteria

Signs shall be located on Pierce College property. If adding a new EMC to campus, first determine the audience. If the content is to be directed toward the public, including potential students, locate the EMC on a highly frequented vehicular path of travel. Ensure that the sign is visible to traffic approaching from both directions and that the speed of travel will not deter visitors from being able to read the sign. Avoid locating the sign in areas where it would serve as a dangerous distraction (busy intersections, pedestrian crossings). EMCs can be highly regulated by City and County jurisdictions, and do require a permit. Contact local jurisdictions to determine compliance.

Sign Type E/C-1 **Sign Type E/C-2** **Sign Type E/C-3**

Perimeter Markers

Three perimeter marker designs are provided to serve separate purposes. Perimeter markers may be located at secondary campus entries or along the campus perimeter in key locations. They serve to reinforce the image and identity of the college.

E/**C-1**

To identify campus boundaries, an overhead sign panel displays the college logo and name, and alerts visitors to the approaching campus. In addition, there is space to display a directional arrow pointing toward the campus entry, if needed. These signs include a mounting pole.

E/**C-2**

For temporary or changeable messages, and where existing poles are available, banner signs display the Pierce College logo and name or current marketing graphics. These signs mount to existing lightpoles.

E/**C-3**

To draw attention to a campus entry, colorful metal banners mounted to new poles can be located behind a site ID.

Placement Criteria

Signs shall be located on Pierce College property, within sightlines visible to vehicles in motion. Exact locations to be site-verified. Signs may require permits, and quantities may be restricted by the City or County. Contact local jurisdictions to determine compliance.

Sign Type E/D-1

Sign Type E/D-2

Vehicular Directionals

E/**D**

Wayfinding signs on vehicular thoroughfares guide auto traffic. Because they are viewed hastily by moving vehicles, messages shall be simple, clear and legible.

In most cases, messages are limited to building names. Campus departments or programs are not listed on vehicular directional signs, with the exception of specific destinations frequented by visitors (not students) such as Receiving, Veterinary Technology or the Dental Clinic. These simple messages assume that visitors have seen maps or received verbal instructions for where secondary destinations (such as rooms, departments, or a public function) are located within a larger building or open space.

One directional arrow is used for each direction (right, up, left) and all destinations accessible in that direction are listed below the arrow.

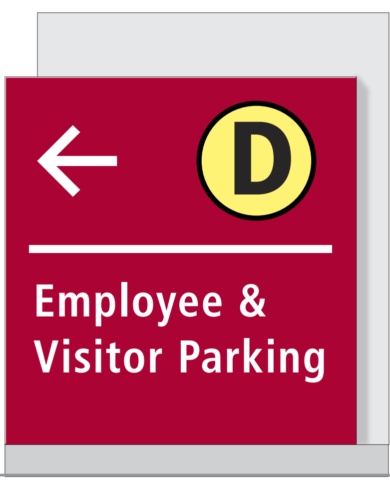
There are two sizes of signs included in this program. Choose the sign size that best suits the message needs.

Placement Criteria

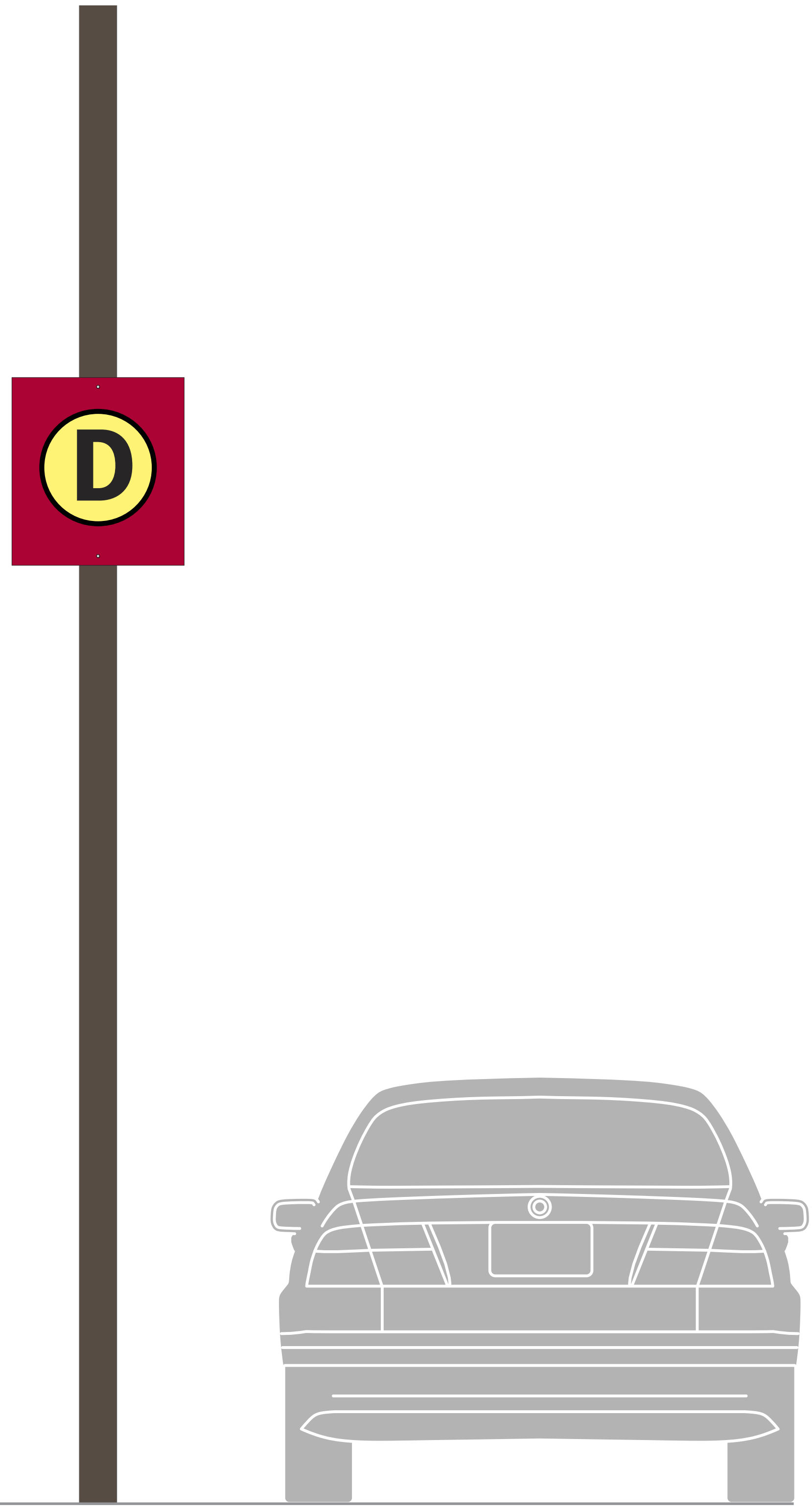
Signs are located perpendicular to roads that traverse Pierce College property, on the side of the road that provides the best visibility to the greatest amount of traffic. The Primary frame (silver portion) shall always be closest to the road. Locate signs at primary decision points, or where reinforcement of a direction is needed.

Specific messages shall be programmed for each side of the sign (Side A, Side B). Indicate the direction of the arrow needed for each message (left, up, right).

If a sign is located on a City or County-owned road, ensure that signs are not located in the vision triangle; signs may require a permit. Contact local jurisdictions to determine compliance.



Sign Type E/P



Sign Type E/R

Parking Lot ID: Free-standing

E/**P**

Once on campus, a visitor's first challenge is to find parking. Clearly identified lots, whether for visitors, employees or others, help drivers move through campus efficiently. Parking ID signs reassure drivers that they are in the right place and have found a parking area intended for their use.

Each parking lot is identified at its entry with a letter designation, a message regarding whether the lot is for employees, visitors or students, and an arrow pointing in the direction of the lot entry.

Parking lot identification should be referred to consistently in all campus communications - including website driving instructions, admissions catalogs, campus maps, announcements of college events and telephone directions by all campus departments and services. If any changes occur to parking lot identification, changes shall be cross-referenced in all campus communications.

Placement Criteria

Signs are located perpendicular to roads that traverse Pierce College property, and parallel with the entry drive. Locate signs on the side of the entry drive that provides the best visibility to the greatest amount of traffic. The Primary frame (silver portion) shall always be closest to the road. Specific messages shall be programmed for each side of the sign (Side A, Side B).
If a sign is located on a City or County-owned road, ensure that signs are not located in the vision triangle; signs may require a permit. Contact local jurisdictions to determine compliance.

Parking Lot ID: Pole-mounted

E/**R**

Parking lot identification is reinforced throughout the lot with pole-mounted signs displaying the appropriate letter designation.

Placement Criteria

Signs can be mounted back-to-back on an existing lightpole, or as a single sign facing in along the perimeter of a parking lot.

Sign Type E/K-1

Sign Type E/K-2

Pedestrian Directional

E/**K-1**

Moving through campus after parking or upon leaving a building, the visitor experience and sense of safety are enhanced by directional information.

Directional signs feature messages that are simple and clear. In most cases, messages are limited to building names, however specific destinations frequented by visitors, such as Veterinary Technology or the Dental Clinic, may be included. These simple messages assume that visitors have seen maps or received verbal instructions for where secondary destinations (such as rooms, departments, or a public function) are located within a larger building or open space. One directional arrow is used for each direction (right, up, left) and all destinations accessible in that direction are listed below the arrow.

Placement Criteria

Directional information signs are strategically placed throughout campus at primary decision points along pedestrian pathways and sidewalks. Orient signs such that they are not blocked by plantings, benches or trashcans. The Primary frame (silver portion) shall always be closest to the pathway.

Pedestrian Wayfinding Map

E/**K-2**

Wayfinding signs feature a map of the campus with a "you are here" indicator and additional directional information, as needed. Each map indicates where the viewer is standing and shall be in a "heads up" orientation so that the direction a viewer is facing is at the top of the map. Any changes to the campus, whether in signage or architecture, should also appear on the campus wayfinding map. Directional messages shall be simple and clear and limited to building names. One directional arrow is used for each direction (left, up, right) and all destinations accessible in that direction are listed below the arrow.

Placement Criteria

Wayfinding maps are strategically placed along the perimeter of campus such that visitors approaching from parking lots encounter the maps before continuing into the campus. Additional maps can be located throughout campus along pedestrian pathways and sidewalks as needed. Locate maps to allow the viewer to face the bulk of the campus. When possible, locate signs with the map close to paved areas so that it is accessible to wheelchairs. The Primary frame (silver portion) shall always be closest to the pathway.

Sign Type E/G-Logo12

Sign Type E/G-Logo24

SUNRISE
SNR

Sign Type E/G-9

RAINIER
RAI

Sign Type E/G-12

Building-mounted Building ID

E/**G**

Because the buildings on each campus are visible from the periphery of the campus, building-mounted ID can be helpful for wayfinding from a distance.

Each building is identified with dimensional letters that are legible, visible from various points across campus, and contrast with their background color. In many cases, each building will have a set of dimensional letters on difference facades to serve a variety of sightlines. Larger letters shall be located high on the building, while smaller letters are located lower on the building. The message is limited to the buiding name and building acronym.

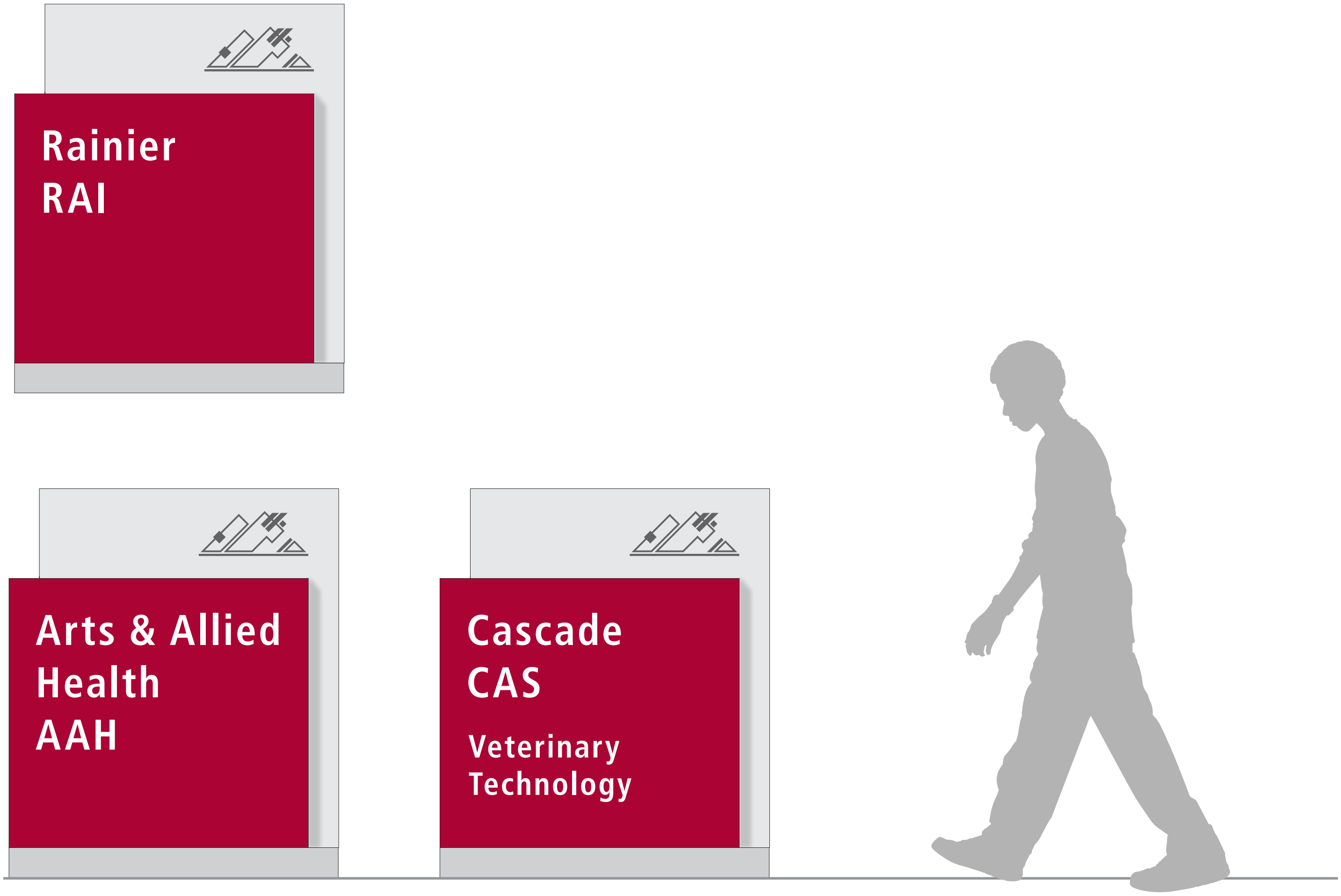
E/**G-Logo**

The addition of a dimensional "Solid Logo" located above the dimensional letters is useful to enhance the college identity.

The size of the letters and logo are dictated by the size size of the building, the available space, and the sightlines. Consult the building architect, Facilities or review existing locations to determine the appropriate size.

Placement Criteria

Dimensional graphics shall be located close to building entries and in locations that will not be obscured by shrubbery or architectural features (such as columns or canopies). When programmed, the dimensional logo is always located above the dimensional letters.



Sign Type E/F

Sign Type E/E

Free-standing Building ID

Each primary building entry may also be identified with a free-standing sign displaying the building name and building acronym. Campus departments or programs are not listed on Building ID signs, with the exception of specific destinations frequented by visitors (not students) such as Veterinary Technology or the Dental Clinic. In some cases there may be one or two free-standing signs per building, but not all buildings require a free-standing ID.

There are two designs for free-standing signs in this sign program:

E/**F**

1) A free-standing sign serves pedestrians and vehicles as they approach a building. This sign is best for existing buildings where the landscape has already been completed.

E/**E**

2) A building ID panel may be integrated into a site-specific concrete landscape bench designed as part of the architectural or landscape package. This sign also serves the pedestrian and vehicular approach, but is larger and requires coordination with the Architect. This sign is best for new buildings where the sign can be incorporated into the landscape design.

Placement Criteria

Signs are oriented so they are visible to the majority of pedestrian traffic approaching the building and when possible, located near the building entries.

9.5 Traffic Impact Analysis

Pierce College Puyallup Campus Master Plan

Puyallup, WA

Updated Traffic Impact Analysis

January 27, 2022

Prepared for:

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FINDINGS/ CONCLUSIONS

This traffic impact analysis (TIA) has been prepared for the proposed expansion of the *Pierce College Puyallup Campus*. The traffic analysis was completed based on comments received from the submitted traffic scoping worksheet as well as scoping discussions with City of Puyallup and WSDOT staff. This is an update to the previous Traffic Impact Analysis dated January 6, 2021, and addresses comments received by City of Puyallup dated October 15, 2021.

Project Proposal. The project proposal includes the addition of up to 72,000 square foot (SF) of building area to the Pierce College Puyallup Campus (currently, the Master Plan identifies 71,688 square-feet in gross new floor area). The existing campus currently has approximately 243,440 SF of building area. Cumulatively, this expansion would result in a total of approximately 315,440 SF of building area as assumed in this study (*it should be noted that the 2,688 SF City of Puyallup Communications Center leased to the City is not included in this total*). For this analysis, a future horizon buildout year of 2032 was used.

Trip Generation. The proposed *Pierce College Puyallup Campus* expansion project is anticipated to generate 1,458 new weekday daily trips, with 149.0 new trips during the weekday AM peak hour (114.7 entering, 34.3 exiting), and 133.9 net new trips during the weekday PM peak hour (66.9 entering, 67.0 exiting).

Intersection Level of Service. Weekday AM and PM peak hour LOS analyses were conducted at 14 study intersections. The results of the LOS analyses indicated that all turn movements at the stop-controlled study intersection as well as all of the signalized study intersections are expected to operate at LOS D or better during the weekday AM and PM peak hour in 2032, without or with the proposed *Pierce College Puyallup Campus* expansion project. Per the City's *2015 Comprehensive Plan*, while the City has a minimum LOS D for all intersections in the City, LOS E operations along the Meridian and Shaw Road corridors are considered acceptable during the PM peak period. As such, all study intersections are anticipated to operate at an acceptable LOS in 2032.

Site Access. Vehicular access to/from the site would continue to be provided at the two existing access points: College Way/39th Ave SE and 7th St SE/College Way. Weekday AM and PM peak hour LOS analysis at the two site access locations indicated that all turn movements at 7th Street SE/College Way as well as the signalized intersection of College Way/39th Ave SE are anticipated to operate at LOS B or better during the weekday AM and PM peak hour in 2032 without or with the proposed expansion. Per the *Amendment to Concomitant Agreement dated May 30, 1986 Between the City of Puyallup and Beim & James Properties II*, there is a requirement to "*assess the need for additional access to the campus during the development of each major addition…*" Since both access locations are anticipated to operate at LOS B or better with the proposed expansion, the need for an additional access to the campus would not be justified.

Project Mitigation. The following summarizes the measures proposed to mitigate the transportation impacts of the proposed *Pierce College Puyallup Campus* expansion project:

- Traffic Impact Fees. To mitigate long-term transportation impacts, the City administers a Transportation Impact Fee (TIF) to new developments to improve the transportation system to accommodate the higher travel demand added by new developments. The City of Puyallup's currently adopted transportation impact fee is $4,500 per PM peak hour trip. The preliminary estimated transportation impact fee for the proposed project totals $602,550 ($4,500 X 133.9 net new PM peak hour trips). The actual impact fees will be calculated and assessed at the time of building permit issuance.

INTRODUCTION

This traffic impact analysis (TIA) documents the traffic impacts associated with the proposed expansion of the *Pierce College Puyallup Campus* as part of its Master Plan. *The Pierce College Puyallup Campus* is located at 1601 39th Avenue SE in Puyallup, WA as shown in Figure 1. This is an update to the previous Traffic Impact Analysis dated January 6, 2021, and addresses comments received by City of Puyallup dated October 15, 2021.

Project Description

The *Pierce College Puyallup Campus* currently has approximately 243,440 square feet (SF) of building area and the proposed project would expand the college campus by an additional 72,000 SF in the context of evaluating traffic impacts. Cumulatively, this expansion would result in a total of approximately 315,440 SF of building area. For this analysis, a buildout horizon year of 2032 was used.

Vehicular access to/from the site would continue to be provided at the two existing access points off of 39th Avenue SE and 7th Street SE. The Campus will continue to have primary access via the signalized intersection of College Way/39th Avenue SE. On the west side of the Campus, a secondary, full access driveway will also continue to provide access at the intersection of 7th Street SE/College Way. A preliminary site plan is included in

Figure 2.

Project Approach

Based on traffic scoping discussions with City of Puyallup staff, the following tasks were undertaken to evaluate and disclose the traffic impacts associated with the Pierce College Puyallup Campus Master Plan project:

- Assessed existing conditions through field reconnaissance and reviewed existing planning documents;
- Assessed and described existing road conditions, pedestrian facilities, and transit facilities in the project vicinity;
- Documented existing traffic volumes and intersection LOS at fourteen (14) study intersections during the weekday AM and PM peak hours;
- Documented future planned roadway improvements in the project vicinity;
- Developed trip generation estimates for weekday daily, AM, and PM peak hour conditions;
- Documented trip distribution and assignment of project-generated traffic;
- Documented traffic forecasts and assumptions for year 2032 AM and PM peak hour conditions without and with the proposed project;
- Analyzed weekday AM and PM peak hour LOS for future conditions without and with the project at fourteen (14) study intersections;
- Evaluated whether additional site access locations would be necessary; and
- Documented proposed traffic mitigation.

Primary Data and Information Sources

- 2021 AM and PM peak hour traffic counts by All Traffic Data.
- City of Puyallup's *2015 Comprehensive Plan*.
- Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 10th Edition, 2017.
- Pierce Transit Website, January 2022.
- Transportation Research Board (TRB), *Highway Capacity Manual (HCM)*, 6th Edition, 2016.

Figure 1: Project Site Vicinity

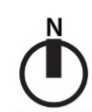

Figure 2: Preliminary Site Plan

EXISTING CONDITIONS

This section includes a description of the existing site, an inventory of existing roadway conditions, key intersections in the site vicinity, existing daily and peak hour traffic volumes, intersection levels of service, non-motorized facilities, and planned roadway improvements.

Existing Project Site

The existing *Pierce College Puyallup Campus* site is located at 1601 39th Avenue SE in Puyallup, WA. It sits on a total of eight (8) parcels and is currently made up of about 243,350 SF of building space. The two existing access points off of 39th Avenue SE to the south and 7th Street SE to the west will also to provide access to the proposed building area of up to 72,000 SF.

Existing Roadway Conditions

The primary vehicle travel routes to and from the site include 39th Avenue SE, S Meridian (SR 161), Shaw Road E, and 7th Street SE. These roadways serving the project site are described below in terms of the number of lanes, posted speed limits, pedestrian facilities, and shoulder conditions. Their relationships to one another can be seen in Figure 1.

S Meridian (SR 161) is a two-way north-southbound street in the project vicinity. It has five to eight lanes (2 to 3 lanes in each direction) with auxiliary turn lanes provided at most intersections in the project vicinity. It has curb, gutter and sidewalks on both sides and a posted speed limit of 35 mph. Per City of Puyallup's *Comprehensive Plan*, S Meridian is classified as a Major Arterial in the project vicinity.

39th Avenue SE is a two-way east-westbound street along the project's southern frontage. It is a four-to-five lane roadway (2 lanes in each direction) with curb, gutter and sidewalks on both sides and a posted speed limit of 35 mph. Auxiliary turn lanes are provided at most intersections in the project vicinity and a two-way left-turn lane is provided along 39th Ave SE west of College Way. Per City of Puyallup's *Comprehensive Plan*, 39th Avenue SE is classified as a Major Arterial in the project vicinity.

Shaw Road E is generally a two-way north-southbound street with a posted speed limit of 35 mph. North of 39th Ave SE, Shaw Rd E widens for a short distance to a 4-lane roadway with curb, gutter, and sidewalks on both sides of the street. After approximately 0.10 miles to the north of 39th Ave SE, the road transitions into a 2-lane roadway with curb, gutter, and sidewalk on the east side of the street and unpaved shoulder on the west side of the street. North of Manorwood Dr, Shaw road widens to a 3-lane roadway with curb, gutter, and sidewalks on both sides of the street. South of 39th Ave SE, paved shoulders are present on both sides of the street, but no sidewalks are provided. Per City of Puyallup's *Comprehensive Plan*, Shaw Road is classified as a Major Arterial in the project vicinity.

7th Street SE is a 3-lane two-way north-southbound street with a two-way left turn lane along the project's western frontage. Curb, gutter, and sidewalks are present on both sides of the street and the posted speed limit is 25 mph. Per City of Puyallup's

Comprehensive Plan, 7th Avenue SE is classified as a Major Collector in the project vicinity.

Transit Service

Transit service to and from the project vicinity is provided by Pierce Transit. Pierce Transit Route #4 which provides weekday and weekend bus service between Lakewood Transit Center, South Hill Mall Transit Center and Pierce College Puyallup Campus has a stop located at the southeastern employee parking lot inside the campus area. Route #4 runs approximately between 5:45 AM and 8:30 PM with 30-minute headways. Outside the campus area, the nearest transit stops can be found within one mile of the campus at the intersection of 10th Street SE and 39th Avenue SE. These bus stops also serve Pierce Transit Route #4 as well as Pierce Transit Route #425 (between Puyallup and South Hill). Additional transit stops that serve Pierce Transit Route #425 are also provided at the campus' West Entrance at the intersection of 7th Street SE and College Way. Route #425 provides weekday and Saturday bus service between approximately 11:30 AM and 5:20 PM with 1-hour headways.

Non-Motorized Transportation Facilities

Non-motorized transportation facilities in the project vicinity include sidewalks on both sides of 39th Avenue SE and 7th Street SE. Crosswalks with pedestrian push buttons are provided at most signalized study intersections along Shaw Rd, 39th Avenue SE, 37th Avenue SE and S Meridian (SR 161). Shaw Road between 23rd Ave SE and Manorwood Dr includes a shared-use path for biking and walking on the east side of the street.

Traffic Study Intersections

To assess the traffic impact of the proposed *Pierce College Puyallup Campus* expansion project, the following off-site study intersections were analyzed during the weekday AM and PM peak hours:

1. 7th Street SE / College Way
2. S Meridian / 31st Ave SW (SR 161)
3. S Meridian (SR 161) / 37th Avenue SE
4. 5th Avenue SE / 37th Avenue SE
5. 39th Avenue SE / 37th Avenue SE
6. 10th Street SE / 39th Avenue SE
7. College Way / 39th Avenue SE
8. Wildwood Park Dr / 39th Avenue SE
9. 25th Street SE / 39th Avenue SE
10. Shaw Road E / 39th Avenue SE
11. Shaw Road E / 23rd Avenue SE (Crystal Ridge Dr SE)
12. S Meridian (SR 161) / 39th Avenue SE
13. 5th Avenue SE / 39th Avenue SE
14. S Meridian (SR 161) / 43rd Avenue SE

Existing Peak Hour Traffic Volumes

Year 2021 existing AM and PM peak hour traffic volumes at the study intersections were estimated based on recent December 2021 turning movement counts collected by All Traffic Data. Based on comments provided by the City of Puyallup, traffic volumes in the study area have largely returned to normal with exception to the current reduced capacity of the Pierce College campus. To account for the currently reduced capacity of the Pierce College campus due to the COVID-19 pandemic, the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, was used to estimate the trips generated by full capacity of the existing campus. The additional trips associated with full capacity of the campus were assigned through the study intersections and added to the 2021 traffic counts.

The AM peak hour traffic volumes represent the highest hourly volume of vehicles passing through an intersection between 7:00 and 9:00 AM. The PM peak hour traffic volumes represent the highest hourly volume of vehicles passing through an intersection between 4:00 and 6:00 PM.

Figure 3 and Figure 4 illustrate the resulting 2021 AM and PM peak hour traffic volumes at the study intersections. The existing traffic count datasheets are included in Appendix A.

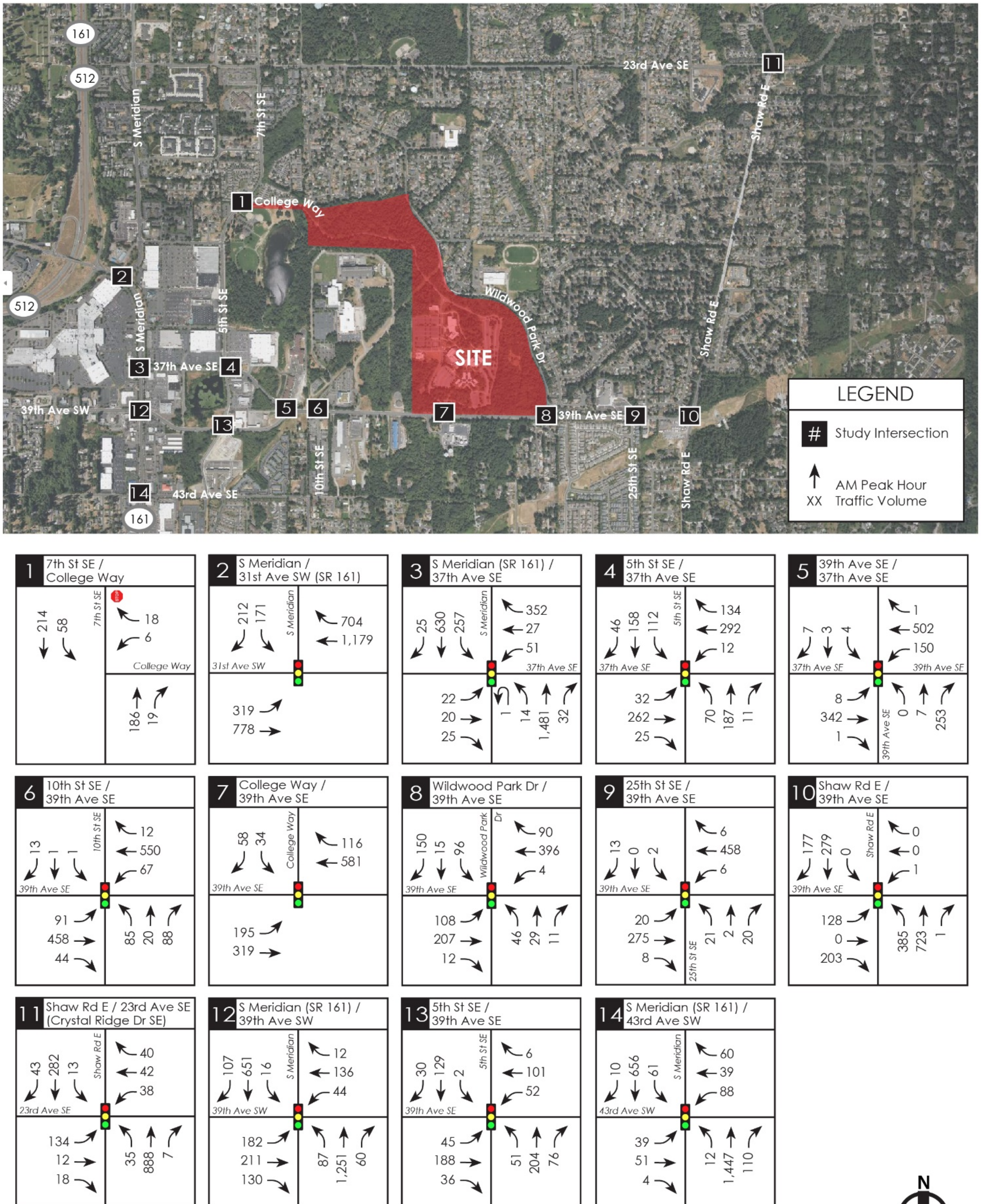

Figure 3: 2021 Existing Weekday AM Peak Hour Traffic Volumes

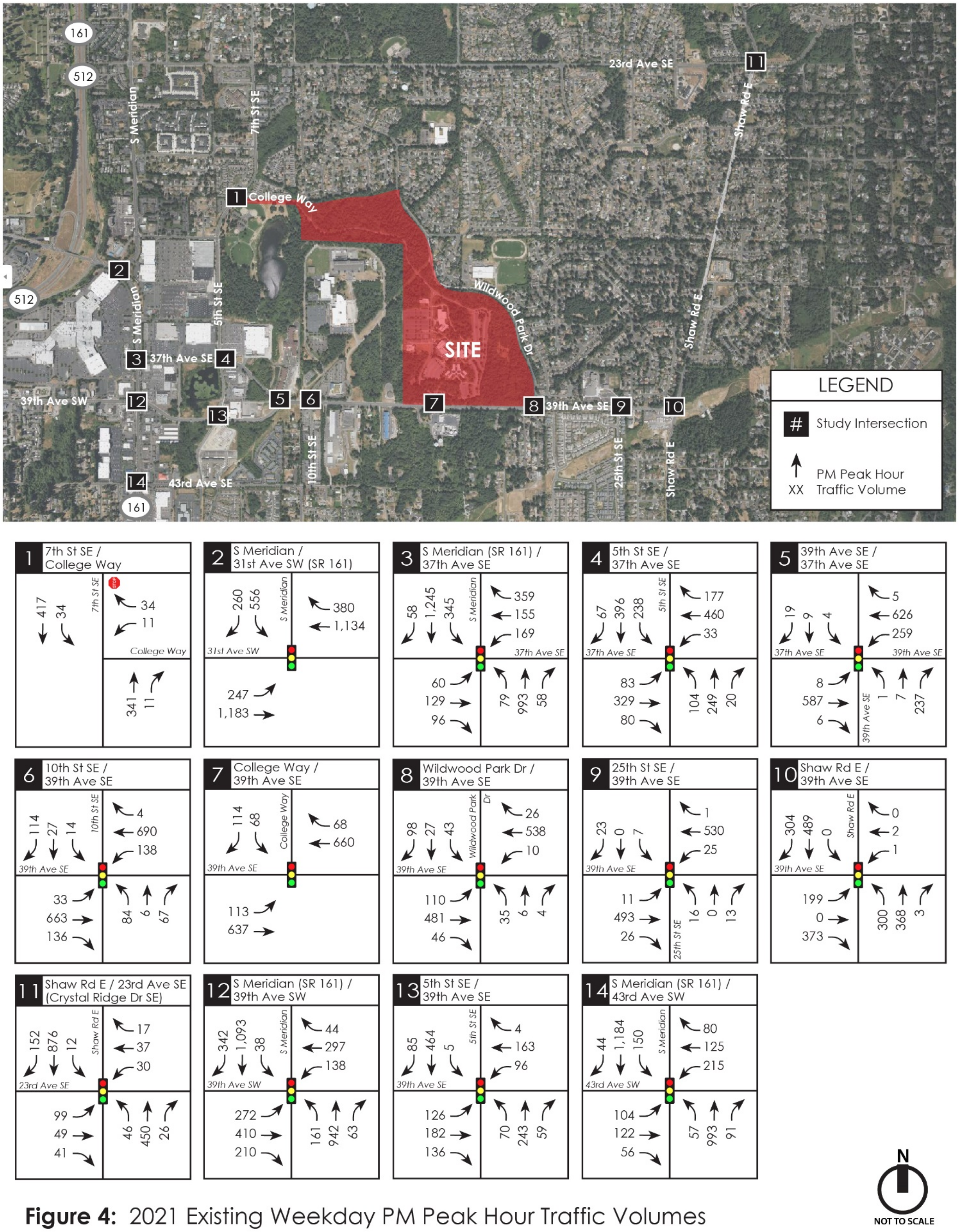

Figure 4: 2021 Existing Weekday PM Peak Hour Traffic Volumes

Existing Intersection Level of Service

An existing AM and PM peak hour level of service (LOS) analysis was conducted at the study intersections. LOS generally refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS. At signalized intersections, LOS A represents free-flow conditions (motorists experience little or no delays), and LOS F represents forced-flow conditions where motorists experience an average delay in excess of 80 seconds per vehicle.

The LOS reported for signalized intersections and stop controlled intersections represents the average control delay (sec/veh) and can be reported for the overall intersection, for each approach, and for each lane group or movement (additional v/c ratio criteria apply to lane group or movement LOS only). The LOS reported at two-way stop-controlled intersections is based on the average control delay and can be reported for each controlled minor approach, controlled minor lane group, and controlled major-street movement (additional v/c ratio criteria apply to lane group or movement LOS only). Table 1 outlines the current HCM 6th Edition LOS criteria for signalized and unsignalized intersections based on these methodologies.

Table 1
LOS Criteria for Signalized and Stop-Controlled Intersections[1]

SIGNALIZED INTERSECTIONS			STOP-CONTROLLED INTERSECTIONS		
	LOS by Volume-to Capacity (V/C) Ratio[2]			LOS by Volume-to Capacity (V/C) Ratio[3]	
Control Delay (sec/veh)	≤ 1.0	> 1.0	Control Delay (sec/veh)	≤ 1.0	> 1.0
≤ 10	A	F	≤ 10	A	F
> 10 to ≤ 20	B	F	> 10 to ≤ 15	B	F
> 20 to ≤ 35	C	F	> 15 to ≤ 25	C	F
> 35 to ≤ 55	D	F	> 25 to ≤ 35	D	F
> 55 to ≤ 80	E	F	> 35 to ≤ 50	E	F
> 80	F	F	> 50	F	F

1) Source: Highway Capacity Manual, Transportation Research Board, 6th Edition, 2016.

2) For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.

3) For two-way stop-controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop controlled intersections. For approach-based and intersection-wide assessments at all-way stop controlled intersections, LOS is solely defined by control delay.

The analysis was conducted using the methodology and procedures outlined in the 6th Edition of the *Highway Capacity Manual* and *Synchro 10.3* methodology/ traffic analysis software. Existing signal timing information at the signalized study intersections was provided by WSDOT and the City of Puyallup. Phasing patterns were confirmed in the field. The 2021 AM and PM LOS analysis results for the study intersections are summarized in Table 2. The detailed LOS worksheets are included in Appendix B.

Table 2
Existing AM & PM Peak Hour LOS Summary

	Peak Hour LOS	
Study Intersections	LOS[1]	Delay (sec/veh)
AM Peak Hour		
Stop-Controlled Intersection:		
1. 7th St SE / College Way		
Westbound Shared Left-Right	B	10.1
Southbound Left Turn	A	7.8
Signalized Intersections:		
2. S Meridian / 31st Ave SW (SR 161) [2]	C	22.5
3. S Meridian (SR 161) / 37th Ave SE	B	15.3
4. 5th Ave SE / 37th Ave SE	B	17.6
5. 39th Ave SE / 37th Ave SE	B	17.8
6. 10th Street SE / 39th Ave SE	B	15.7
7. College Way / 39th Ave SE	A	9.7
8. Wildwood Park Dr / 39th Ave SE	B	18.8
9. 25th Street SE / 39th Ave SE	B	13.4
10. Shaw Rd E / 39th Ave SE	B	15.0
11. Shaw Rd E / 23rd Ave SE (Crystal Ridge Dr SE)	C	20.0
12. S Meridian (SR 161) / 39th Ave SE	B	18.5
13. 5th Ave SE / 39th Ave SE	B	17.0
14. S Meridian (SR 161) / 43rd Ave SE	C	22.3
PM Peak Hour		
Stop-Controlled Intersection:		
1. 7th St SE / College Way		
Westbound Shared Left-Right	B	11.9
Southbound Left Turn	A	8.2
Signalized Intersections:		
2. S Meridian / 31st Ave SW (SR 161) [2]	C	25.5
3. S Meridian (SR 161) / 37th Ave SE	C	30.2
4. 5th Ave SE / 37th Ave SE	C	22.4
5. 39th Ave SE / 37th Ave SE	B	18.1
6. 10th Street SE / 39th Ave SE	B	17.9
7. College Way / 39th Ave SE	A	9.7
8. Wildwood Park Dr / 39th Ave SE	B	17.9
9. 25th Street SE / 39th Ave SE	B	14.4
10. Shaw Rd E / 39th Ave SE	C	28.2
11. Shaw Rd E / 23rd Ave SE (Crystal Ridge Dr SE)	C	26.0
12. S Meridian (SR 161) / 39th Ave SE	D	38.8
13. 5th Ave SE / 39th Ave SE	C	23.9
14. S Meridian (SR 161) / 43rd Ave SE	C	34.9

1. Based on HCM 6th Edition methodologies, unless otherwise noted.
2. HCM 2000 LOS results due to non-NEMA phasing.

As shown in Table 2, all signalized study intersections and turn movements at the stop-controlled study intersection operate at LOS D or better during the weekday AM and PM peak hours. The City of Puyallup has adopted a minimum LOS D for all intersections in the City.

TRAFFIC IMPACT ANALYSIS

The following section describes projected future baseline traffic growth, new trips generated by the proposed development, distribution and assignment of new project trips, intersection level of service, and identification of transportation mitigation to offset impacts.

Project Trip Generation

Full buildout of the proposed project would include the addition of up to 72,000 square feet building area to the *Pierce College Puyallup Campus*. The trip generation estimates for the proposed expansion were determined based on methodology and procedures documented in the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 10th Edition for Land Use Codes (LUC) 540 (Junior/ Community College).

Table 3 summarizes the new weekday trips the proposed Pierce College Puyallup Campus expansion would generate during a typical weekday and during the weekday AM and PM peak hours. The detailed trip generation calculations are provided in Appendix C.

Table 3
Trip Generation Summary

	New Trips Generated		
Time Period	In	Out	Total
Weekday Daily	729	729	1,458
Weekday AM Peak Hour	114.7	34.3	149.0
Weekday PM Peak Hour	66.9	67.0	133.9

As shown in Table 3, full buildout of the proposed *Pierce College Puyallup Campus* expansion is anticipated to generate 1,458 new weekday daily trips, with 149.0 new trips during the weekday AM peak hour (114.7 entering, 34.3 exiting), and 133.9 net new trips during the weekday PM peak hour (66.9 entering, 67.0 exiting).

Project Trip Distribution and Assignment

The estimated distribution of the project-generated vehicle trips to/from the site was estimated based on anticipated traffic patterns in the vicinity of the site; the distribution patterns were confirmed by the City through the traffic scoping process. Table 4 summarizes the resulting general trip distribution patterns.

Table 4
Peak Hour Project Trip Distribution

Route (Direction)	Trip Distribution
Shaw Rd E (north)	15%
Shaw Rd E (south)	15%
7th Street SE (north)	15%
31st Avenue SW (SR 161) (west)	25%
39th Avenue SW (west)	10%
S Meridian (SR 161) (south)	20%
TOTAL	**100%**

Based on the trip distribution percentages shown in Table 4, the weekday AM and PM peak hour project trips were assigned through the study intersections. Figure 5 and Figure 6 illustrate the resulting distribution and assignment of weekday AM and PM peak hour project trips through the study intersections and site access locations impacted by 25 or more project trips.

Planned Transportation Improvements

A review of the City of Puyallup's 2020-2026 Transportation Improvement Plan showed the following planned transportation improvement projects in the immediate study area. A review of the WSDOT 2022-2025 STIP did not include any planned improvements in the project vicinity.

- Project #6 - 2016-066 Bike Lanes – Wildwood Park Drive; 23rd Ave SE to 39th Ave SE. This project would include a shared use path on the west side of Wildwood Park Drive. The possible construction year for this City project is 2023.
- Project #13 - 2014-070 Corridor Improvements – Shaw Road Widening – Phase 4 (12th to 23rd). This project would widen Shaw Road between 12th Ave SE and 23rd Ave SE to include 4 lanes with curb, gutter, sidewalk, bike lane, and street lighting on both sides. The possible construction year for this City project is 2026.
- Project #15 - 2016-061 Improvements to 43rd Ave SE (between 10th St SE and S Meridian). This project would include a roundabout or signal at 10th St SE and curb, gutter, sidewalk, and street lighting on the north half of 43rd Ave SE. It would also improve roadway standard to City standard from S Meridian to 5th St with improvements to the 43rd Ave SE/S Meridian intersection that would include adding a right turn lane. This City project was planned for 2021.
- Project #23 - Intersection Improvements – Adaptive on 5th Street SE. This project would install adaptive signals along the 5th Street SE corridor, including the intersections of 5th St SE with 23rd Ave, 31st Ave, 35th Ave, 37th Ave, 39th Ave and 43rd Ave (6 signals). The possible construction year for this City project is 2023.

- Project #31 - 2016-034 Shaw Road Widening – Phase 2 (Manorwood Dr to 39th Ave SE). This project would widen Shaw Road between Manorwood Dr and 39th Ave SE to have 3 lanes with curb, gutter, sidewalk, bike lane, and street lighting on both sides of the street. This would also include signal upgrades and improvements to the intersection of Shaw Rd E/ 39th Ave SE.

Future Traffic Volumes

To estimate future year 2032 without-project traffic volumes at the study intersections, a 1.5 percent annual growth rate was applied to existing (2021) peak hour volumes to account for new development in the study area and growth in existing traffic. The use of the 1.5 percent growth rate for forecasting future baseline traffic volumes was confirmed through meetings with WSDOT (Development Services Department and the Regional Traffic Engineer). It should be noted that the 2021 baseline traffic volumes used in the future volume forecast were adjusted to account for full capacity of the existing campus. The future 2032 without-project AM and PM peak hour traffic volumes at the study intersections are shown in Figure 7 and Figure 8.

Adding the trip assignment from the proposed project to the future 2032 without-project traffic volumes results in the 2032 with-project traffic volumes at the study intersections. The future 2032 with-project AM and PM peak hour traffic volumes at the study intersections are shown in Figure 9 and Figure 10.

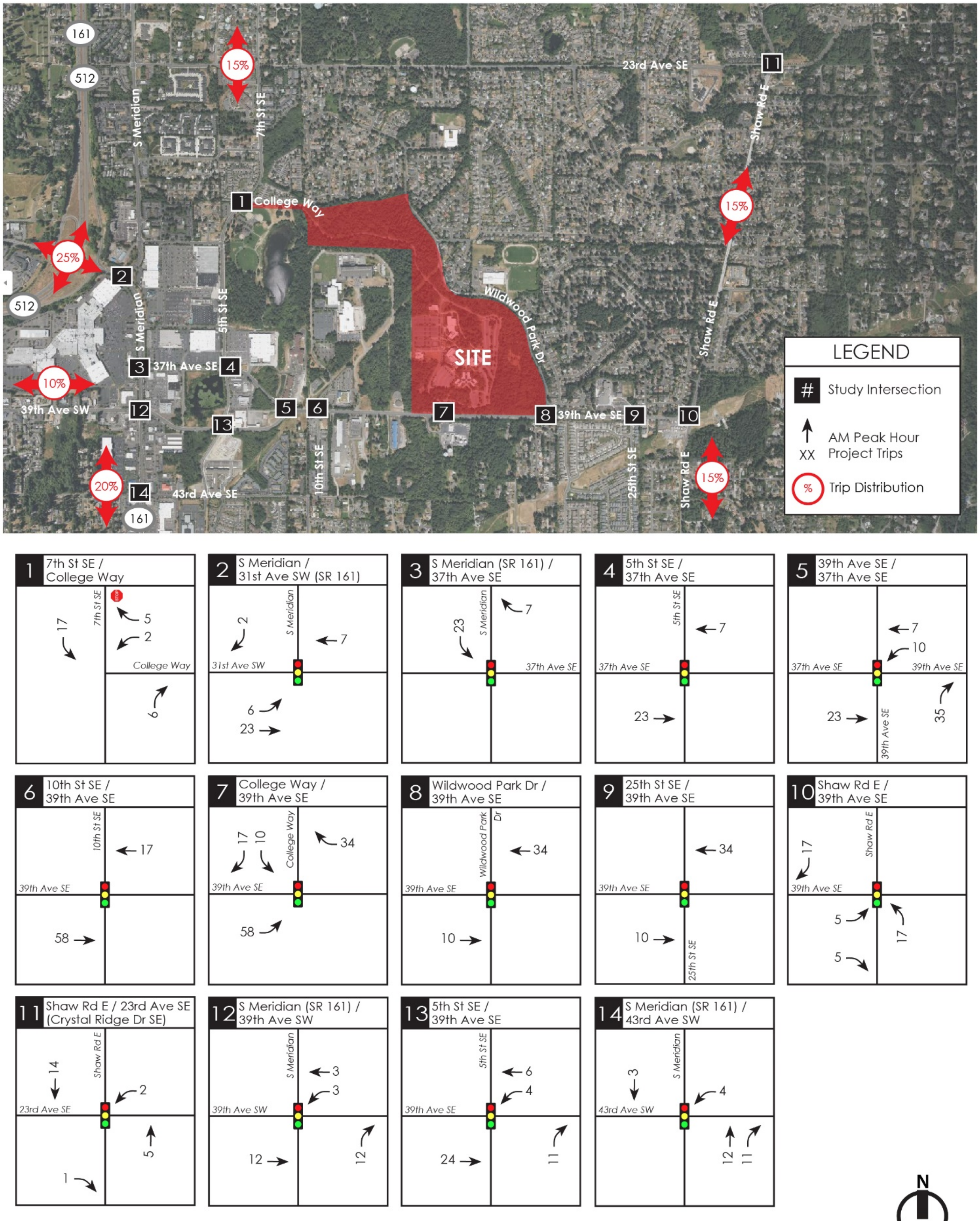

Figure 5: Weekday AM Peak Hour Project Trip Distribution & Assignment

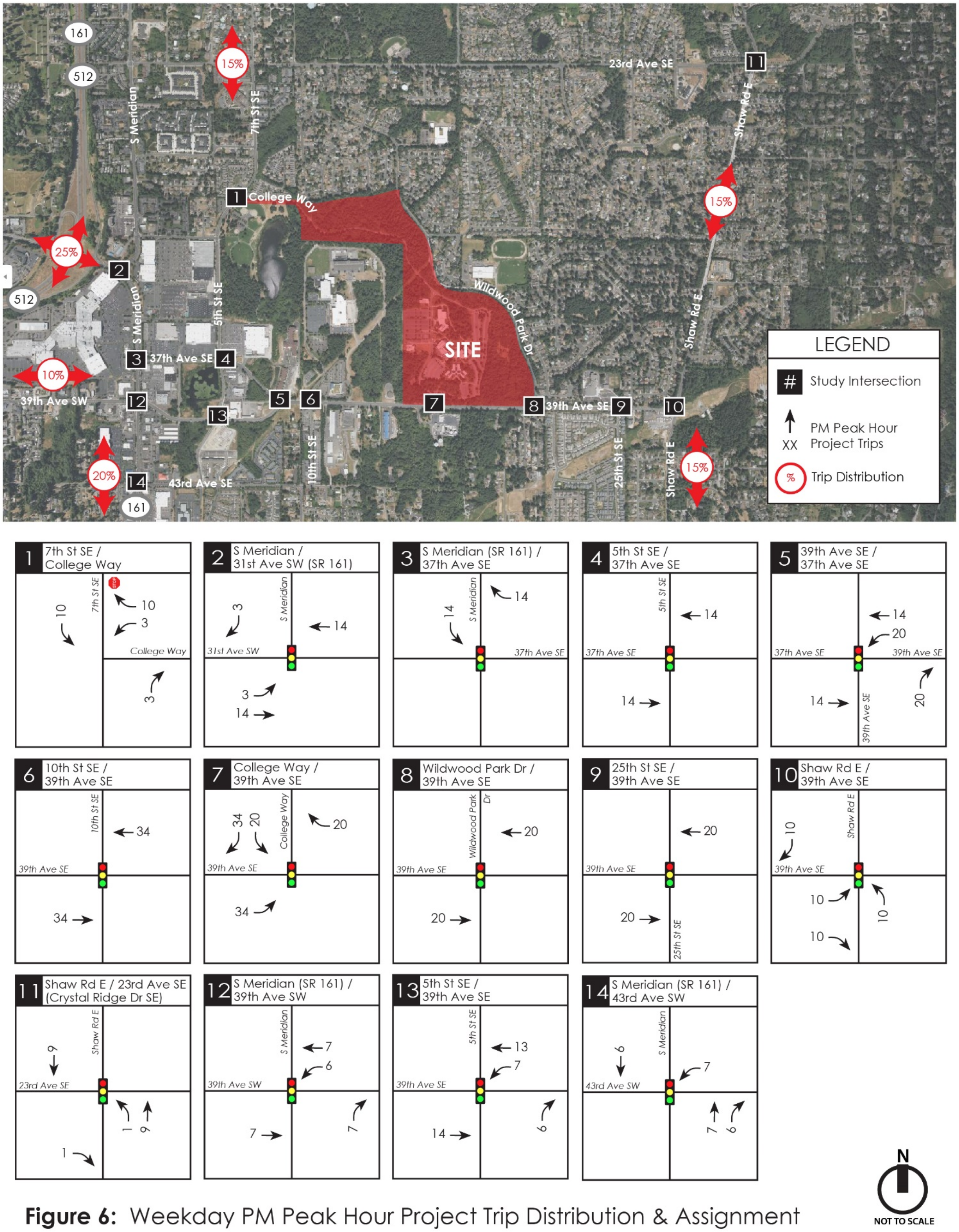

Figure 6: Weekday PM Peak Hour Project Trip Distribution & Assignment

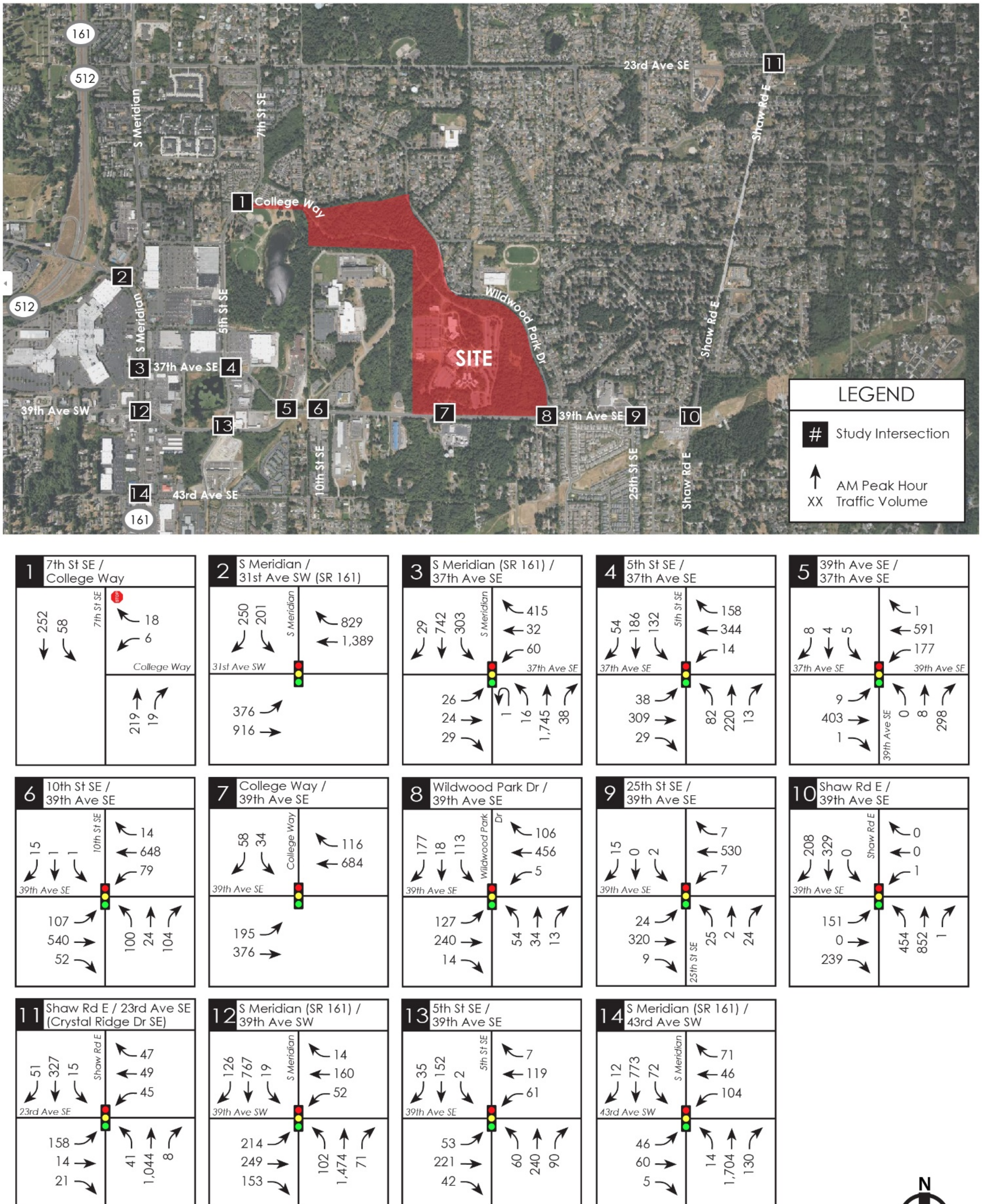

Figure 7: 2032 Without Project Weekday AM Peak Hour Traffic Volumes

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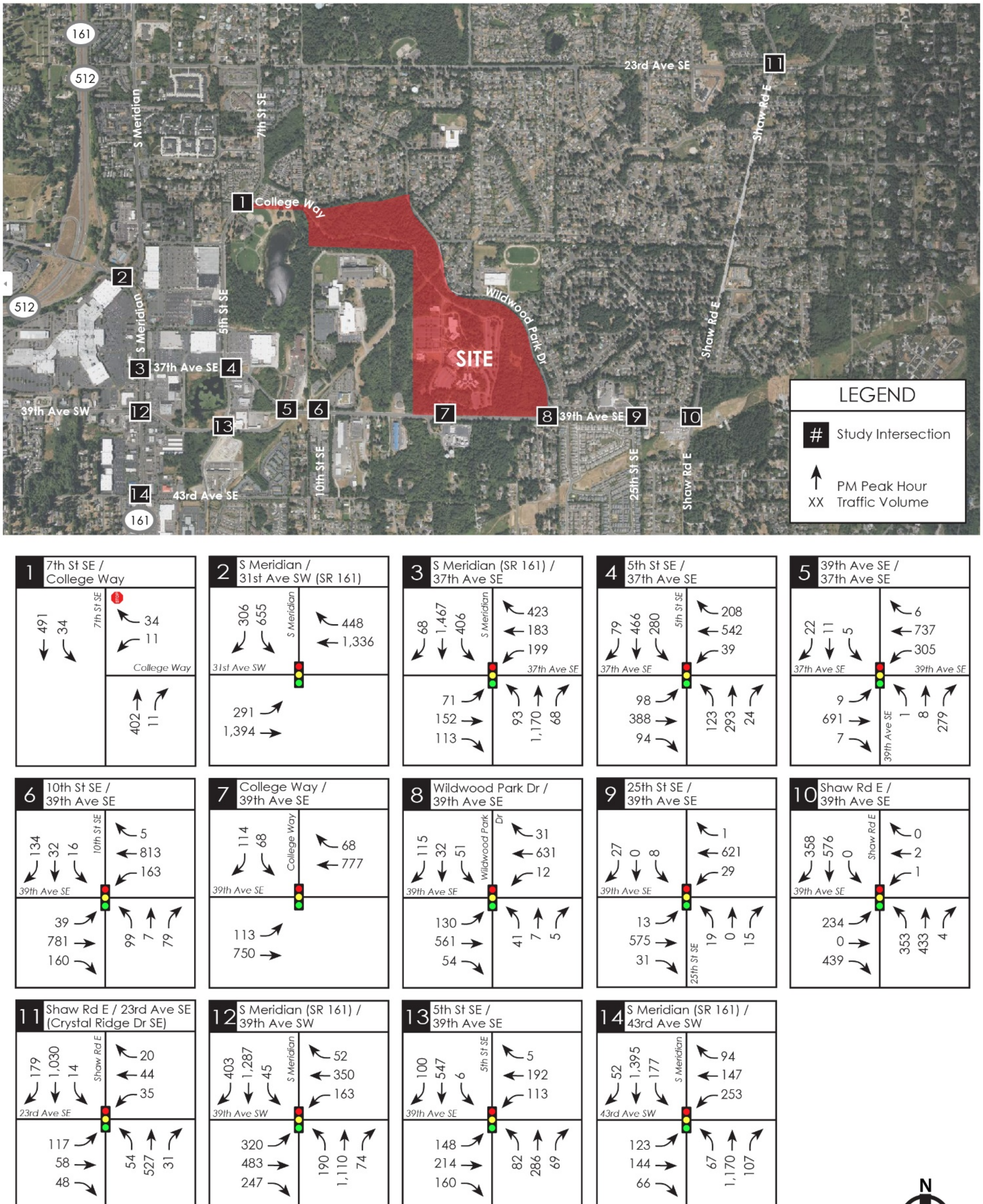
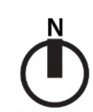


Figure 8: 2032 Without Project Weekday PM Peak Hour Traffic Volumes



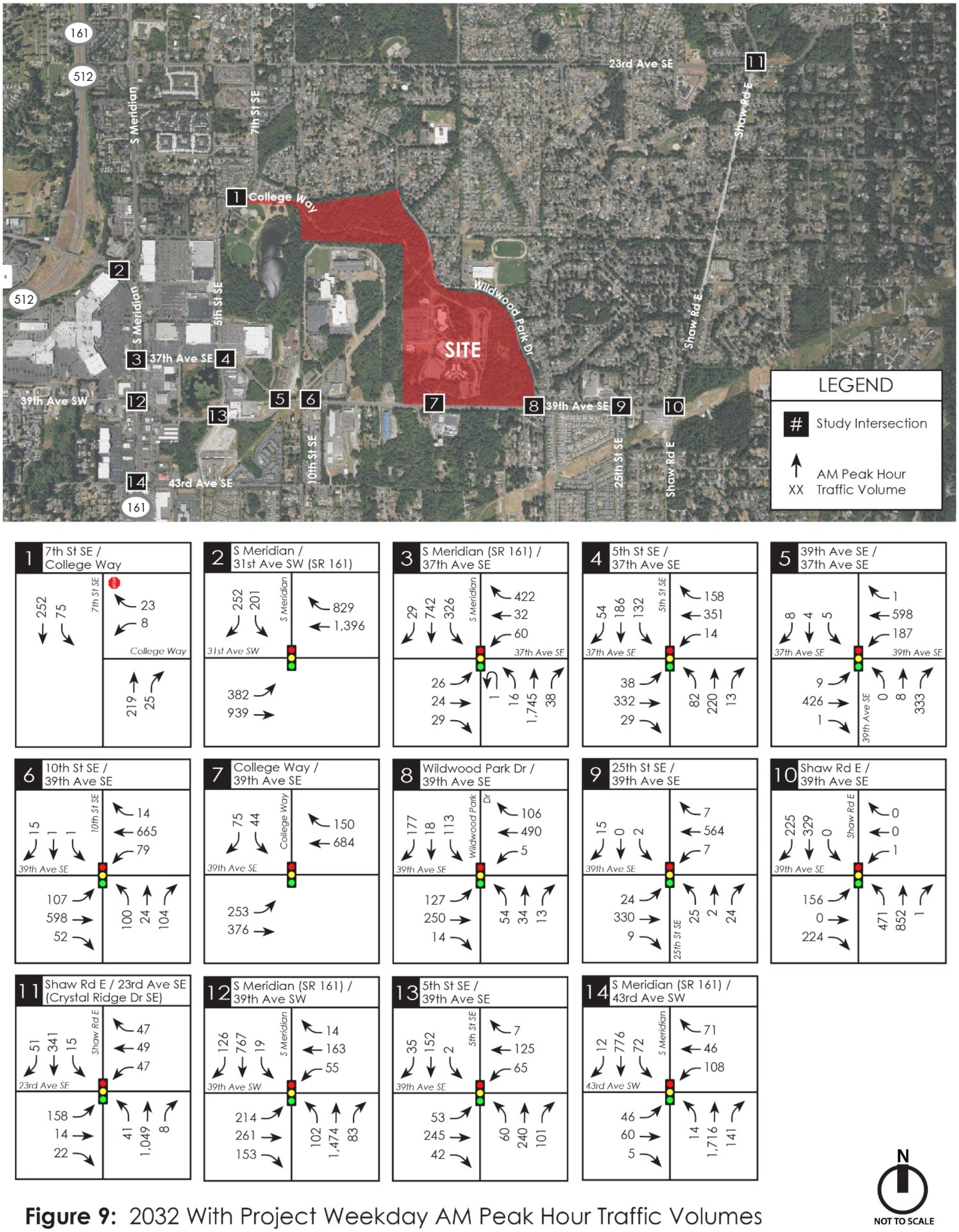


Figure 9: 2032 With Project Weekday AM Peak Hour Traffic Volumes

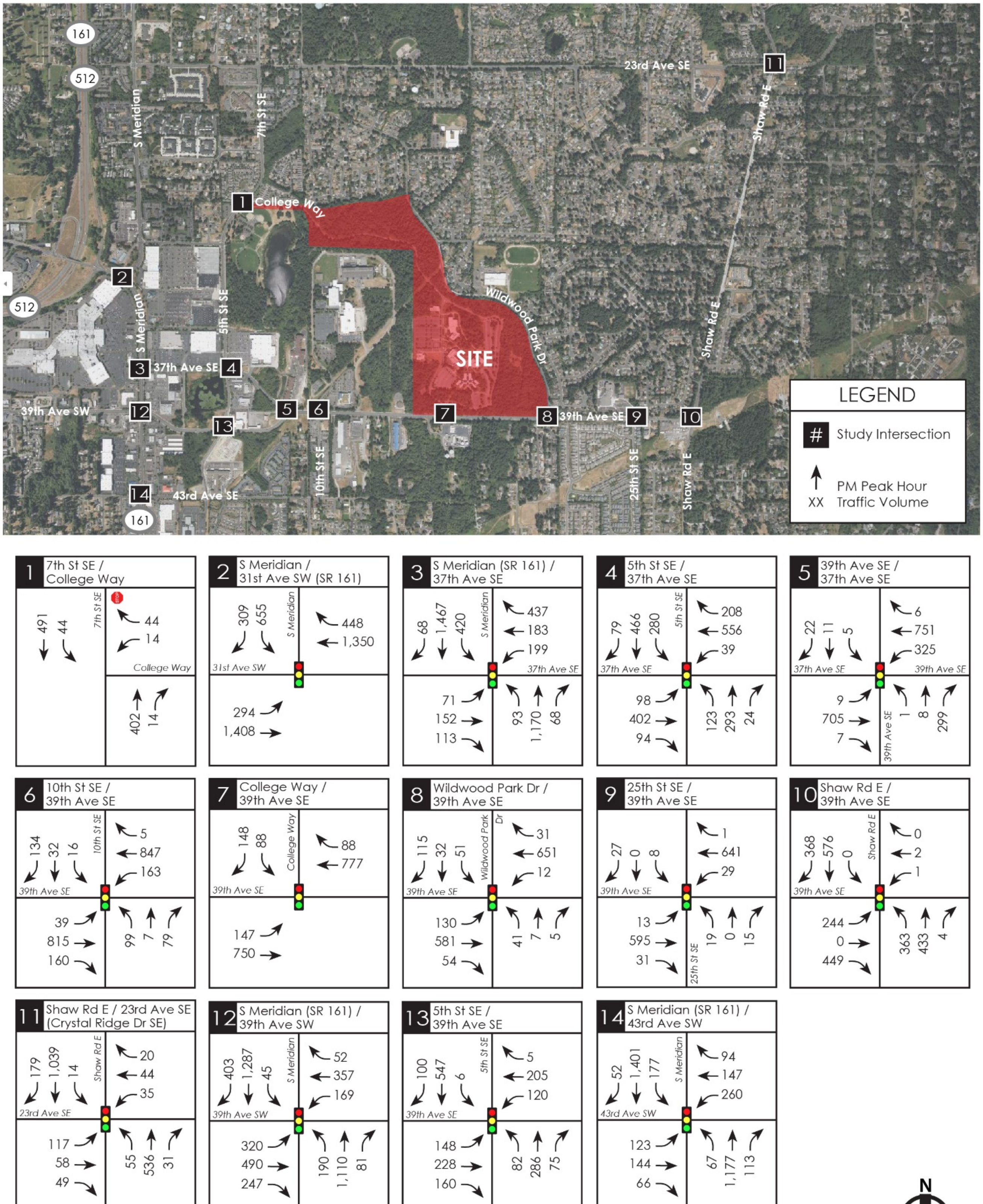
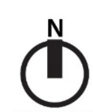


Figure 10: 2032 With Project Weekday PM Peak Hour Traffic Volumes



Future Intersection Level of Service

A future year weekday AM and PM peak hour LOS analysis was conducted at the study intersections without and with the proposed project. The anticipated buildout year for the project is 2032. The roadway network assumed in the year 2032 LOS analysis was based on existing intersection geometry. Existing signal timing was used in the future 2032 LOS analysis. The 2021 existing, 2032 weekday AM and PM peak hour LOS results at the study intersections without and with the proposed *Pierce College Puyallup Campus* expansion are summarized in Table 5.

Table 5
Year 2032 AM & PM Peak Hour LOS Summary

	2021 Existing		2032 Without Project		2032 With Project	
Study Intersection	LOS[1]	Delay (sec/veh)	LOS[1]	Delay (sec/veh)	LOS[1]	Delay (sec/veh)
AM Peak Hour						
Stop-Controlled Intersection:						
1. 7th St SE / College Way						
Westbound Shared Left-Right	B	10.1	B	10.4	B	10.6
Southbound Left Turn	A	7.8	A	7.9	A	8.0
Signalized Intersections:						
2. S Meridian / 31st Ave SW (SR 161) [2]	C	22.5	C	25.9	C	26.0
3. S Meridian (SR 161) / 37th Ave SE	B	15.3	B	16.0	B	17.9
4. 5th Ave SE / 37th Ave SE	B	17.6	B	18.5	B	18.6
5. 39th Ave SE / 37th Ave SE	B	17.8	B	19.3	C	20.4
6. 10th Street SE / 39th Ave SE	B	15.7	B	16.2	B	16.4
7. College Way / 39th Ave SE	A	9.7	A	9.6	B	10.9
8. Wildwood Park Dr / 39th Ave SE	B	18.8	C	20.1	C	20.5
9. 25th Street SE / 39th Ave SE	B	13.4	B	14.4	B	14.4
10. Shaw Rd E / 39th Ave SE	B	15.0	C	20.0	C	21.0
11. Shaw Rd E / 23rd Ave SE (Crystal Ridge Dr SE)	C	20.0	C	23.6	C	23.7
12. S Meridian (SR 161) / 39th Ave SE	B	18.5	B	18.7	B	18.9
13. 5th Ave SE / 39th Ave SE	B	17.0	B	17.8	B	18.0
14. S Meridian (SR 161) / 43rd Ave SE	C	22.3	C	26.1	C	26.7

1. Based on HCM 6th Edition methodologies, unless otherwise noted.
2. HCM 2000 LOS results due to non-NEMA phasing.

Table 5 (continued)
Year 2032 AM & PM Peak Hour LOS Summary

Study Intersection	2021 Existing LOS[1]	2021 Existing Delay (sec/veh)	2032 Without Project LOS[1]	2032 Without Project Delay (sec/veh)	2032 With Project LOS[1]	2032 With Project Delay (sec/veh)
PM Peak Hour						
Stop-Controlled Intersection:						
1. 7th St SE / College Way						
Westbound Shared Left-Right	B	11.9	B	12.7	B	13.1
Southbound Left Turn	A	8.2	A	8.4	A	8.5
Signalized Intersections:						
2. S Meridian / 31st Ave SW (SR 161) [2]	C	25.5	C	27.9	C	28.0
3. S Meridian (SR 161) / 37th Ave SE	C	30.2	C	32.2	C	32.5
4. 5th Ave SE / 37th Ave SE	C	22.4	C	26.6	C	26.9
5. 39th Ave SE / 37th Ave SE	B	18.1	C	20.4	C	21.5
6. 10th Street SE / 39th Ave SE	B	17.9	C	20.1	C	20.4
7. College Way / 39th Ave SE	A	9.7	A	9.7	B	10.9
8. Wildwood Park Dr / 39th Ave SE	B	17.9	B	19.2	B	19.5
9. 25th Street SE / 39th Ave SE	B	14.4	B	15.1	B	15.1
10. Shaw Rd E / 39th Ave SE	C	28.2	D	49.2	D	53.4
11. Shaw Rd E / 23rd Ave SE (Crystal Ridge Dr SE)	C	26.0	D	41.1	D	42.3
12. S Meridian (SR 161) / 39th Ave SE	D	38.8	D	48.8	D	49.1
13. 5th Ave SE / 39th Ave SE	C	23.9	C	30.3	C	31.0
14. S Meridian (SR 161) / 43rd Ave SE	C	34.9	D	41.5	D	42.3

1. Based on HCM 6th Edition methodologies, unless otherwise noted.
2. HCM 2000 LOS results due to non-NEMA phasing.

As shown in Table 5, all turn movements at the stop-controlled study intersection as well as all of the signalized study intersections are expected to operate at LOS D or better during the weekday AM and PM peak hour in 2032, without or with the proposed *Pierce College Puyallup Campus* expansion project.

Per the City's *2015 Comprehensive Plan*, the vehicular LOS goal is to "*Maintain standards that promote growth where appropriate while preserving and maintaining the existing transportation system. Set LOS D as the standard for PM peak hour intersection performance, with the exception of the Meridian, Shaw Road, and 9th Street SW corridors, where LOS E operations will be considered acceptable during PM period in recognition of the need to balance driver experience with other considerations, such as cost, right of way, and other modes"*. As such, all study intersections are anticipated to operate at an acceptable LOS in 2032. The detailed LOS worksheets are included in Appendix C.

Site Access

Vehicular access to/from the site would continue to be provided at the two existing access points: College Way/ 39th Ave SE and 7th St SE/ College Way. As shown in Table 5, weekday AM and PM peak hour LOS analysis at the two site access locations indicated that all turn movements at 7th Street SE/College Way as well as the signalized intersection of College Way/39th Ave SE are anticipated to operate at LOS B or better during the weekday AM and PM peak hour in 2032 without or with the proposed project.

Per the *Amendment to Concomitant Agreement dated May 30, 1986 Between the City of Puyallup and Beim & James Properties II*, there is a requirement to "*assess the need for additional access to the campus during the development of each major addition…*" Since both access locations are anticipated to operate at LOS B or better with the proposed expansion, the need for an additional access to the campus would not be justified.

PROJECT MITIGATION

The following summarizes the measures proposed to mitigate the transportation impacts of the proposed Pierce College Puyallup Campus expansion project:

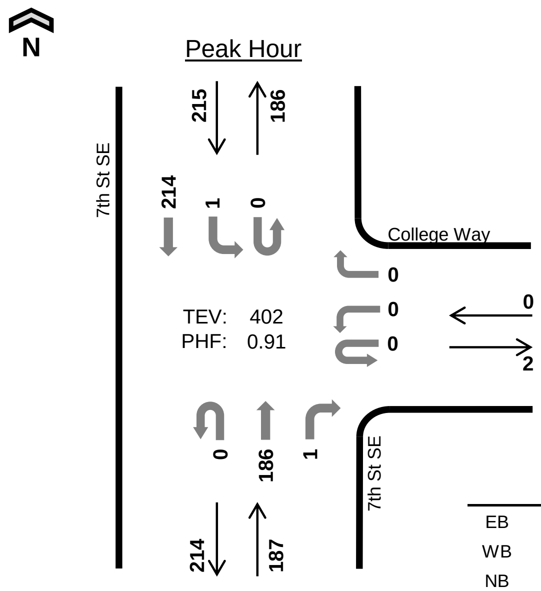
- Traffic Impact Fees. To mitigate long-term transportation impacts, the City administers a Transportation Impact Fee (TIF) to new developments to improve the transportation system to accommodate the higher travel demand added by new developments. The City of Puyallup's currently adopted transportation impact fee is $4,500 per PM peak hour trip. The preliminary estimated transportation impact fee for the proposed project totals $602,550 ($4,500 X 133.9 net new PM peak hour trips). The actual impact fees will be calculated and assessed at the time of building permit issuance.

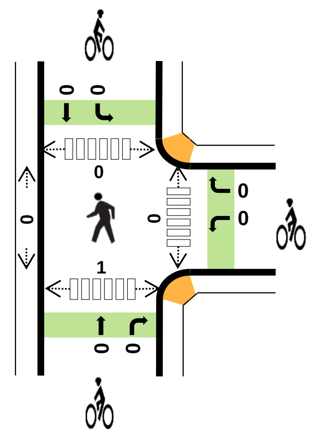
Appendix A

Traffic Count Data

7th St SE
College Way

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	-	-
WB	-	-
NB	1.6%	0.94
SB	3.3%	0.90
TOTAL	2.5%	0.91

Two-Hour Count Summaries

Interval Start	0				College Way				7th St SE				7th St SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	43	0	0	0	43	0	86	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**50**	**0**	**0**	**0**	**60**	**0**	**110**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**49**	**0**	**0**	**0**	**50**	**0**	**99**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**0**	**0**	**0**	**53**	**0**	**98**	393
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42**	**1**	**0**	**1**	**51**	**0**	**95**	**402**
8:15 AM	0	0	0	0	0	0	0	2	0	0	53	0	0	0	45	0	100	392
8:30 AM	0	0	0	0	0	1	0	1	0	0	43	0	0	1	46	0	92	385
8:45 AM	0	0	0	0	0	1	0	1	0	0	45	0	0	0	64	0	111	398
Count Total	0	0	0	0	0	2	0	4	0	0	370	1	0	2	412	0	791	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**186**	**1**	**0**	**1**	**214**	**0**	**402**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**7**	**0**	**10**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2%**	**0%**	**-**	**0%**	**3%**	**-**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**1**	**5**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***
8:15 AM	0	0	2	0	*2*	0	0	0	0	*0*	3	1	0	0	*4*
8:30 AM	0	0	2	2	*4*	0	0	0	0	*0*	2	1	0	0	*3*
8:45 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	1	0	0	*1*
Count Total	0	0	11	13	*24*	0	0	0	0	*0*	5	3	0	1	*9*
Peak Hr	**0**	**0**	**3**	**7**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	0				College Way				7th St SE				7th St SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**6**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	10
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**10**
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	11
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	14
Count Total	0	0	0	0	0	0	0	0	0	0	11	0	0	0	13	0	24	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**7**	**0**	**10**	**0**

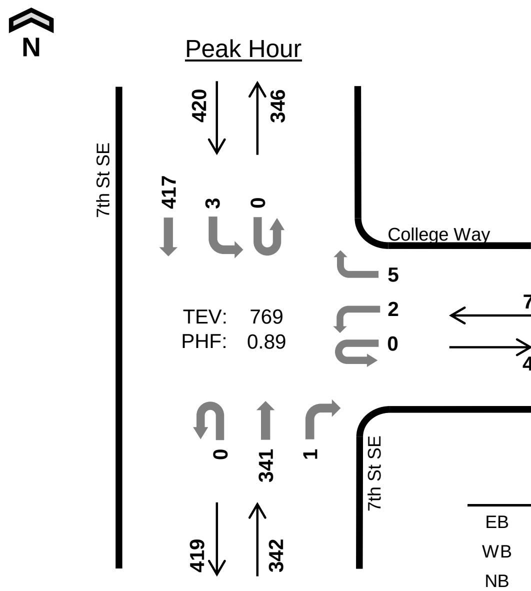
Two-Hour Count Summaries - Bikes

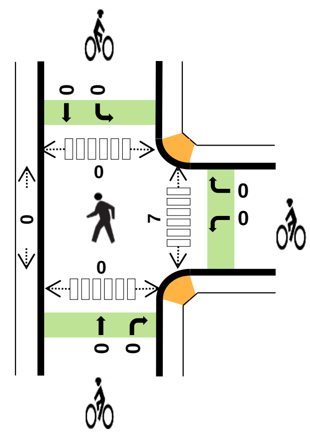
Interval Start	0			College Way			7th St SE			7th St SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

7th St SE
College Way

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	-	-
WB	0.0%	0.58
NB	1.5%	0.93
SB	1.7%	0.85
TOTAL	1.6%	0.89

Two-Hour Count Summaries

Interval Start		0				College Way				7th St SE				7th St SE				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	1	0	1	0	0	82	1	0	0	123	0	208	0
4:15 PM		0	0	0	0	0	0	0	1	0	0	84	0	0	1	83	0	169	0
4:30 PM		0	0	0	0	0	1	0	2	0	0	92	0	0	1	121	0	217	0
4:45 PM		0	0	0	0	0	0	0	1	0	0	83	0	0	1	90	0	175	769
5:00 PM		0	0	0	0	0	0	0	0	0	0	85	0	0	1	87	0	173	734
5:15 PM		0	0	0	0	0	1	0	0	0	0	82	0	0	2	80	0	165	730
5:30 PM		0	0	0	0	0	1	0	0	0	0	84	1	0	1	74	0	161	674
5:45 PM		0	0	0	0	0	0	0	0	0	0	68	0	0	0	98	0	166	665
Count Total		0	0	0	0	0	4	0	5	0	0	660	2	0	7	756	0	1,434	0
Peak Hour	All	0	0	0	0	0	2	0	5	0	0	341	1	0	3	417	0	769	0
	HV	0	0	0	0	0	0	0	0	0	0	4	1	0	0	7	0	12	0
	HV%	-	-	-	-	-	0%	-	0%	-	-	1%	100%	-	0%	2%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	4	5	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	3	3	0	0	0	0	0	5	0	0	0	5
4:45 PM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	6	9	15	0	0	0	0	0	7	0	0	0	7
Peak Hr	0	0	5	7	12	0	0	0	0	0	7	0	0	0	7

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	0				College Way				7th St SE				7th St SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**5**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**12**
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	9
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Count Total	0	0	0	0	0	0	0	0	0	0	5	1	0	0	9	0	15	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**7**	**0**	**12**	**0**

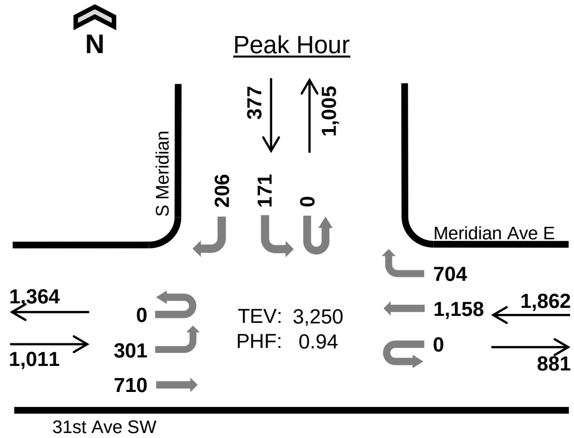
Two-Hour Count Summaries - Bikes

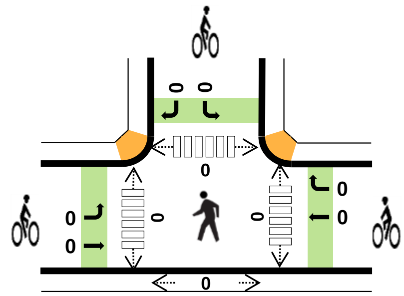
Interval Start	0			College Way			7th St SE			7th St SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Meridian
31st Ave SW

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	6.7%	0.77
WB	2.5%	0.89
NB	-	-
SB	1.9%	0.98
TOTAL	3.8%	0.94

Two-Hour Count Summaries

Interval Start		31st Ave SW				Meridian Ave E				0				S Meridian				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	75	151	0	0	0	271	145	0	0	0	0	0	33	0	60	735	0
7:15 AM		0	75	164	0	0	0	315	210	0	0	0	0	0	40	0	56	860	0
7:30 AM		0	70	148	0	0	0	311	205	0	0	0	0	0	49	0	43	826	0
7:45 AM		0	81	247	0	0	0	261	144	0	0	0	0	0	49	0	47	829	3,250
8:00 AM		0	54	159	0	0	0	287	136	0	0	0	0	0	49	0	45	730	3,245
8:15 AM		0	37	231	0	0	0	318	85	0	0	0	0	0	62	0	34	767	3,152
8:30 AM		0	47	207	0	0	0	295	102	0	0	0	0	0	82	0	40	773	3,099
8:45 AM		0	38	224	0	0	0	283	96	0	0	0	0	0	52	0	36	729	2,999
Count Total		0	477	1,531	0	0	0	2,341	1,123	0	0	0	0	0	416	0	361	6,249	0
Peak Hour	All	0	301	710	0	0	0	1,158	704	0	0	0	0	0	171	0	206	3,250	0
	HV	0	6	62	0	0	0	35	12	0	0	0	0	0	3	0	4	122	0
	HV%	-	2%	9%	-	-	-	3%	2%	-	-	-	-	-	2%	-	2%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	14	9	0	0	*23*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	16	16	0	4	*36*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	19	11	0	2	*32*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	19	11	0	1	*31*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	16	18	0	1	*35*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	13	15	0	5	*33*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	14	26	0	4	*44*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	15	21	0	2	*38*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	126	127	0	19	*272*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	68	47	0	7	*122*	0	0	0	0	*0*	0	0	0	0	*0*

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	31st Ave SW				Meridian Ave E				0				S Meridian				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**14**	**0**	**0**	**0**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	0
7:15 AM	**0**	**3**	**13**	**0**	**0**	**0**	**11**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**36**	0
7:30 AM	**0**	**2**	**17**	**0**	**0**	**0**	**9**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**32**	0
7:45 AM	**0**	**1**	**18**	**0**	**0**	**0**	**8**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**31**	**122**
8:00 AM	0	1	15	0	0	0	15	3	0	0	0	0	0	1	0	0	35	134
8:15 AM	0	0	13	0	0	0	14	1	0	0	0	0	0	3	0	2	33	131
8:30 AM	0	3	11	0	0	0	24	2	0	0	0	0	0	1	0	3	44	143
8:45 AM	0	0	15	0	0	0	20	1	0	0	0	0	0	2	0	0	38	150
Count Total	0	10	116	0	0	0	108	19	0	0	0	0	0	10	0	9	272	0
Peak Hour	**0**	**6**	**62**	**0**	**0**	**0**	**35**	**12**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**122**	**0**

Two-Hour Count Summaries - Bikes

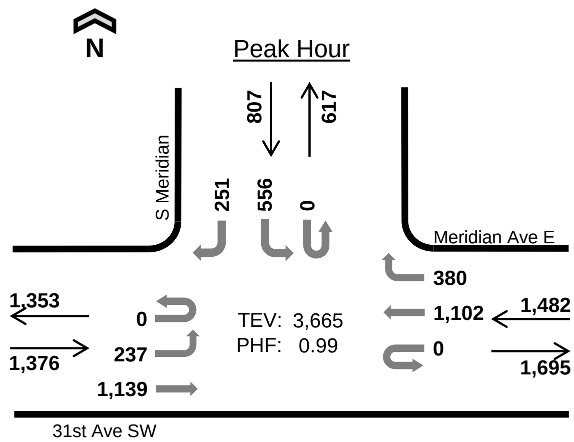
Interval Start	31st Ave SW			Meridian Ave E			0			S Meridian			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

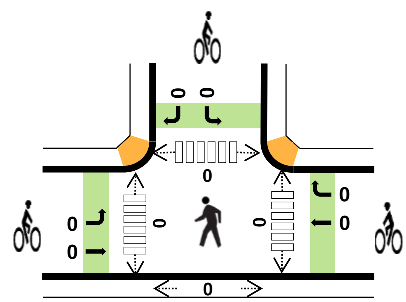
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Meridian
31st Ave SW

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour





	HV %:	PHF
EB	1.5%	0.97
WB	2.8%	0.99
NB	-	-
SB	0.9%	0.95
TOTAL	1.9%	0.99

Two-Hour Count Summaries

Interval Start		31st Ave SW Eastbound UT	LT	TH	RT	Meridian Ave E Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	S Meridian Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		**0**	**64**	**270**	**0**	**0**	**0**	**280**	**95**	**0**	**0**	**0**	**0**	**0**	**134**	**0**	**78**	**921**	0
4:15 PM		**0**	**67**	**286**	**0**	**0**	**0**	**281**	**93**	**0**	**0**	**0**	**0**	**0**	**132**	**0**	**53**	**912**	0
4:30 PM		**0**	**61**	**288**	**0**	**0**	**0**	**268**	**104**	**0**	**0**	**0**	**0**	**0**	**140**	**0**	**63**	**924**	0
4:45 PM		**0**	**45**	**295**	**0**	**0**	**0**	**273**	**88**	**0**	**0**	**0**	**0**	**0**	**150**	**0**	**57**	**908**	**3,665**
5:00 PM		0	53	272	0	0	0	284	73	0	0	0	0	0	112	0	56	850	3,594
5:15 PM		0	58	285	0	0	0	285	85	0	0	0	0	0	119	0	47	879	3,561
5:30 PM		0	50	246	0	0	0	258	93	0	0	0	0	0	115	0	54	816	3,453
5:45 PM		0	63	273	0	0	0	247	76	0	0	0	0	0	110	0	50	819	3,364
Count Total		0	461	2,215	0	0	0	2,176	707	0	0	0	0	0	1,012	0	458	7,029	0
Peak Hour	**All**	**0**	**237**	**1,139**	**0**	**0**	**0**	**1,102**	**380**	**0**	**0**	**0**	**0**	**0**	**556**	**0**	**251**	**3,665**	**0**
	HV	**0**	**4**	**17**	**0**	**0**	**0**	**30**	**11**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**69**	**0**
	HV%	**-**	**2%**	**1%**	**-**	**-**	**-**	**3%**	**3%**	**-**	**-**	**-**	**-**	**-**	**1%**	**-**	**2%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	**5**	**9**	**0**	**1**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**5**	**9**	**0**	**2**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**9**	**11**	**0**	**1**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**2**	**12**	**0**	**3**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	5	12	0	0	*17*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	6	12	0	1	*19*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	6	12	0	1	*19*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	4	4	0	1	*9*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	42	81	0	10	*133*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**21**	**41**	**0**	**7**	***69***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	31st Ave SW				Meridian Ave E				0				S Meridian				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**1**	**4**	**0**	**0**	**0**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**15**	0
4:15 PM	**0**	**2**	**3**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**16**	0
4:30 PM	**0**	**1**	**8**	**0**	**0**	**0**	**5**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**21**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**17**	**69**
5:00 PM	0	0	5	0	0	0	10	2	0	0	0	0	0	0	0	0	17	71
5:15 PM	0	0	6	0	0	0	12	0	0	0	0	0	0	0	0	1	19	74
5:30 PM	0	1	5	0	0	0	11	1	0	0	0	0	0	1	0	0	19	72
5:45 PM	0	0	4	0	0	0	3	1	0	0	0	0	0	0	0	1	9	64
Count Total	0	5	37	0	0	0	66	15	0	0	0	0	0	4	0	6	133	0
Peak Hour	**0**	**4**	**17**	**0**	**0**	**0**	**30**	**11**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**69**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	31st Ave SW			Meridian Ave E			0			S Meridian			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

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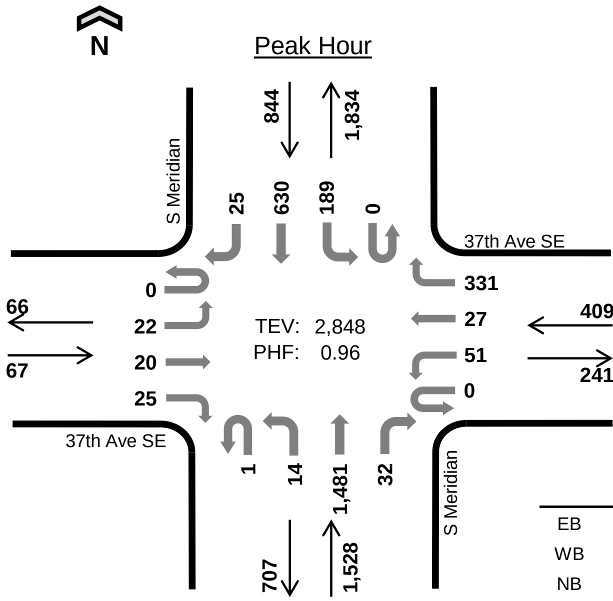
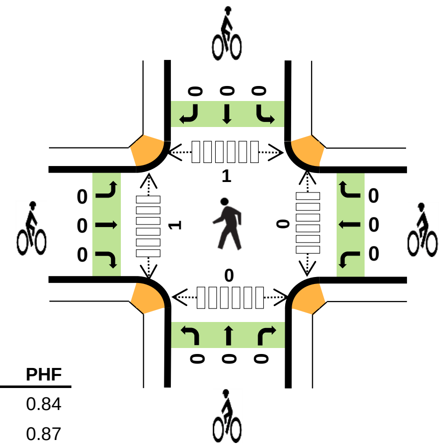
S Meridian
37th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	3.0%	0.84
WB	2.0%	0.87
NB	3.4%	0.90
SB	7.6%	0.83
TOTAL	4.4%	0.96

Two-Hour Count Summaries

Interval Start		37th Ave SE Eastbound				37th Ave SE Westbound				S Meridian Northbound				S Meridian Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	4	1	0	6	3	78	0	3	376	9	0	57	126	4	669	0
7:15 AM		**0**	**9**	**2**	**9**	**0**	**11**	**5**	**92**	**0**	**2**	**413**	**8**	**0**	**42**	**146**	**2**	**741**	0
7:30 AM		**0**	**6**	**8**	**3**	**0**	**11**	**9**	**97**	**0**	**4**	**400**	**9**	**0**	**32**	**158**	**6**	**743**	0
7:45 AM		**0**	**6**	**4**	**3**	**0**	**18**	**11**	**74**	**0**	**1**	**306**	**8**	**0**	**72**	**176**	**7**	**686**	2,839
8:00 AM		**0**	**1**	**6**	**10**	**0**	**11**	**2**	**68**	**1**	**7**	**362**	**7**	**0**	**43**	**150**	**10**	**678**	**2,848**
8:15 AM		0	10	14	8	0	15	15	79	1	6	301	9	0	65	186	6	715	2,822
8:30 AM		0	5	9	5	0	9	10	74	0	11	339	10	0	54	187	11	724	2,803
8:45 AM		0	7	8	7	0	20	17	59	0	2	311	19	0	51	171	14	686	2,803
Count Total		0	46	55	46	0	101	72	621	2	36	2,808	79	0	416	1,300	60	5,642	0
Peak Hour	**All**	**0**	**22**	**20**	**25**	**0**	**51**	**27**	**331**	**1**	**14**	**1,481**	**32**	**0**	**189**	**630**	**25**	**2,848**	**0**
	HV	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**5**	**0**	**0**	**51**	**1**	**0**	**7**	**55**	**2**	**126**	**0**
	HV%	**-**	**5%**	**0%**	**4%**	**-**	**6%**	**0%**	**2%**	**0%**	**0%**	**3%**	**3%**	**-**	**4%**	**9%**	**8%**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	2	8	9	*19*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**3**	**14**	**11**	***28***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**2**	**10**	**18**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**2**	**8**	**20**	***31***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
8:00 AM	**1**	**1**	**20**	**15**	***37***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	4	14	15	*33*	0	0	0	0	*0*	0	1	1	0	*2*
8:30 AM	0	3	22	10	*35*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	1	2	20	16	*39*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	3	19	116	114	*252*	0	0	0	0	*0*	1	2	2	0	*5*
Peak Hour	**2**	**8**	**52**	**64**	***126***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	***2***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	37th Ave SE				37th Ave SE				S Meridian				S Meridian				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	2	0	0	7	1	0	3	5	1	19	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**14**	**0**	**0**	**0**	**11**	**0**	**28**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**10**	**0**	**0**	**3**	**14**	**1**	**30**	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**2**	**17**	**1**	**31**	108
8:00 AM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**19**	**1**	**0**	**2**	**13**	**0**	**37**	**126**
8:15 AM	0	0	0	0	0	1	0	3	0	0	14	0	0	3	12	0	33	131
8:30 AM	0	0	0	0	0	0	1	2	0	0	22	0	0	2	8	0	35	136
8:45 AM	0	1	0	0	0	0	1	1	0	0	20	0	0	5	10	1	39	144
Count Total	0	2	0	1	0	4	2	13	0	0	114	2	0	20	90	4	252	0
Peak Hour	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**5**	**0**	**0**	**51**	**1**	**0**	**7**	**55**	**2**	**126**	**0**

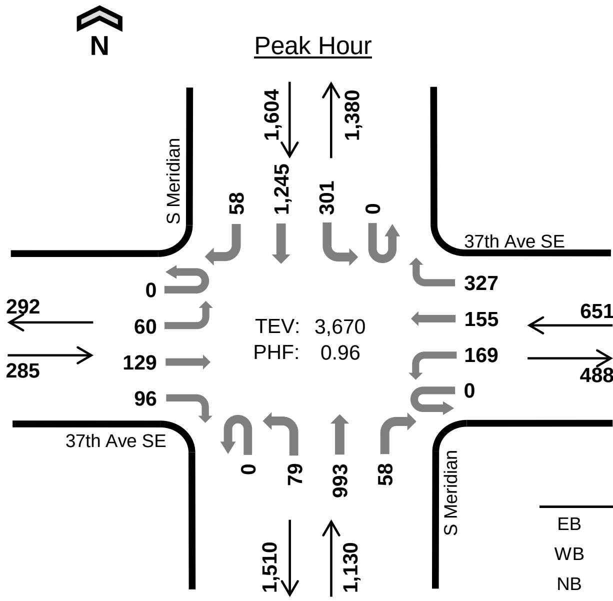
Two-Hour Count Summaries - Bikes

Interval Start	37th Ave SE			37th Ave SE			S Meridian			S Meridian			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

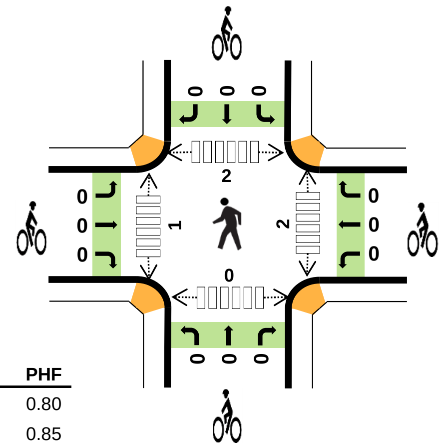
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Meridian
37th Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.7%	0.80
WB	0.6%	0.85
NB	4.0%	0.95
SB	1.6%	0.95
TOTAL	2.1%	0.96



Two-Hour Count Summaries

Interval Start		37th Ave SE Eastbound UT	LT	TH	RT	37th Ave SE Westbound UT	LT	TH	RT	S Meridian Northbound UT	LT	TH	RT	S Meridian Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	13	17	19	0	43	34	69	0	23	259	16	0	72	297	17	879	0
4:15 PM		0	19	36	23	0	46	32	73	0	24	241	22	0	48	283	15	862	0
4:30 PM		**0**	**25**	**42**	**22**	**0**	**42**	**45**	**104**	**0**	**20**	**229**	**17**	**0**	**87**	**304**	**14**	**951**	0
4:45 PM		**0**	**13**	**29**	**31**	**0**	**40**	**37**	**75**	**0**	**18**	**250**	**18**	**0**	**76**	**329**	**18**	**934**	3,626
5:00 PM		**0**	**11**	**36**	**18**	**0**	**49**	**38**	**76**	**0**	**24**	**266**	**6**	**0**	**63**	**309**	**12**	**908**	3,655
5:15 PM		**0**	**11**	**22**	**25**	**0**	**38**	**35**	**72**	**0**	**17**	**248**	**17**	**0**	**75**	**303**	**14**	**877**	**3,670**
5:30 PM		0	11	30	28	0	37	27	58	0	19	249	14	0	62	275	14	824	3,543
5:45 PM		0	9	38	23	0	34	33	59	0	11	215	21	0	61	308	15	827	3,436
Count Total		0	112	250	189	0	329	281	586	0	156	1,957	131	0	544	2,408	119	7,062	0
Peak Hour	**All**	**0**	**60**	**129**	**96**	**0**	**169**	**155**	**327**	**0**	**79**	**993**	**58**	**0**	**301**	**1,245**	**58**	**3,670**	**0**
	HV	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**43**	**2**	**0**	**2**	**23**	**0**	**76**	**0**
	HV%	**-**	**3%**	**0%**	**0%**	**-**	**1%**	**0%**	**1%**	**-**	**0%**	**4%**	**3%**	**-**	**1%**	**2%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	2	7	6	*16*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	11	3	*14*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**2**	**7**	**7**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**0**	**15**	**5**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
5:00 PM	**0**	**1**	**11**	**8**	***20***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**1**	**0**	*3*
5:15 PM	**1**	**1**	**12**	**5**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	10	5	*15*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	2	4	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	4	7	75	43	*129*	0	0	0	0	*0*	2	1	2	0	*5*
Peak Hour	**2**	**4**	**45**	**25**	***76***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**2**	**0**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	37th Ave SE				37th Ave SE				S Meridian				S Meridian				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	1	0	0	7	0	0	1	5	0	16	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	3	0	14	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**6**	**1**	**0**	**2**	**5**	**0**	**16**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**1**	**0**	**0**	**5**	**0**	**21**	67
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**8**	**0**	**20**	71
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**12**	**0**	**0**	**0**	**5**	**0**	**19**	**76**
5:30 PM	0	0	0	0	0	0	0	0	0	0	10	0	0	2	3	0	15	75
5:45 PM	0	1	0	0	0	1	0	0	0	0	2	0	0	0	4	0	8	62
Count Total	0	3	1	0	0	2	1	4	0	0	73	2	0	5	38	0	129	0
Peak Hour	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**43**	**2**	**0**	**2**	**23**	**0**	**76**	**0**

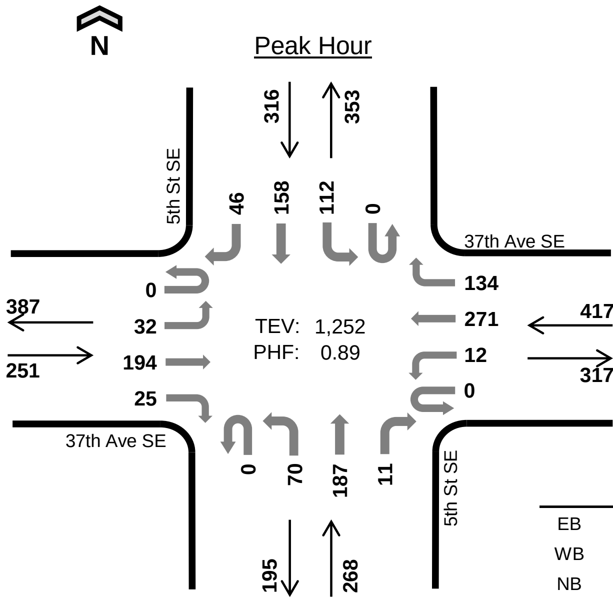
Two-Hour Count Summaries - Bikes

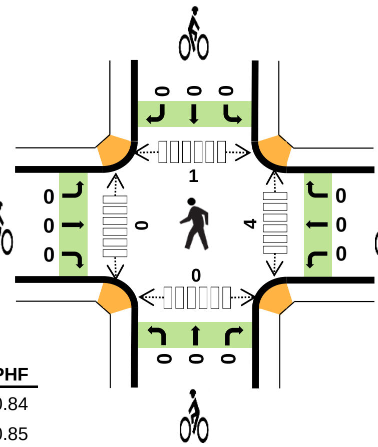
Interval Start	37th Ave SE			37th Ave SE			S Meridian			S Meridian			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

5th St SE
37th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	4.4%	0.84
WB	3.1%	0.85
NB	2.2%	0.84
SB	3.8%	0.75
TOTAL	3.4%	0.89

Two-Hour Count Summaries

Interval Start		37th Ave SE Eastbound				37th Ave SE Westbound				5th St SE Northbound				5th St SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	5	64	3	0	0	73	27	0	18	42	5	0	21	13	5	276	0
7:15 AM		0	9	41	9	0	1	85	34	0	20	49	1	0	22	20	13	304	0
7:30 AM		0	10	41	3	0	3	106	27	0	23	53	1	0	19	33	13	332	0
7:45 AM		0	9	63	6	0	3	69	41	0	20	38	0	0	23	37	11	320	1,232
8:00 AM		**0**	**6**	**43**	**4**	**0**	**5**	**58**	**30**	**0**	**11**	**39**	**2**	**0**	**29**	**38**	**10**	**275**	1,231
8:15 AM		**0**	**9**	**58**	**8**	**0**	**3**	**85**	**35**	**0**	**18**	**41**	**2**	**0**	**17**	**30**	**8**	**314**	1,241
8:30 AM		**0**	**11**	**43**	**7**	**0**	**1**	**66**	**28**	**0**	**20**	**52**	**3**	**0**	**29**	**41**	**9**	**310**	1,219
8:45 AM		**0**	**6**	**50**	**6**	**0**	**3**	**62**	**41**	**0**	**21**	**55**	**4**	**0**	**37**	**49**	**19**	**353**	**1,252**
Count Total		0	65	403	46	0	19	604	263	0	151	369	18	0	197	261	88	2,484	0
Peak Hour	**All**	**0**	**32**	**194**	**25**	**0**	**12**	**271**	**134**	**0**	**70**	**187**	**11**	**0**	**112**	**158**	**46**	**1,252**	**0**
	HV	**0**	**2**	**7**	**2**	**0**	**2**	**6**	**5**	**0**	**0**	**5**	**1**	**0**	**8**	**2**	**2**	**42**	**0**
	HV%	**-**	**6%**	**4%**	**8%**	**-**	**17%**	**2%**	**4%**	**-**	**0%**	**3%**	**9%**	**-**	**7%**	**1%**	**4%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	2	0	1	*6*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	4	2	3	*10*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	3	2	0	1	*6*	0	0	0	0	*0*	1	0	0	0	*1*
7:45 AM	1	5	0	1	*7*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	**3**	**1**	**2**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**2**	**9**	**1**	**2**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**1**	**1**	**1**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**1**	**0**	*4*
8:45 AM	**5**	**2**	**2**	**5**	***14***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
Count Total	19	26	8	18	*71*	0	0	0	0	*0*	5	0	1	0	*6*
Peak Hour	**11**	**13**	**6**	**12**	***42***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**1**	**0**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	37th Ave SE				37th Ave SE				5th St SE				5th St SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	2	0	0	0	2	0	0	0	0	0	0	1	0	0	6	0
7:15 AM	0	0	1	0	0	0	2	2	0	1	1	0	0	2	1	0	10	0
7:30 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	1	0	0	6	0
7:45 AM	0	1	0	0	0	0	1	4	0	0	0	0	0	0	0	1	7	29
8:00 AM	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**1**	**9**	32
8:15 AM	**0**	**1**	**1**	**0**	**0**	**2**	**4**	**3**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**14**	36
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**5**	35
8:45 AM	**0**	**0**	**4**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**2**	**1**	**14**	**42**
Count Total	0	4	13	2	0	2	13	11	0	1	6	1	0	12	3	3	71	0
Peak Hour	**0**	**2**	**7**	**2**	**0**	**2**	**6**	**5**	**0**	**0**	**5**	**1**	**0**	**8**	**2**	**2**	**42**	**0**

Two-Hour Count Summaries - Bikes

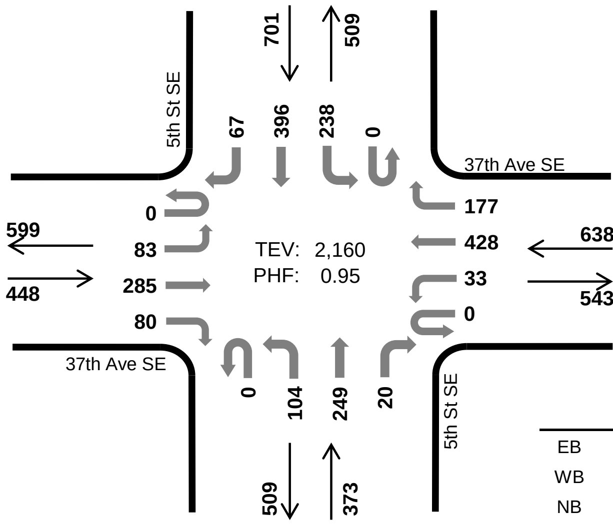
Interval Start	37th Ave SE			37th Ave SE			5th St SE			5th St SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

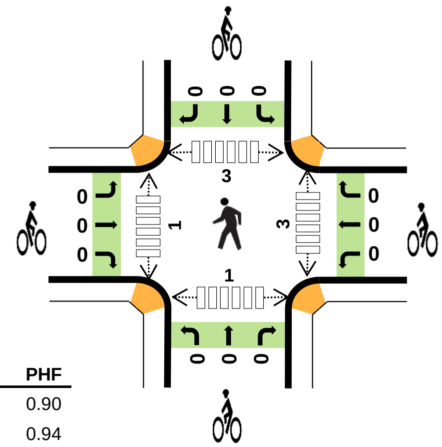
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

5th St SE
37th Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	0.4%	0.90
WB	0.5%	0.94
NB	0.8%	0.98
SB	0.6%	0.92
TOTAL	0.6%	0.95

Two-Hour Count Summaries

Interval Start	37th Ave SE Eastbound UT	LT	TH	RT	37th Ave SE Westbound UT	LT	TH	RT	5th St SE Northbound UT	LT	TH	RT	5th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	20	77	19	0	7	103	50	0	18	55	3	0	54	98	20	524	0
4:15 PM	**0**	**17**	**54**	**23**	**0**	**4**	**111**	**40**	**0**	**27**	**60**	**7**	**0**	**55**	**111**	**12**	**521**	0
4:30 PM	**0**	**25**	**83**	**16**	**0**	**7**	**114**	**48**	**0**	**22**	**67**	**6**	**0**	**60**	**102**	**17**	**567**	0
4:45 PM	**0**	**19**	**75**	**21**	**0**	**10**	**86**	**50**	**0**	**30**	**59**	**2**	**0**	**78**	**90**	**22**	**542**	2,154
5:00 PM	**0**	**22**	**73**	**20**	**0**	**12**	**117**	**39**	**0**	**25**	**63**	**5**	**0**	**45**	**93**	**16**	**530**	**2,160**
5:15 PM	0	11	66	20	0	13	70	32	0	24	64	10	0	54	100	13	477	2,116
5:30 PM	0	14	58	21	0	15	80	25	0	18	51	3	0	47	86	16	434	1,983
5:45 PM	0	21	67	14	0	8	86	30	0	16	43	1	0	45	84	15	430	1,871
Count Total	0	149	553	154	0	76	767	314	0	180	462	37	0	438	764	131	4,025	0
Peak Hour All	**0**	**83**	**285**	**80**	**0**	**33**	**428**	**177**	**0**	**104**	**249**	**20**	**0**	**238**	**396**	**67**	**2,160**	**0**
Peak Hour HV	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**3**	**0**	**0**	**1**	**2**	**1**	**12**	**0**
Peak Hour HV%	**-**	**2%**	**0%**	**0%**	**-**	**0%**	**0%**	**1%**	**-**	**0%**	**1%**	**0%**	**-**	**0%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	4	3	4	*11*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**1**	*4*
4:30 PM	**1**	**1**	**0**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**1**	**0**	*3*
4:45 PM	**1**	**2**	**1**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:15 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	2	0	1	*3*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	4	10	6	10	*30*	0	0	0	0	*0*	4	1	3	1	*9*
Peak Hour	**2**	**3**	**3**	**4**	***12***	**0**	**0**	**0**	**0**	***0***	**3**	**1**	**3**	**1**	***8***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	37th Ave SE				37th Ave SE				5th St SE				5th St SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	2	2	0	0	3	0	0	1	3	0	11	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**4**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**5**	22
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**12**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	11
5:30 PM	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3	10
5:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	3	8
Count Total	0	2	2	0	0	1	4	5	0	0	6	0	0	2	6	2	30	0
Peak Hour	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**3**	**0**	**0**	**1**	**2**	**1**	**12**	**0**

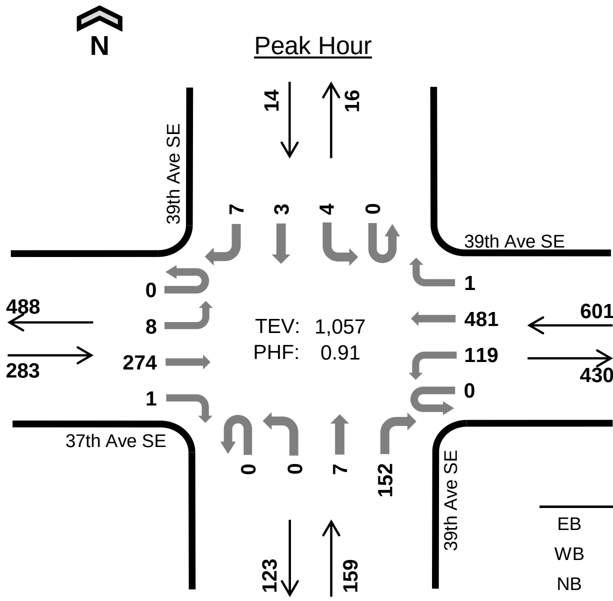
Two-Hour Count Summaries - Bikes

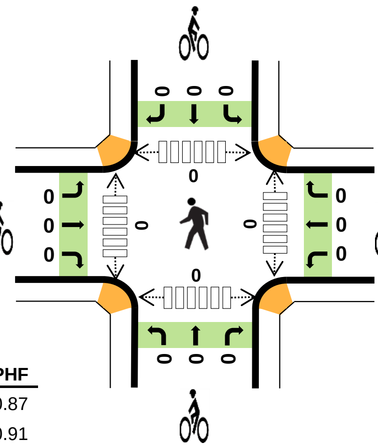
Interval Start	37th Ave SE			37th Ave SE			5th St SE			5th St SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

39th Ave SE
37th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV %:	PHF
EB	3.5%	0.87
WB	3.2%	0.91
NB	3.1%	0.85
SB	14.3%	0.70
TOTAL	3.4%	0.91

Two-Hour Count Summaries

Interval Start		37th Ave SE Eastbound				39th Ave SE Westbound				39th Ave SE Northbound				39th Ave SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	2	84	0	0	21	89	1	0	0	0	42	0	0	1	0	240	0
7:15 AM		0	2	61	0	0	28	124	1	0	0	2	33	0	1	0	0	252	0
7:30 AM		**0**	**1**	**56**	**0**	**0**	**27**	**137**	**1**	**0**	**0**	**1**	**33**	**0**	**0**	**0**	**1**	**257**	0
7:45 AM		**0**	**4**	**77**	**0**	**0**	**43**	**122**	**0**	**0**	**0**	**3**	**37**	**0**	**1**	**2**	**1**	**290**	1,039
8:00 AM		**0**	**0**	**75**	**0**	**0**	**22**	**98**	**0**	**0**	**0**	**1**	**46**	**0**	**1**	**1**	**2**	**246**	1,045
8:15 AM		**0**	**3**	**66**	**1**	**0**	**27**	**124**	**0**	**0**	**0**	**2**	**36**	**0**	**2**	**0**	**3**	**264**	**1,057**
8:30 AM		0	3	77	0	0	23	98	0	0	0	1	31	0	1	0	1	235	1,035
8:45 AM		0	7	85	1	0	23	109	2	0	0	0	31	0	2	0	2	262	1,007
Count Total		0	22	581	2	0	214	901	5	0	0	10	289	0	8	4	10	2,046	0
Peak Hour	**All**	**0**	**8**	**274**	**1**	**0**	**119**	**481**	**1**	**0**	**0**	**7**	**152**	**0**	**4**	**3**	**7**	**1,057**	**0**
	HV	**0**	**0**	**10**	**0**	**0**	**3**	**16**	**0**	**0**	**0**	**0**	**5**	**0**	**1**	**0**	**1**	**36**	**0**
	HV%	**-**	**0%**	**4%**	**0%**	**-**	**3%**	**3%**	**0%**	**-**	**-**	**0%**	**3%**	**-**	**25%**	**0%**	**14%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	4	6	0	*14*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	2	9	0	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**3**	**1**	**2**	**1**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**8**	**1**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**4**	**3**	**2**	**1**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**3**	**7**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	3	2	1	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	7	2	3	0	*12*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	26	36	15	2	*79*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**10**	**19**	**5**	**2**	***36***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	37th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	39th Ave SE Northbound UT	LT	TH	RT	39th Ave SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	1	3	0	0	1	3	0	0	0	0	6	0	0	0	0	14	0
7:15 AM	0	0	2	0	0	7	2	0	0	0	0	0	0	0	0	0	11	0
7:30 AM	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**7**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**2**	**6**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	41
8:00 AM	**0**	**0**	**4**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**10**	37
8:15 AM	**0**	**0**	**3**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**36**
8:30 AM	0	0	3	0	0	0	2	0	0	0	0	1	0	0	0	0	6	35
8:45 AM	0	1	6	0	0	0	2	0	0	0	0	3	0	0	0	0	12	38
Count Total	0	2	24	0	0	11	25	0	0	0	0	15	0	1	0	1	79	0
Peak Hour	**0**	**0**	**10**	**0**	**0**	**3**	**16**	**0**	**0**	**0**	**0**	**5**	**0**	**1**	**0**	**1**	**36**	**0**

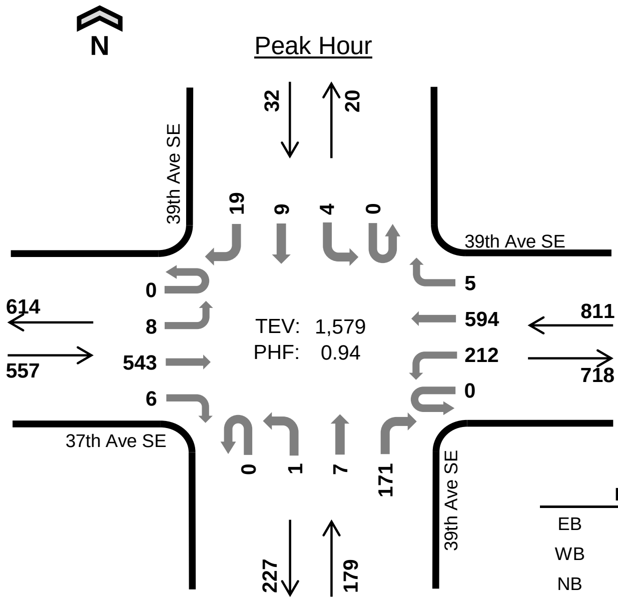
Two-Hour Count Summaries - Bikes

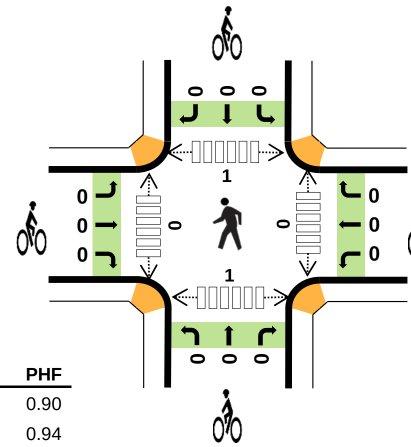
Interval Start	37th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	39th Ave SE Northbound LT	TH	RT	39th Ave SE Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

39th Ave SE
37th Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.7%	0.90
WB	1.6%	0.94
NB	2.2%	0.84
SB	0.0%	0.80
TOTAL	1.3%	0.94

Two-Hour Count Summaries

Interval Start		37th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	39th Ave SE Northbound UT	LT	TH	RT	39th Ave SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	3	126	2	0	53	156	2	0	0	0	53	0	0	2	8	405	0
4:15 PM		0	1	117	4	0	47	147	1	0	1	0	35	0	2	3	4	362	0
4:30 PM		0	1	149	0	0	59	156	1	0	0	6	38	0	1	2	6	419	0
4:45 PM		0	3	151	0	0	53	135	1	0	0	1	45	0	1	2	1	393	1,579
5:00 PM		0	1	123	0	0	45	156	0	0	1	2	53	0	1	1	1	384	1,558
5:15 PM		0	2	122	0	0	42	112	2	0	0	2	48	0	0	1	0	331	1,527
5:30 PM		0	1	110	1	0	35	117	0	0	0	2	42	0	1	4	1	314	1,422
5:45 PM		0	2	116	2	0	34	121	1	0	1	2	29	0	1	1	3	313	1,342
Count Total		0	14	1,014	9	0	368	1,100	8	0	3	15	343	0	7	16	24	2,921	0
Peak Hour	All	0	8	543	6	0	212	594	5	0	1	7	171	0	4	9	19	1,579	0
	HV	0	0	4	0	0	6	7	0	0	0	0	4	0	0	0	0	21	0
	HV%	-	0%	1%	0%	-	3%	1%	0%	-	0%	0%	2%	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	5	1	0	7	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	2	1	0	4	0	0	0	0	0	0	0	0	1	1
4:30 PM	2	2	1	0	5	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
Count Total	8	15	4	0	27	0	0	0	0	0	0	0	1	2	3
Peak Hour	4	13	4	0	21	0	0	0	0	0	0	0	1	1	2

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	37th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	39th Ave SE Northbound UT	LT	TH	RT	39th Ave SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	**0**	**0**	**1**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**21**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12
5:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9
5:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	6
Count Total	0	0	8	0	0	7	8	0	0	0	0	4	0	0	0	0	27	0
Peak Hour	**0**	**0**	**4**	**0**	**0**	**6**	**7**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**21**	**0**

Two-Hour Count Summaries - Bikes

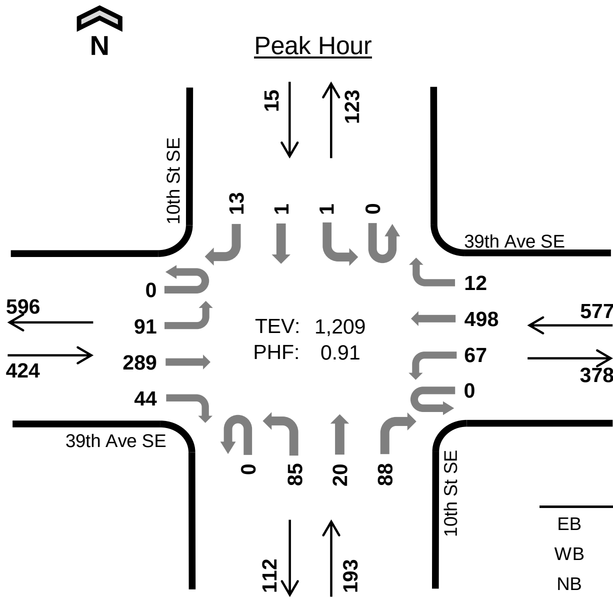
Interval Start	37th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	39th Ave SE Northbound LT	TH	RT	39th Ave SE Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

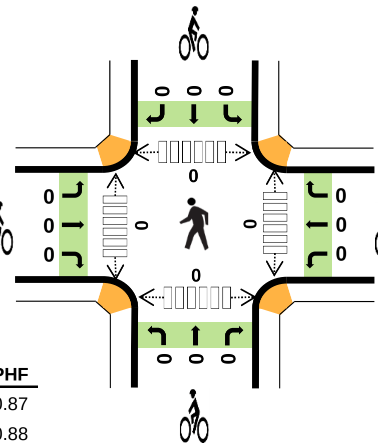
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

10th St SE
39th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM

Peak Hour





	HV %:	PHF
EB	4.0%	0.87
WB	4.3%	0.88
NB	3.1%	0.79
SB	13.3%	0.63
TOTAL	4.1%	0.91

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	10th St SE Northbound UT	LT	TH	RT	10th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	22	86	14	0	9	89	2	0	23	5	33	0	0	0	1	284	0
7:15 AM		0	22	67	9	0	17	139	2	0	17	3	19	0	0	0	3	298	0
7:30 AM		0	15	64	6	0	20	132	4	0	23	5	22	0	1	1	3	296	0
7:45 AM		0	32	72	15	0	21	138	4	0	22	7	14	0	0	0	6	331	1,209
8:00 AM		0	36	59	19	0	15	98	2	0	17	3	9	0	2	0	5	265	1,190
8:15 AM		0	26	77	11	0	7	133	4	0	13	4	7	0	1	0	3	286	1,178
8:30 AM		0	23	74	16	0	9	101	6	0	9	7	16	0	3	1	8	273	1,155
8:45 AM		0	19	79	19	0	10	108	4	0	18	6	34	0	1	1	9	308	1,132
Count Total		0	195	578	109	0	108	938	28	0	142	40	154	0	8	3	38	2,341	0
Peak Hour	All	0	91	289	44	0	67	498	12	0	85	20	88	0	1	1	13	1,209	0
	HV	0	0	15	2	0	5	19	1	0	1	0	5	0	0	0	2	50	0
	HV%	-	0%	5%	5%	-	7%	4%	8%	-	1%	0%	6%	-	0%	0%	15%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	7	5	2	0	*14*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	3	9	2	0	*14*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	6	4	0	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	1	7	2	2	*12*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	6	3	1	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	2	6	2	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	5	4	1	0	*10*	0	0	0	0	*0*	0	0	0	1	*1*
8:45 AM	9	2	6	1	*18*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	39	40	16	3	*98*	0	0	0	0	*0*	0	0	0	1	*1*
Peak Hour	17	25	6	2	*50*	0	0	0	0	*0*	0	0	0	0	*0*

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	10th St SE Northbound UT	LT	TH	RT	10th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**0**	**6**	**1**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**14**	0
7:15 AM	**0**	**0**	**3**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**14**	0
7:30 AM	**0**	**0**	**5**	**1**	**0**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	0
7:45 AM	**0**	**0**	**1**	**0**	**0**	**2**	**5**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**12**	**50**
8:00 AM	0	0	5	1	0	1	2	0	0	0	0	1	0	0	0	0	10	46
8:15 AM	0	0	2	0	0	0	6	0	0	1	0	1	0	0	0	0	10	42
8:30 AM	0	1	3	1	0	2	2	0	0	0	0	1	0	0	0	0	10	42
8:45 AM	0	0	9	0	0	1	1	0	0	0	1	5	0	0	0	1	18	48
Count Total	0	1	34	4	0	9	30	1	0	2	1	13	0	0	0	3	98	0
Peak Hour	**0**	**0**	**15**	**2**	**0**	**5**	**19**	**1**	**0**	**1**	**0**	**5**	**0**	**0**	**0**	**2**	**50**	**0**

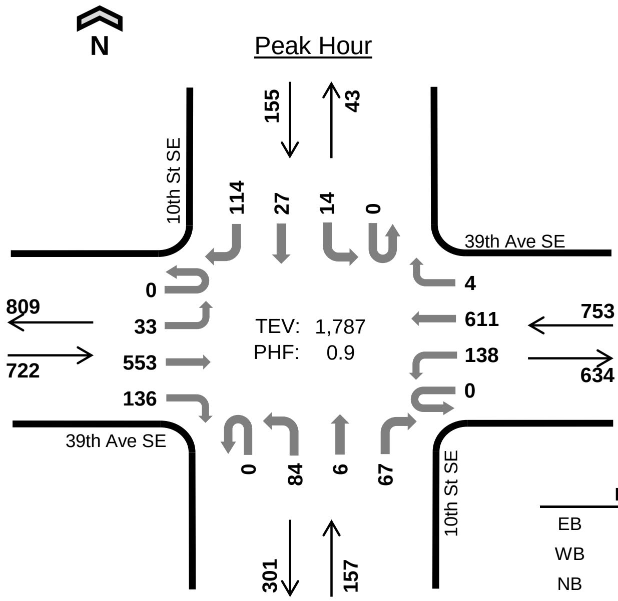
Two-Hour Count Summaries - Bikes

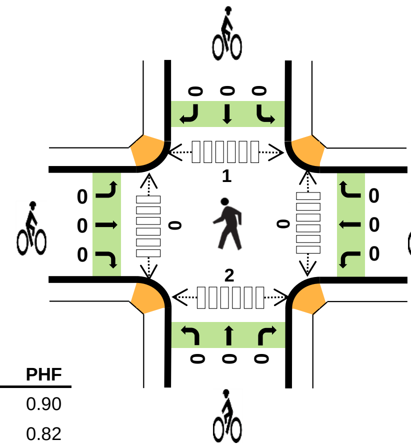
Interval Start	39th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	10th St SE Northbound LT	TH	RT	10th St SE Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

10th St SE
39th Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	1.2%	0.90
WB	2.3%	0.82
NB	4.5%	0.65
SB	0.0%	0.84
TOTAL	1.8%	0.90

Two-Hour Count Summaries

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	10th St SE Northbound UT	LT	TH	RT	10th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	12	134	34	0	28	156	1	0	20	2	10	0	3	8	32	440	0
4:15 PM	0	10	113	30	0	20	133	0	0	31	1	28	0	5	5	30	406	0
4:30 PM	0	7	152	30	0	53	176	1	0	16	1	14	0	4	8	34	496	0
4:45 PM	0	4	154	42	0	37	146	2	0	17	2	15	0	2	6	18	445	1,787
5:00 PM	0	2	148	26	0	32	147	2	0	17	0	15	0	4	4	35	432	1,779
5:15 PM	0	1	132	37	0	35	128	0	0	13	0	9	0	3	2	18	378	1,751
5:30 PM	0	0	118	39	0	31	116	0	0	20	0	14	0	3	5	13	359	1,614
5:45 PM	0	0	125	19	0	21	130	0	0	14	0	14	0	1	4	9	337	1,506
Count Total	0	36	1,076	257	0	257	1,132	6	0	148	6	119	0	25	42	189	3,293	0
Peak Hour All	0	33	553	136	0	138	611	4	0	84	6	67	0	14	27	114	1,787	0
Peak Hour HV	0	0	8	1	0	5	12	0	0	1	0	6	0	0	0	0	33	0
Peak Hour HV%	-	0%	1%	1%	-	4%	2%	0%	-	1%	0%	9%	-	0%	0%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	2	7	3	0	12	0	0	0	0	0	0	0	0	1	1
4:15 PM	3	2	2	0	7	0	0	0	0	0	0	0	0	1	1
4:30 PM	3	4	0	0	7	0	0	0	0	0	0	0	1	0	1
4:45 PM	1	4	2	0	7	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	1	1
5:30 PM	3	1	1	0	5	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0
Count Total	14	23	9	0	46	0	0	0	0	0	0	0	1	3	4
Peak Hour	9	17	7	0	33	0	0	0	0	0	0	0	1	2	3

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	10th St SE Northbound UT	LT	TH	RT	10th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	**0**	**0**	**2**	**0**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**12**	0
4:15 PM	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	0
4:30 PM	**0**	**0**	**2**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	**33**
5:00 PM	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3	24
5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	19
5:30 PM	0	0	3	0	0	1	0	0	0	0	0	1	0	0	0	0	5	17
5:45 PM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	3	13
Count Total	0	0	13	1	0	8	15	0	0	1	0	8	0	0	0	0	46	0
Peak Hour	**0**	**0**	**8**	**1**	**0**	**5**	**12**	**0**	**0**	**1**	**0**	**6**	**0**	**0**	**0**	**0**	**33**	**0**

Two-Hour Count Summaries - Bikes

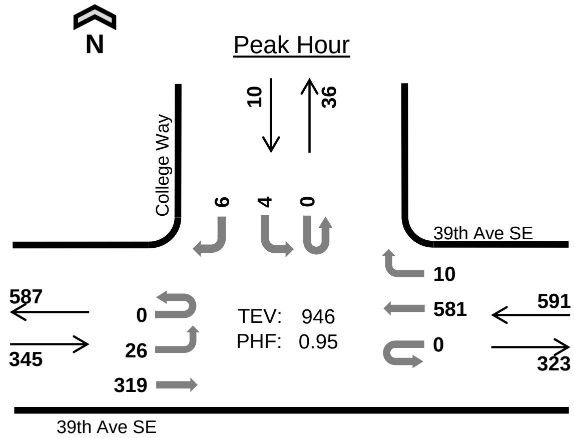
Interval Start	39th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	10th St SE Northbound LT	TH	RT	10th St SE Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

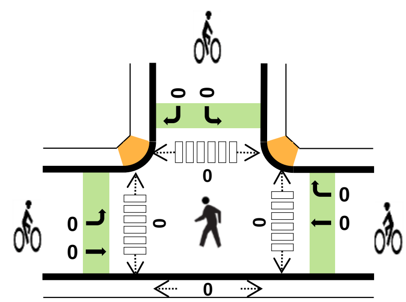
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

College Way
39th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM

Peak Hour





	HV %:	PHF
EB	6.4%	0.81
WB	2.9%	0.88
NB	-	-
SB	40.0%	0.63
TOTAL	4.5%	0.95

Two-Hour Count Summaries

Interval Start		39th Ave SE				39th Ave SE				0				College Way				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**2**	**105**	**0**	**0**	**0**	**105**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**215**	0
7:15 AM		**0**	**6**	**74**	**0**	**0**	**0**	**163**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**245**	0
7:30 AM		**0**	**7**	**71**	**0**	**0**	**0**	**164**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**250**	0
7:45 AM		**0**	**11**	**69**	**0**	**0**	**0**	**149**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**236**	**946**
8:00 AM		0	6	61	0	0	0	118	1	0	0	0	0	0	0	0	3	189	920
8:15 AM		0	10	66	0	0	0	139	3	0	0	0	0	0	0	0	4	222	897
8:30 AM		0	7	86	0	0	0	111	1	0	0	0	0	0	2	0	2	209	856
8:45 AM		0	8	102	0	0	0	119	1	0	0	0	0	0	0	0	6	236	856
Count Total		0	57	634	0	0	0	1,068	16	0	0	0	0	0	6	0	21	1,802	0
Peak Hour	**All**	**0**	**26**	**319**	**0**	**0**	**0**	**581**	**10**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**6**	**946**	**0**
	HV	**0**	**3**	**19**	**0**	**0**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**43**	**0**
	HV%	**-**	**12%**	**6%**	**-**	**-**	**-**	**3%**	**0%**	**-**	**-**	**-**	**-**	**-**	**25%**	**-**	**50%**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**8**	**4**	**0**	**2**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**6**	**8**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**4**	**4**	**0**	**2**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**4**	**1**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	3	2	0	1	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	3	4	0	1	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	4	2	0	1	*7*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	12	1	0	0	*13*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	44	26	0	7	*77*	0	0	0	0	*0*	0	0	0	1	*1*
Peak Hr	**22**	**17**	**0**	**4**	***43***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE				39th Ave SE				0				College Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**8**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**14**	0
7:15 AM	**0**	**2**	**4**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	0
7:30 AM	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**10**	0
7:45 AM	**0**	**1**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**43**
8:00 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	1	6	35
8:15 AM	0	2	1	0	0	0	4	0	0	0	0	0	0	0	0	1	8	29
8:30 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	1	7	26
8:45 AM	0	1	11	0	0	0	1	0	0	0	0	0	0	0	0	0	13	34
Count Total	0	6	38	0	0	0	26	0	0	0	0	0	0	1	0	6	77	0
Peak Hour	**0**	**3**	**19**	**0**	**0**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**43**	**0**

Two-Hour Count Summaries - Bikes

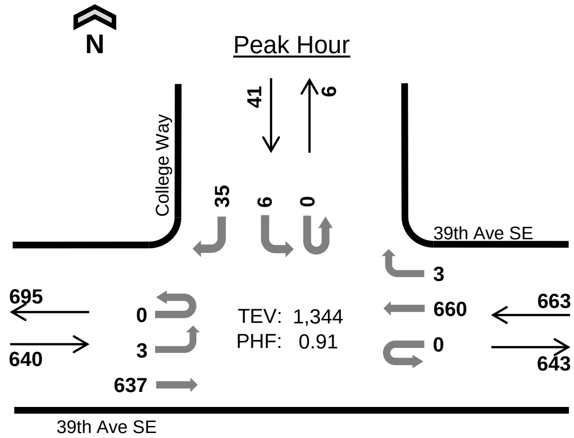
Interval Start	39th Ave SE			39th Ave SE			0			College Way			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

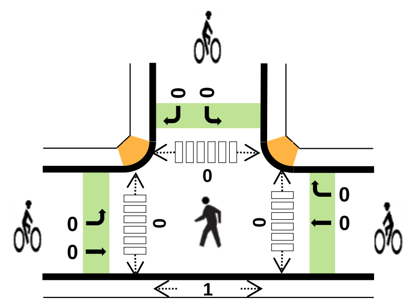
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

College Way
39th Ave SE

idax

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.9%	0.95
WB	1.1%	0.88
NB	-	-
SB	4.9%	0.51
TOTAL	1.1%	0.91

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	0 Northbound UT	LT	TH	RT	College Way Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	3	131	0	0	0	176	1	0	0	0	0	0	1	0	7	319	0
4:15 PM		0	4	144	0	0	0	145	2	0	0	0	0	0	3	0	6	304	0
4:30 PM		**0**	**1**	**167**	**0**	**0**	**0**	**188**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**9**	**368**	0
4:45 PM		**0**	**1**	**151**	**0**	**0**	**0**	**172**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**331**	1,322
5:00 PM		**0**	**1**	**162**	**0**	**0**	**0**	**148**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**17**	**331**	1,334
5:15 PM		**0**	**0**	**157**	**0**	**0**	**0**	**152**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**314**	**1,344**
5:30 PM		0	1	136	0	0	0	149	0	0	0	0	0	0	2	0	4	292	1,268
5:45 PM		0	3	135	0	0	0	137	0	0	0	0	0	0	0	0	3	278	1,215
Count Total		0	14	1,183	0	0	0	1,267	6	0	0	0	0	0	12	0	55	2,537	0
Peak Hour	**All**	**0**	**3**	**637**	**0**	**0**	**0**	**660**	**3**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**35**	**1,344**	**0**
	HV	**0**	**1**	**5**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**15**	**0**
	HV%	**-**	**33%**	**1%**	**-**	**-**	**-**	**1%**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**6%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	5	7	0	1	*13*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	3	1	0	0	*4*	0	0	0	0	*0*	0	0	1	0	*1*
4:30 PM	**1**	**3**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
4:45 PM	**1**	**3**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**2**	**0**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	4	0	0	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	20	17	0	4	*41*	0	0	0	0	*0*	0	0	1	2	*3*
Peak Hr	**6**	**7**	**0**	**2**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE				39th Ave SE				0				College Way				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	5	0	0	0	7	0	0	0	0	0	0	0	0	1	13	0
4:15 PM	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0
4:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	26
5:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	16
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**15**
5:30 PM	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	5	15
5:45 PM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	15
Count Total	0	5	15	0	0	0	17	0	0	0	0	0	0	0	0	4	41	0
Peak Hour	**0**	**1**	**5**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**15**	**0**

Two-Hour Count Summaries - Bikes

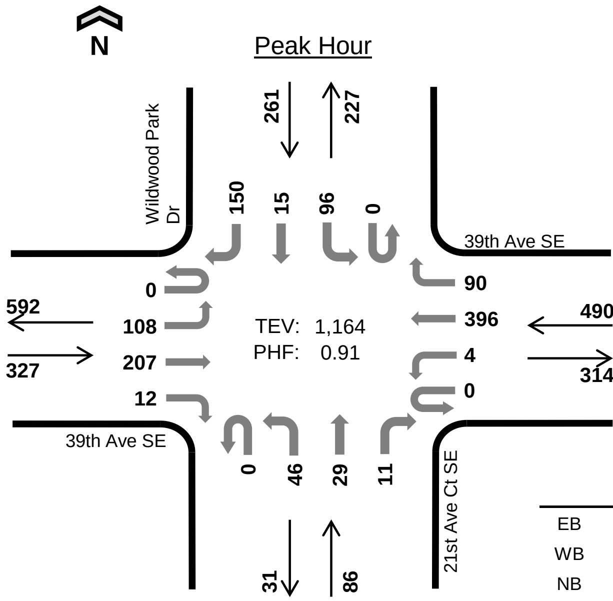
Interval Start	39th Ave SE			39th Ave SE			0			College Way			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

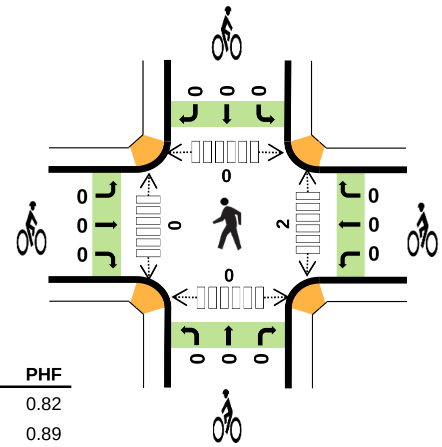
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

21st Ave Ct SE
39th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM

Peak Hour





	HV %:	PHF
EB	5.8%	0.82
WB	2.2%	0.89
NB	2.3%	0.93
SB	5.4%	0.67
TOTAL	4.0%	0.91

Two-Hour Count Summaries

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	21st Ave Ct SE Northbound UT	LT	TH	RT	Wildwood Park Dr Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**50**	**50**	**0**	**0**	**1**	**77**	**59**	**0**	**7**	**13**	**2**	**0**	**26**	**6**	**29**	**320**	0
7:15 AM	**0**	**30**	**52**	**2**	**0**	**2**	**93**	**17**	**0**	**10**	**7**	**4**	**0**	**36**	**2**	**60**	**315**	0
7:30 AM	**0**	**19**	**49**	**5**	**0**	**0**	**117**	**8**	**0**	**14**	**5**	**4**	**0**	**18**	**5**	**37**	**281**	0
7:45 AM	**0**	**9**	**56**	**5**	**0**	**1**	**109**	**6**	**0**	**15**	**4**	**1**	**0**	**16**	**2**	**24**	**248**	**1,164**
8:00 AM	0	12	46	3	0	1	94	8	0	4	4	2	0	7	1	17	199	1,043
8:15 AM	0	12	48	7	0	1	120	2	0	8	1	2	0	4	3	16	224	952
8:30 AM	0	13	69	2	0	1	90	7	0	9	0	3	0	5	2	12	213	884
8:45 AM	0	20	71	4	0	0	97	11	0	6	3	3	0	10	0	24	249	885
Count Total	0	165	441	28	0	7	797	118	0	73	37	21	0	122	21	219	2,049	0
Peak Hour All	**0**	**108**	**207**	**12**	**0**	**4**	**396**	**90**	**0**	**46**	**29**	**11**	**0**	**96**	**15**	**150**	**1,164**	**0**
Peak Hour HV	**0**	**9**	**8**	**2**	**0**	**0**	**6**	**5**	**0**	**0**	**0**	**2**	**0**	**4**	**0**	**10**	**46**	**0**
Peak Hour HV%	**-**	**8%**	**4%**	**17%**	**-**	**0%**	**2%**	**6%**	**-**	**0%**	**0%**	**18%**	**-**	**4%**	**0%**	**7%**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	**10**	**7**	**0**	**6**	***23***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:15 AM	**3**	**2**	**0**	**6**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**3**	**2**	**2**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:45 AM	**3**	**0**	**0**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	4	0	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	1	3	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	4	2	0	2	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	11	4	0	1	*16*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	39	20	2	17	*78*	0	0	0	0	*0*	2	0	0	0	*2*
Peak Hour	**19**	**11**	**2**	**14**	***46***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound				39th Ave SE Westbound				21st Ave Ct SE Northbound				Wildwood Park Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**9**	**1**	**0**	**0**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	**23**	0
7:15 AM	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**11**	0
7:30 AM	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**8**	0
7:45 AM	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**46**
8:00 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4	27
8:15 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	20
8:30 AM	0	0	3	1	0	0	1	1	0	0	0	0	0	1	1	0	8	20
8:45 AM	0	4	7	0	0	0	3	1	0	0	0	0	0	0	0	1	16	32
Count Total	0	15	19	5	0	0	13	7	0	0	0	2	0	5	1	11	78	0
Peak Hour	**0**	**9**	**8**	**2**	**0**	**0**	**6**	**5**	**0**	**0**	**0**	**2**	**0**	**4**	**0**	**10**	**46**	**0**

Two-Hour Count Summaries - Bikes

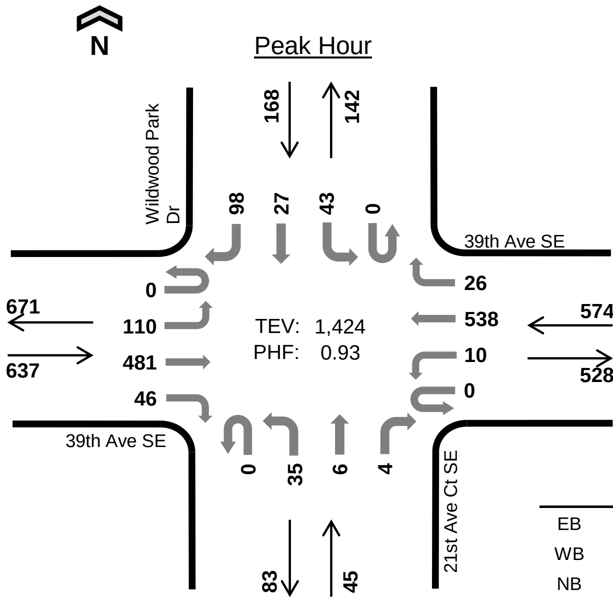
Interval Start	39th Ave SE Eastbound			39th Ave SE Westbound			21st Ave Ct SE Northbound			Wildwood Park Dr Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

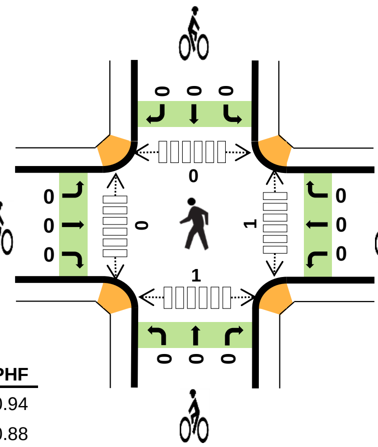
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

21st Ave Ct SE
39th Ave SE

idax

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	0.8%	0.94
WB	0.7%	0.88
NB	0.0%	0.75
SB	1.8%	0.76
TOTAL	0.8%	0.93

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	21st Ave Ct SE Northbound UT	LT	TH	RT	Wildwood Park Dr Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	21	100	9	0	1	136	10	0	6	2	0	0	5	8	29	327	0
4:15 PM		**0**	**29**	**110**	**11**	**0**	**4**	**127**	**8**	**0**	**8**	**2**	**1**	**0**	**6**	**8**	**18**	**332**	0
4:30 PM		**0**	**27**	**133**	**10**	**0**	**1**	**155**	**7**	**0**	**8**	**0**	**0**	**0**	**15**	**4**	**22**	**382**	0
4:45 PM		**0**	**25**	**119**	**12**	**0**	**1**	**130**	**8**	**0**	**11**	**2**	**2**	**0**	**10**	**8**	**37**	**365**	1,406
5:00 PM		**0**	**29**	**119**	**13**	**0**	**4**	**126**	**3**	**0**	**8**	**2**	**1**	**0**	**12**	**7**	**21**	**345**	**1,424**
5:15 PM		0	22	122	12	0	3	119	4	0	8	1	2	0	3	7	20	323	1,415
5:30 PM		0	21	104	10	0	3	115	3	0	5	0	3	0	10	4	29	307	1,340
5:45 PM		0	32	94	8	0	2	100	7	0	7	1	3	0	15	6	24	299	1,274
Count Total		0	206	901	85	0	19	1,008	50	0	61	10	12	0	76	52	200	2,680	0
Peak Hour	**All**	**0**	**110**	**481**	**46**	**0**	**10**	**538**	**26**	**0**	**35**	**6**	**4**	**0**	**43**	**27**	**98**	**1,424**	**0**
	HV	**0**	**0**	**4**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**12**	**0**
	HV%	**-**	**0%**	**1%**	**2%**	**-**	**0%**	**1%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**4%**	**2%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	4	6	0	0	*10*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**2**	**2**	**0**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***
5:15 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	1	*1*
5:30 PM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	0	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	12	11	0	5	*28*	0	0	0	0	*0*	1	0	0	3	*4*
Peak Hour	**5**	**4**	**0**	**3**	***12***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE				39th Ave SE				21st Ave Ct SE				Wildwood Park Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	10	0
4:15 PM	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**6**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	21
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**12**
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	10
5:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	3	7
Count Total	0	1	9	2	0	0	11	0	0	0	0	0	0	0	2	3	28	0
Peak Hour	**0**	**0**	**4**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**12**	**0**

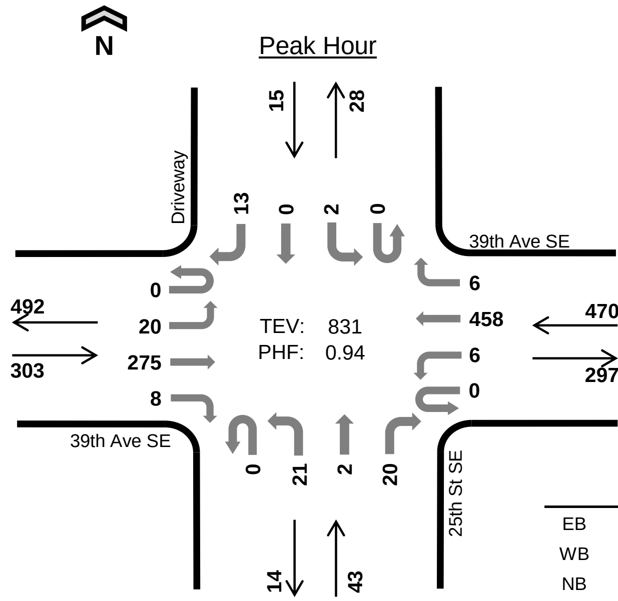
Two-Hour Count Summaries - Bikes

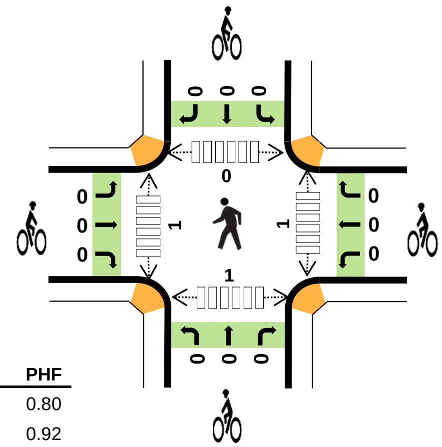
Interval Start	39th Ave SE			39th Ave SE			21st Ave Ct SE			Wildwood Park Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

25th St SE
39th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	5.9%	0.80
WB	2.1%	0.92
NB	4.7%	0.63
SB	0.0%	0.63
TOTAL	3.6%	0.94

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound				39th Ave SE Westbound				25th St SE Northbound				Driveway Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**4**	**66**	**1**	**0**	**0**	**125**	**3**	**0**	**8**	**1**	**8**	**0**	**1**	**0**	**5**	**222**	0
7:15 AM		**0**	**5**	**86**	**4**	**0**	**2**	**108**	**0**	**0**	**2**	**1**	**7**	**0**	**0**	**0**	**4**	**219**	0
7:30 AM		**0**	**5**	**59**	**1**	**0**	**2**	**115**	**0**	**0**	**5**	**0**	**5**	**0**	**1**	**0**	**1**	**194**	0
7:45 AM		**0**	**6**	**64**	**2**	**0**	**2**	**110**	**3**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**3**	**196**	**831**
8:00 AM		0	4	49	1	0	2	104	5	0	4	1	7	0	1	0	1	179	788
8:15 AM		0	4	45	1	0	2	117	7	0	2	0	6	0	1	0	0	185	754
8:30 AM		0	8	59	2	0	2	93	11	0	6	2	4	0	3	0	1	191	751
8:45 AM		0	22	56	2	0	3	95	22	0	5	6	9	0	2	0	6	228	783
Count Total		0	58	484	14	0	15	867	51	0	38	11	46	0	9	0	21	1,614	0
Peak Hour	**All**	**0**	**20**	**275**	**8**	**0**	**6**	**458**	**6**	**0**	**21**	**2**	**20**	**0**	**2**	**0**	**13**	**831**	**0**
	HV	**0**	**0**	**18**	**0**	**0**	**0**	**10**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**30**	**0**
	HV%	**-**	**0%**	**7%**	**0%**	**-**	**0%**	**2%**	**0%**	**-**	**5%**	**0%**	**5%**	**-**	**0%**	**-**	**0%**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**3**	**6**	**2**	**0**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:15 AM	**5**	**3**	**0**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:30 AM	**5**	**1**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:45 AM	**5**	**0**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	2	1	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	1	4	0	0	*5*	0	0	0	0	*0*	0	0	1	0	*1*
8:30 AM	4	3	0	1	*8*	0	0	0	0	*0*	2	0	0	0	*2*
8:45 AM	2	3	2	0	*7*	0	0	0	0	*0*	9	0	0	0	*9*
Count Total	25	22	5	1	*53*	0	0	0	0	*0*	12	1	1	1	*15*
Peak Hour	**18**	**10**	**2**	**0**	***30***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**1**	***3***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	25th St SE Northbound UT	LT	TH	RT	Driveway Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**0**	**3**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	0
7:15 AM	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	0
7:30 AM	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	0
7:45 AM	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**30**
8:00 AM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	3	22
8:15 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	19
8:30 AM	0	1	2	1	0	0	3	0	0	0	0	0	0	1	0	0	8	21
8:45 AM	0	0	2	0	0	1	2	0	0	1	0	1	0	0	0	0	7	23
Count Total	0	1	23	1	0	1	21	0	0	2	0	3	0	1	0	0	53	0
Peak Hour	**0**	**0**	**18**	**0**	**0**	**0**	**10**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**30**	**0**

Two-Hour Count Summaries - Bikes

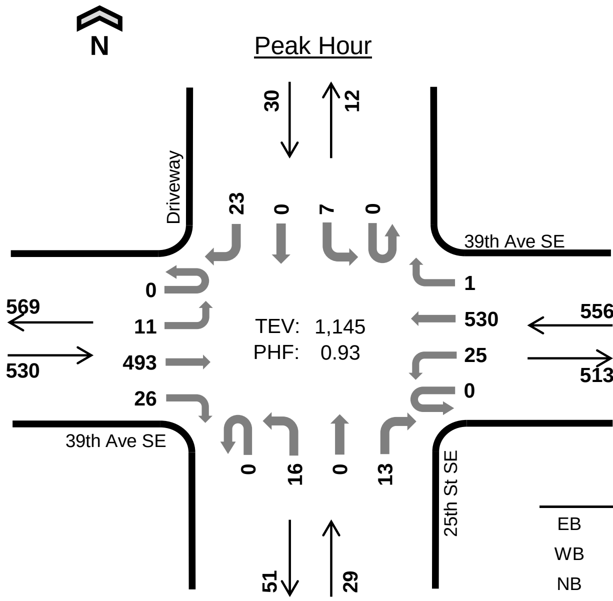
Interval Start	39th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	25th St SE Northbound LT	TH	RT	Driveway Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

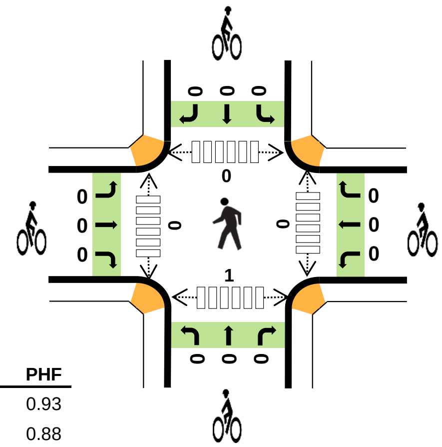
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

25th St SE
39th Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	0.6%	0.93
WB	0.7%	0.88
NB	0.0%	0.73
SB	0.0%	0.58
TOTAL	0.6%	0.93

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound				39th Ave SE Westbound				25th St SE Northbound				Driveway Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	3	104	6	0	11	121	1	0	5	1	6	0	4	2	13	277	0
4:15 PM		**0**	**2**	**111**	**5**	**0**	**6**	**122**	**0**	**0**	**6**	**0**	**4**	**0**	**4**	**0**	**9**	**269**	0
4:30 PM		**0**	**1**	**126**	**8**	**0**	**4**	**154**	**0**	**0**	**5**	**0**	**2**	**0**	**2**	**0**	**6**	**308**	0
4:45 PM		**0**	**1**	**134**	**7**	**0**	**6**	**131**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**4**	**287**	1,141
5:00 PM		**0**	**7**	**122**	**6**	**0**	**9**	**123**	**0**	**0**	**2**	**0**	**7**	**0**	**1**	**0**	**4**	**281**	**1,145**
5:15 PM		0	1	119	6	0	6	108	2	0	3	0	5	0	0	2	6	258	1,134
5:30 PM		0	1	115	5	0	7	117	0	0	3	0	1	0	2	0	1	252	1,078
5:45 PM		0	4	108	2	0	12	106	1	0	3	0	2	0	0	1	1	240	1,031
Count Total		0	20	939	45	0	61	982	5	0	30	1	27	0	13	5	44	2,172	0
Peak Hour	**All**	**0**	**11**	**493**	**26**	**0**	**25**	**530**	**1**	**0**	**16**	**0**	**13**	**0**	**7**	**0**	**23**	**1,145**	**0**
	HV	**0**	**0**	**3**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**
	HV%	**-**	**0%**	**1%**	**0%**	**-**	**4%**	**1%**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	5	2	1	*11*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	8	10	3	1	*22*	0	0	0	0	*0*	0	0	0	2	*2*
Peak Hour	**3**	**4**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	25th St SE Northbound UT	LT	TH	RT	Driveway Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	2	1	0	1	4	0	0	1	0	1	0	1	0	0	11	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	17
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	6
5:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5
Count Total	0	0	7	1	0	2	8	0	0	2	0	1	0	1	0	0	22	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**

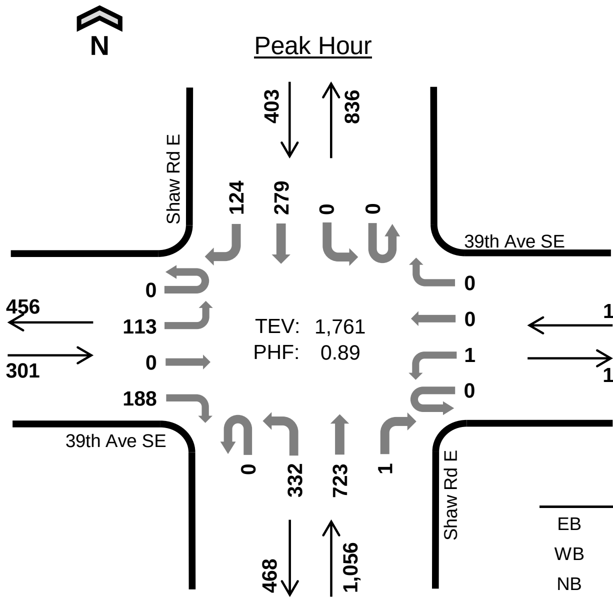
Two-Hour Count Summaries - Bikes

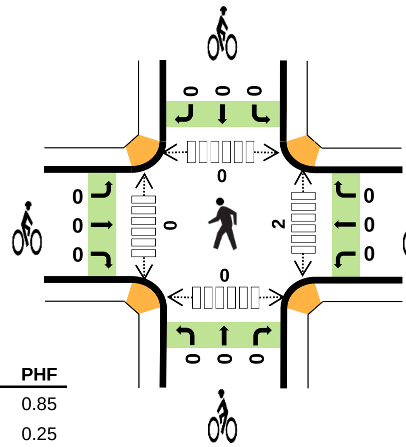
Interval Start	39th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	25th St SE Northbound LT	TH	RT	Driveway Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Shaw Rd E
39th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	5.3%	0.85
WB	0.0%	0.25
NB	2.3%	0.86
SB	2.5%	0.88
TOTAL	2.8%	0.89

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	Shaw Rd E Northbound UT	LT	TH	RT	Shaw Rd E Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	34	0	43	0	0	0	0	0	105	168	0	0	0	54	24	428	0
7:15 AM		0	35	0	54	0	0	0	0	0	80	225	1	0	0	74	27	496	0
7:30 AM		0	21	0	47	0	1	0	0	0	79	164	0	0	0	74	36	422	0
7:45 AM		0	23	0	44	0	0	0	0	0	68	166	0	0	0	77	37	415	1,761
8:00 AM		0	32	0	20	0	0	0	0	0	79	137	0	0	0	57	43	368	1,701
8:15 AM		0	23	0	30	0	0	0	0	0	83	151	0	0	0	69	34	390	1,595
8:30 AM		0	32	0	35	0	0	0	0	0	67	143	0	0	0	81	43	401	1,574
8:45 AM		0	31	0	30	0	0	0	1	0	69	115	1	0	0	57	40	344	1,503
Count Total		0	231	0	303	0	1	0	1	0	630	1,269	2	0	0	543	284	3,264	0
Peak Hour	All	0	113	0	188	0	1	0	0	0	332	723	1	0	0	279	124	1,761	0
	HV	0	4	0	12	0	0	0	0	0	8	16	0	0	0	9	1	50	0
	HV%	-	4%	-	6%	-	0%	-	-	-	2%	2%	0%	-	-	3%	1%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	4	0	10	1	15	0	0	0	0	0	0	0	0	0	0
7:15 AM	4	0	5	3	12	0	0	0	0	0	0	0	0	0	0
7:30 AM	5	0	5	5	15	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	0	4	1	8	0	0	0	0	0	2	0	0	0	2
8:00 AM	2	0	7	4	13	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	12	3	16	0	0	0	0	0	0	0	0	0	0
8:30 AM	2	0	8	3	13	0	0	0	0	0	0	0	0	0	0
8:45 AM	2	0	6	7	15	0	0	0	0	0	2	0	0	0	2
Count Total	23	0	57	27	107	0	0	0	0	0	4	0	0	0	4
Peak Hour	16	0	24	10	50	0	0	0	0	0	2	0	0	0	2

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	Shaw Rd E Northbound UT	LT	TH	RT	Shaw Rd E Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**6**	**4**	**0**	**0**	**0**	**0**	**1**	**15**	0
7:15 AM	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**3**	**0**	**12**	0
7:30 AM	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**5**	**0**	**15**	0
7:45 AM	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**8**	**50**
8:00 AM	0	1	0	1	0	0	0	0	0	0	7	0	0	0	2	2	13	48
8:15 AM	0	0	0	1	0	0	0	0	0	6	6	0	0	0	2	1	16	52
8:30 AM	0	0	0	2	0	0	0	0	0	2	6	0	0	0	3	0	13	50
8:45 AM	0	0	0	2	0	0	0	0	0	1	5	0	0	0	7	0	15	57
Count Total	0	5	0	18	0	0	0	0	0	17	40	0	0	0	23	4	107	0
Peak Hour	**0**	**4**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**8**	**16**	**0**	**0**	**0**	**9**	**1**	**50**	**0**

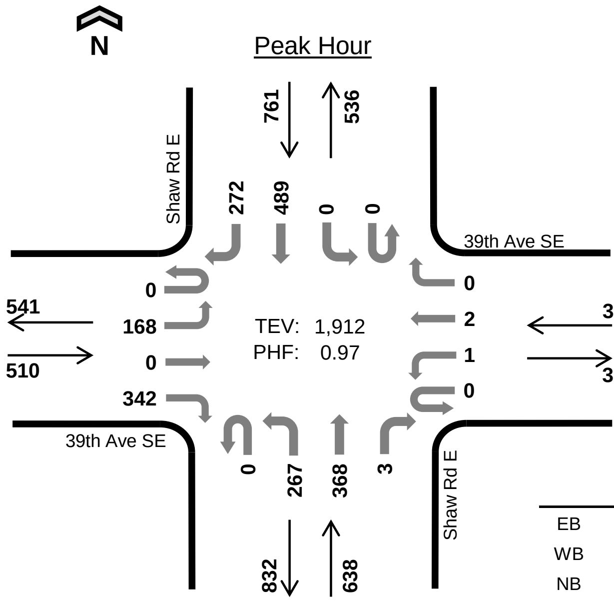
Two-Hour Count Summaries - Bikes

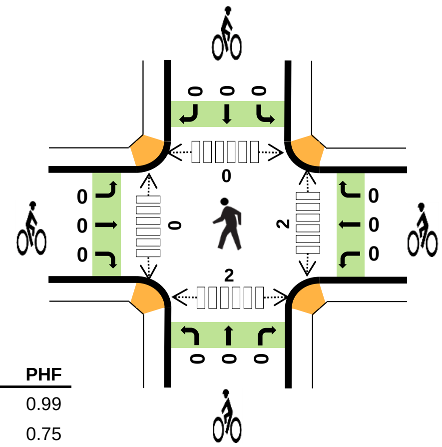
Interval Start	39th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	Shaw Rd E Northbound LT	TH	RT	Shaw Rd E Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Shaw Rd E
39th Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.2%	0.99
WB	0.0%	0.75
NB	1.6%	0.89
SB	1.1%	0.93
TOTAL	1.0%	0.97

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound				39th Ave SE Westbound				Shaw Rd E Northbound				Shaw Rd E Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	47	1	64	0	0	0	0	0	70	94	0	0	0	144	51	471	0
4:15 PM		0	51	0	66	0	0	0	0	0	63	110	0	0	1	110	65	466	0
4:30 PM		**0**	**42**	**0**	**86**	**0**	**1**	**0**	**0**	**0**	**92**	**86**	**1**	**0**	**0**	**112**	**73**	**493**	0
4:45 PM		**0**	**34**	**0**	**90**	**0**	**0**	**1**	**0**	**0**	**63**	**108**	**0**	**0**	**0**	**106**	**72**	**474**	1,904
5:00 PM		**0**	**41**	**0**	**88**	**0**	**0**	**0**	**0**	**0**	**66**	**71**	**1**	**0**	**0**	**137**	**67**	**471**	1,904
5:15 PM		**0**	**51**	**0**	**78**	**0**	**0**	**1**	**0**	**0**	**46**	**103**	**1**	**0**	**0**	**134**	**60**	**474**	**1,912**
5:30 PM		0	42	1	68	0	0	0	0	0	53	99	1	0	0	124	77	465	1,884
5:45 PM		0	38	1	76	0	0	0	0	0	56	82	0	0	0	130	61	444	1,854
Count Total		0	346	3	616	0	1	2	0	0	509	753	4	0	1	997	526	3,758	0
Peak Hour	**All**	**0**	**168**	**0**	**342**	**0**	**1**	**2**	**0**	**0**	**267**	**368**	**3**	**0**	**0**	**489**	**272**	**1,912**	**0**
	HV	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**9**	**0**	**0**	**0**	**7**	**1**	**19**	**0**
	HV%	**-**	**0%**	**-**	**0%**	**-**	**0%**	**0%**	**-**	**-**	**0%**	**2%**	**0%**	**-**	**-**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	0	3	3	*10*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	1	0	3	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**0**	**2**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**4**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**2**	***4***
5:30 PM	2	0	2	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	0	2	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	9	0	20	14	*43*	0	0	0	0	*0*	2	0	0	2	*4*
Peak Hour	**1**	**0**	**10**	**8**	***19***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**2**	***4***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	Shaw Rd E Northbound UT	LT	TH	RT	Shaw Rd E Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	2	0	2	0	0	0	0	0	3	0	0	0	0	1	2	10	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	5	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**5**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**5**	25
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**4**	19
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**5**	**19**
5:30 PM	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	4	18
5:45 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	1	1	5	18
Count Total	0	3	0	6	0	0	0	0	0	4	16	0	0	0	10	4	43	0
Peak Hour	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**9**	**0**	**0**	**0**	**7**	**1**	**19**	**0**

Two-Hour Count Summaries - Bikes

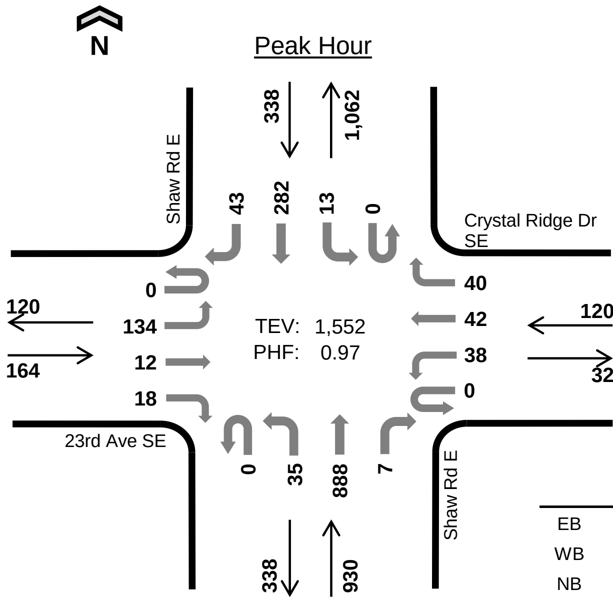
Interval Start	39th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	Shaw Rd E Northbound LT	TH	RT	Shaw Rd E Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

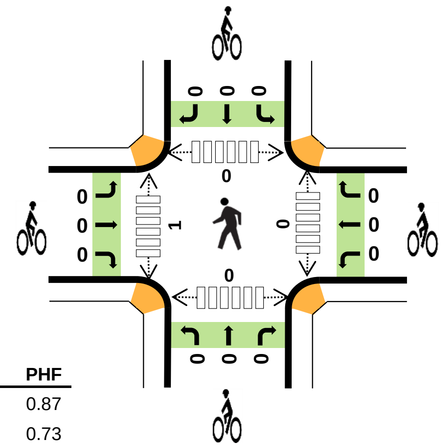
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Shaw Rd E
23rd Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM

Peak Hour





	HV %:	PHF
EB	1.2%	0.87
WB	1.7%	0.73
NB	2.2%	0.90
SB	4.1%	0.94
TOTAL	2.4%	0.97

Two-Hour Count Summaries

Interval Start		23rd Ave SE Eastbound				Crystal Ridge Dr SE Westbound				Shaw Rd E Northbound				Shaw Rd E Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	21	2	3	0	4	7	11	0	5	253	0	0	2	64	9	381	0
7:15 AM		0	43	1	2	0	8	7	14	0	8	194	2	0	6	75	9	369	0
7:30 AM		0	39	5	3	0	11	8	9	0	9	234	1	0	2	70	11	402	0
7:45 AM		0	31	4	10	0	15	20	6	0	13	207	4	0	3	73	14	400	1,552
8:00 AM		0	20	5	11	0	2	10	9	0	7	171	2	0	1	73	9	320	1,491
8:15 AM		0	29	7	4	0	5	9	3	0	8	193	3	0	2	81	22	366	1,488
8:30 AM		0	25	5	6	0	5	3	4	0	10	161	1	0	4	105	12	341	1,427
8:45 AM		0	19	2	2	0	10	5	12	0	12	143	6	0	1	70	11	293	1,320
Count Total		0	227	31	41	0	60	69	68	0	72	1,556	19	0	21	611	97	2,872	0
Peak Hour	All	0	134	12	18	0	38	42	40	0	35	888	7	0	13	282	43	1,552	0
	HV	0	0	0	2	0	1	1	0	0	1	19	0	0	1	8	5	38	0
	HV%	-	0%	0%	11%	-	3%	2%	0%	-	3%	2%	0%	-	8%	3%	12%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	6	2	*8*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	1	2	5	*9*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	1	0	6	5	*12*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	1	6	2	*9*	0	0	0	0	*0*	0	1	0	0	*1*
8:00 AM	0	0	6	4	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	0	6	7	*13*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	1	0	3	6	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	1	0	5	6	*12*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	4	2	40	37	*83*	0	0	0	0	*0*	0	1	0	0	*1*
Peak Hour	2	2	20	14	*38*	0	0	0	0	*0*	0	1	0	0	*1*

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	23rd Ave SE				Crystal Ridge Dr SE				Shaw Rd E				Shaw Rd E				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**1**	**1**	**8**	0
7:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**2**	**9**	0
7:30 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**1**	**2**	**2**	**12**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**2**	**0**	**9**	**38**
8:00 AM	0	0	0	0	0	0	0	0	0	1	5	0	0	0	4	0	10	40
8:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	5	2	13	44
8:30 AM	0	1	0	0	0	0	0	0	0	0	3	0	0	0	6	0	10	42
8:45 AM	0	1	0	0	0	0	0	0	0	0	4	1	0	1	5	0	12	45
Count Total	0	2	0	2	0	1	1	0	0	2	37	1	0	2	28	7	83	0
Peak Hour	**0**	**0**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**1**	**19**	**0**	**0**	**1**	**8**	**5**	**38**	**0**

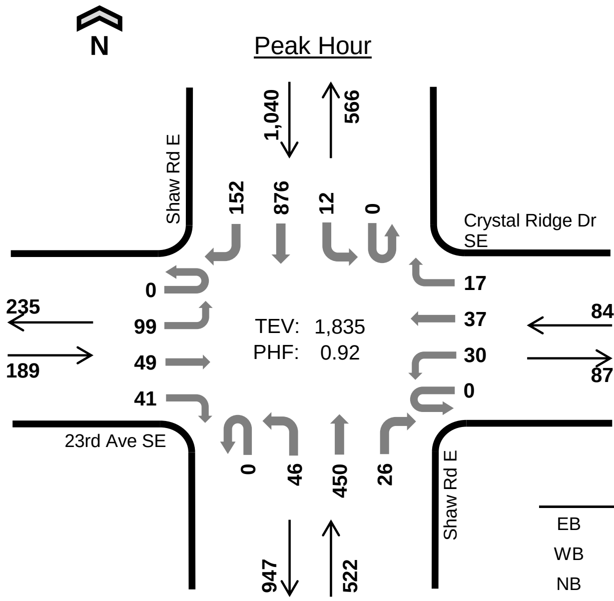
Two-Hour Count Summaries - Bikes

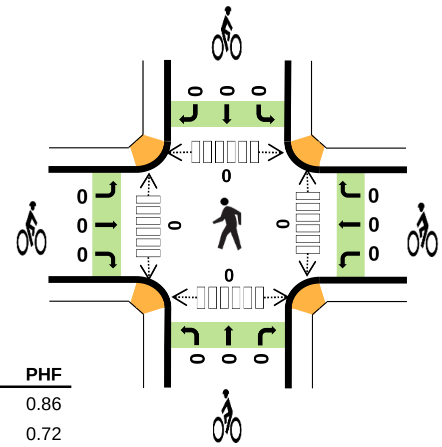
Interval Start	23rd Ave SE			Crystal Ridge Dr SE			Shaw Rd E			Shaw Rd E			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Shaw Rd E
23rd Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.5%	0.86
WB	0.0%	0.72
NB	1.9%	0.88
SB	1.4%	0.90
TOTAL	1.4%	0.92

Two-Hour Count Summaries

Interval Start		23rd Ave SE Eastbound				Crystal Ridge Dr SE Westbound				Shaw Rd E Northbound				Shaw Rd E Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**20**	**19**	**16**	**0**	**16**	**9**	**4**	**0**	**15**	**108**	**4**	**0**	**4**	**251**	**34**	**500**	0
4:15 PM		**0**	**29**	**14**	**9**	**0**	**2**	**7**	**4**	**0**	**14**	**125**	**9**	**0**	**3**	**200**	**43**	**459**	0
4:30 PM		**0**	**19**	**7**	**4**	**0**	**6**	**10**	**6**	**0**	**10**	**120**	**7**	**0**	**2**	**220**	**36**	**447**	0
4:45 PM		**0**	**31**	**9**	**12**	**0**	**6**	**11**	**3**	**0**	**7**	**97**	**6**	**0**	**3**	**205**	**39**	**429**	**1,835**
5:00 PM		0	21	12	11	0	4	9	1	0	4	84	8	0	2	181	42	379	1,714
5:15 PM		0	30	12	7	0	4	4	1	0	5	126	14	0	2	220	29	454	1,709
5:30 PM		0	20	20	5	0	6	6	6	0	6	111	8	0	5	200	41	434	1,696
5:45 PM		0	17	7	4	0	7	7	14	0	7	111	6	0	5	214	28	427	1,694
Count Total		0	187	100	68	0	51	63	39	0	68	882	62	0	26	1,691	292	3,529	0
Peak Hour	**All**	**0**	**99**	**49**	**41**	**0**	**30**	**37**	**17**	**0**	**46**	**450**	**26**	**0**	**12**	**876**	**152**	**1,835**	**0**
	HV	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**13**	**2**	**26**	**0**
	HV%	**-**	**1%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**2%**	**0%**	**-**	**0%**	**1%**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**3**	**7**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**1**	**0**	**3**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**2**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	1	2	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	1	3	*6*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	2	15	21	*40*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**1**	**0**	**10**	**15**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	23rd Ave SE				Crystal Ridge Dr SE				Shaw Rd E				Shaw Rd E				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**6**	**1**	**10**	0
4:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**6**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**5**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**5**	**26**
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	18
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	14
5:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	1	4	13
5:45 PM	0	1	0	0	0	0	0	1	0	0	1	0	0	1	2	0	6	14
Count Total	0	2	0	0	0	0	0	2	0	0	15	0	0	1	17	3	40	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**13**	**2**	**26**	**0**

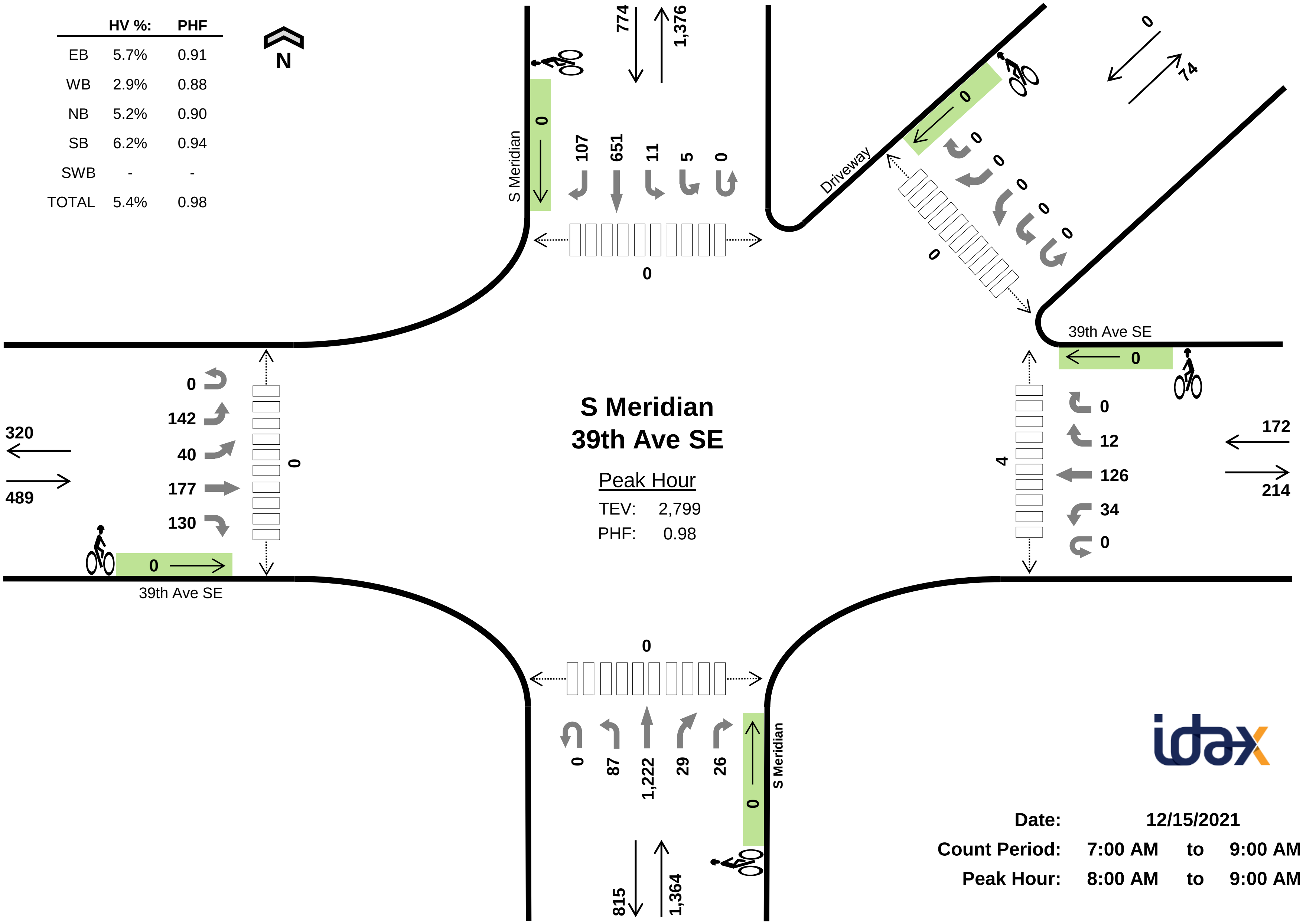
Two-Hour Count Summaries - Bikes

Interval Start	23rd Ave SE			Crystal Ridge Dr SE			Shaw Rd E			Shaw Rd E			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

www.idaxdata.com

	HV %:	PHF
EB	5.7%	0.91
WB	2.9%	0.88
NB	5.2%	0.90
SB	6.2%	0.94
SWB	-	-
TOTAL	5.4%	0.98



Date: 12/15/2021

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 8:00 AM to 9:00 AM

project.manager.wa@idaxdata.com

Two-Hour Count Summaries

Interval Start	39th Ave SE Eastbound UT	LT	BL	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	HR	S Meridian Northbound UT	LT	TH	BR	RT	S Meridian Southbound UT	HL	LT	TH	RT	Driveway Southwestbound UT	HL	BL	BR	HR	15-min Total	Rolling One Hour
7:00 AM	0	26	6	35	18	0	3	22	2	0	0	22	363	3	8	0	1	0	127	17	0	0	0	0	0	653	0
7:15 AM	0	31	8	37	17	0	12	34	1	0	0	21	379	4	10	0	0	2	148	15	0	0	0	0	0	719	0
7:30 AM	0	31	5	37	19	0	4	28	2	0	0	16	365	3	7	0	0	0	145	23	0	0	0	0	0	685	0
7:45 AM	0	41	11	48	37	0	12	51	1	0	0	21	264	6	5	0	2	3	153	27	0	0	0	0	0	682	2,739
8:00 AM	**0**	**31**	**6**	**42**	**32**	**0**	**4**	**37**	**2**	**0**	**0**	**17**	**346**	**12**	**5**	**0**	**0**	**5**	**153**	**20**	**0**	**0**	**0**	**0**	**0**	**712**	2,798
8:15 AM	**0**	**36**	**11**	**51**	**33**	**0**	**9**	**23**	**1**	**0**	**0**	**18**	**275**	**5**	**8**	**0**	**1**	**1**	**177**	**22**	**0**	**0**	**0**	**0**	**0**	**671**	2,750
8:30 AM	**0**	**41**	**7**	**34**	**31**	**0**	**10**	**32**	**7**	**0**	**0**	**24**	**312**	**5**	**6**	**0**	**1**	**2**	**161**	**26**	**0**	**0**	**0**	**0**	**0**	**699**	2,764
8:45 AM	**0**	**34**	**16**	**50**	**34**	**0**	**11**	**34**	**2**	**0**	**0**	**28**	**289**	**7**	**7**	**0**	**3**	**3**	**160**	**39**	**0**	**0**	**0**	**0**	**0**	**717**	**2,799**
Count Total	0	271	70	334	221	0	65	261	18	0	0	167	2,593	45	56	0	8	16	1,224	189	0	0	0	0	0	5,538	0
Peak Hour All	**0**	**142**	**40**	**177**	**130**	**0**	**34**	**126**	**12**	**0**	**0**	**87**	**1,222**	**29**	**26**	**0**	**5**	**11**	**651**	**107**	**0**	**0**	**0**	**0**	**0**	**2,799**	**0**
Peak Hour HV	**0**	**12**	**0**	**5**	**11**	**0**	**1**	**4**	**0**	**0**	**0**	**5**	**64**	**0**	**2**	**0**	**0**	**1**	**41**	**6**	**0**	**0**	**0**	**0**	**0**	**152**	**0**
Peak Hour HV%	**-**	**8%**	**0%**	**3%**	**8%**	**-**	**3%**	**3%**	**0%**	**-**	**-**	**6%**	**5%**	**0%**	**8%**	**-**	**0%**	**9%**	**6%**	**6%**	**-**	**-**	**-**	**-**	**-**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	SWB	Total	Bicycles EB	WB	NB	SB	SWB	Total	Pedestrians (Crossing Leg) East	West	North	South	Northeast	Total
7:00 AM	6	1	9	10	0	*26*	0	0	0	0	0	*0*	0	0	0	0	0	*0*
7:15 AM	7	9	13	11	0	*40*	0	0	0	0	0	*0*	0	0	0	0	0	*0*
7:30 AM	7	0	8	16	0	*31*	0	0	0	0	0	*0*	0	0	0	0	0	*0*
7:45 AM	6	2	9	17	0	*34*	0	0	0	0	0	*0*	0	1	0	2	0	*3*
8:00 AM	**11**	**1**	**16**	**16**	**0**	***44***	**0**	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	**0**	***1***
8:15 AM	**4**	**2**	**14**	**14**	**0**	***34***	**0**	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	**0**	***0***
8:30 AM	**6**	**1**	**24**	**8**	**0**	***39***	**0**	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	**0**	***1***
8:45 AM	**7**	**1**	**17**	**10**	**0**	***35***	**0**	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	**0**	***2***
Count Total	54	17	110	102	0	*283*	0	0	0	0	0	*0*	4	1	0	2	0	*7*
Peak Hr	**28**	**5**	**71**	**48**	**0**	***152***	**0**	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	**0**	*4*

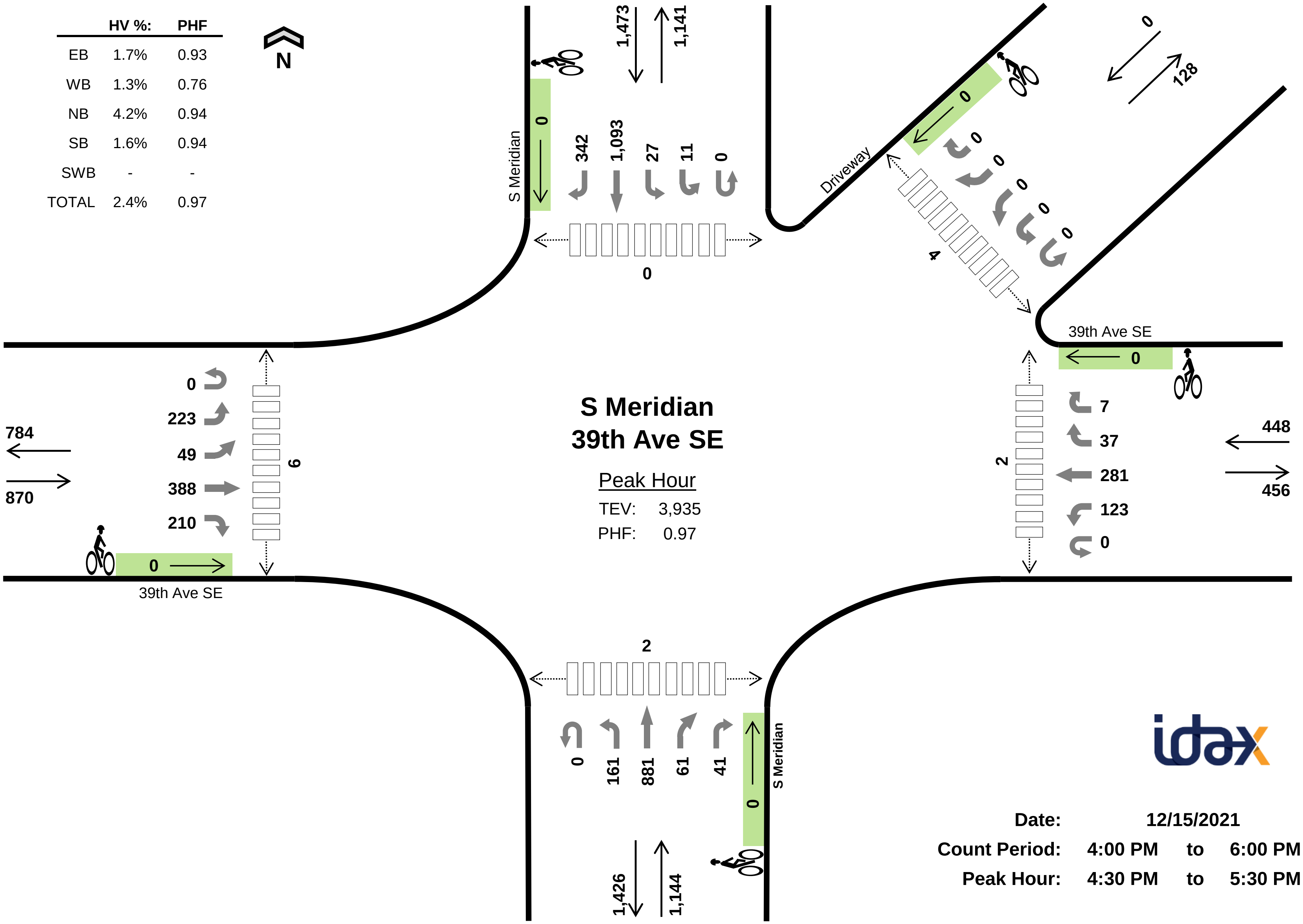
Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE					39th Ave SE					S Meridian					S Meridian					Driveway					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southwestbound						
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	2	0	2	2	0	0	1	0	0	0	1	5	0	3	0	0	0	9	1	0	0	0	0	0	26	0
7:15 AM	0	0	0	3	4	0	2	7	0	0	0	1	12	0	0	0	0	0	10	1	0	0	0	0	0	40	0
7:30 AM	0	3	0	3	1	0	0	0	0	0	0	1	6	0	1	0	0	0	16	0	0	0	0	0	0	31	0
7:45 AM	0	0	0	1	5	0	0	2	0	0	0	1	8	0	0	0	0	0	16	1	0	0	0	0	0	34	131
8:00 AM	**0**	**5**	**0**	**1**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**15**	**0**	**0**	**0**	**0**	**1**	**14**	**1**	**0**	**0**	**0**	**0**	**0**	**44**	149
8:15 AM	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**13**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**34**	143
8:30 AM	**0**	**3**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**20**	**0**	**1**	**0**	**0**	**0**	**6**	**2**	**0**	**0**	**0**	**0**	**0**	**39**	151
8:45 AM	**0**	**2**	**0**	**2**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**1**	**0**	**0**	**0**	**7**	**3**	**0**	**0**	**0**	**0**	**0**	**35**	**152**
Count Total	0	17	0	14	23	0	3	14	0	0	0	9	95	0	6	0	0	1	92	9	0	0	0	0	0	283	0
Peak Hour	**0**	**12**	**0**	**5**	**11**	**0**	**1**	**4**	**0**	**0**	**0**	**5**	**64**	**0**	**2**	**0**	**0**	**1**	**41**	**6**	**0**	**0**	**0**	**0**	**0**	152	**0**

Two-Hour Count Summaries - Bikes

Interval Start	39th Ave SE					39th Ave SE					S Meridian					S Meridian					Driveway					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southwestbound						
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	**0**

	HV %:	PHF
EB	1.7%	0.93
WB	1.3%	0.76
NB	4.2%	0.94
SB	1.6%	0.94
SWB	-	-
TOTAL	2.4%	0.97



Date: 12/15/2021

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM

Two-Hour Count Summaries

Interval Start	39th Ave SE Eastbound					39th Ave SE Westbound					S Meridian Northbound					S Meridian Southbound					Driveway Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	60	14	93	52	0	28	84	5	1	0	42	215	29	6	0	4	5	274	66	0	0	0	0	0	978	0
4:15 PM	0	37	8	46	44	0	18	48	6	1	0	54	232	21	7	0	2	6	273	90	0	0	0	0	0	893	0
4:30 PM	0	56	7	123	47	0	32	100	13	3	0	40	194	13	11	0	1	7	248	85	0	0	0	0	0	980	0
4:45 PM	0	58	11	92	57	0	35	65	10	0	0	42	231	13	9	0	3	6	299	82	0	0	0	0	0	1,013	3,864
5:00 PM	0	52	20	78	51	0	29	56	4	1	0	40	234	19	10	0	6	9	271	73	0	0	0	0	0	953	3,839
5:15 PM	0	57	11	95	55	0	27	60	10	3	0	39	222	16	11	0	1	5	275	102	0	0	0	0	0	989	3,935
5:30 PM	0	47	5	58	49	0	30	53	8	1	0	38	221	13	5	0	1	4	265	67	0	0	0	0	0	865	3,820
5:45 PM	0	45	11	67	57	0	26	50	7	0	0	42	201	12	6	0	2	7	285	62	0	0	0	0	0	880	3,687
Count Total	0	412	87	652	412	0	225	516	63	10	0	337	1,750	136	65	0	20	49	2,190	627	0	0	0	0	0	7,551	0
Peak Hour All	0	223	49	388	210	0	123	281	37	7	0	161	881	61	41	0	11	27	1,093	342	0	0	0	0	0	3,935	0
Peak Hour HV	0	5	0	4	6	0	2	2	2	0	0	6	42	0	0	0	2	1	17	4	0	0	0	0	0	93	0
Peak Hour HV%	-	2%	0%	1%	3%	-	2%	1%	5%	0%	-	4%	5%	0%	0%	-	18%	4%	2%	1%	-	-	-	-	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SWB	Total	EB	WB	NB	SB	SWB	Total	East	West	North	South	Northeast	Total
4:00 PM	3	6	7	5	0	*21*	0	0	0	0	0	*0*	1	0	0	0	1	*2*
4:15 PM	3	3	7	3	0	*16*	0	0	0	0	0	*0*	1	1	0	0	0	*2*
4:30 PM	5	3	8	6	0	*22*	0	0	0	0	0	*0*	2	3	0	0	1	*6*
4:45 PM	5	1	16	2	0	*24*	0	0	0	0	0	*0*	0	2	0	1	0	*3*
5:00 PM	1	1	11	11	0	*24*	0	0	0	0	0	*0*	0	0	0	0	1	*1*
5:15 PM	4	1	13	5	0	*23*	0	0	0	0	0	*0*	0	1	0	1	2	*4*
5:30 PM	1	0	10	2	0	*13*	0	0	0	0	0	*0*	0	1	0	0	0	*1*
5:45 PM	1	1	3	3	0	*8*	0	0	0	0	0	*0*	0	1	0	1	0	*2*
Count Total	23	16	75	37	0	*151*	0	0	0	0	0	*0*	4	9	0	3	5	*21*
Peak Hr	15	6	48	24	0	*93*	0	0	0	0	0	*0*	2	6	0	2	4	*14*

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE					39th Ave SE					S Meridian					S Meridian					Driveway					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southwestbound						
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	1	0	2	0	0	0	6	0	0	0	2	5	0	0	0	0	0	5	0	0	0	0	0	0	21	0
4:15 PM	0	1	0	1	1	0	0	3	0	0	0	1	5	0	1	0	0	0	3	0	0	0	0	0	0	16	0
4:30 PM	**0**	**2**	**0**	**2**	**1**	**0**	**2**	**1**	**0**	**0**	**0**	**2**	**6**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	0
4:45 PM	**0**	**2**	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**13**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	83
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**10**	**0**	**0**	**0**	**1**	**0**	**6**	**4**	**0**	**0**	**0**	**0**	**0**	**24**	86
5:15 PM	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**93**
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	1	9	0	0	0	0	0	2	0	0	0	0	0	0	13	84
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	1	2	0	0	0	0	0	3	0	0	0	0	0	0	8	68
Count Total	0	8	0	7	8	0	2	12	2	0	0	11	63	0	1	0	2	1	30	4	0	0	0	0	0	151	0
Peak Hour	**0**	**5**	**0**	**4**	**6**	**0**	**2**	**2**	**2**	**0**	**0**	**6**	**42**	**0**	**0**	**0**	**2**	**1**	**17**	**4**	**0**	**0**	**0**	**0**	**0**	93	**0**

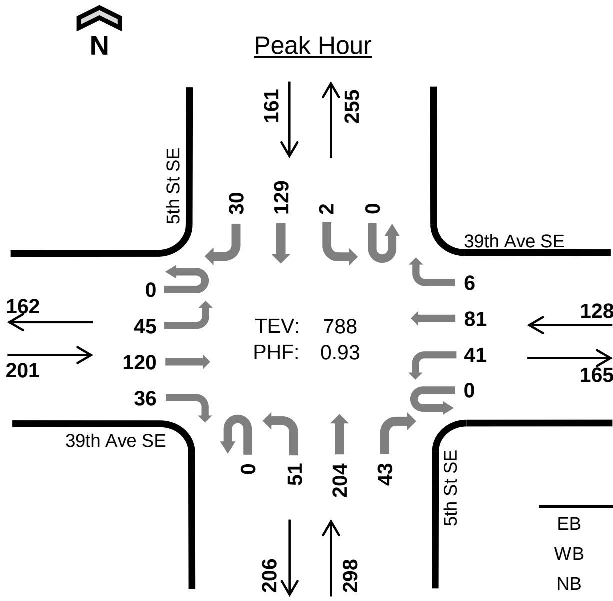
Two-Hour Count Summaries - Bikes

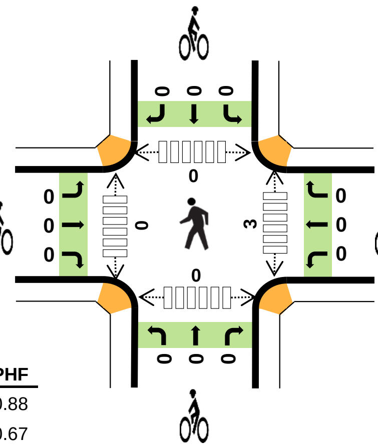
Interval Start	39th Ave SE					39th Ave SE					S Meridian					S Meridian					Driveway					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southwestbound						
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	**0**

5th St SE
39th Ave SE

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour





	HV %:	PHF
EB	3.0%	0.88
WB	4.7%	0.67
NB	1.0%	0.92
SB	1.2%	0.89
TOTAL	2.2%	0.93

Two-Hour Count Summaries

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	5th St SE Northbound UT	LT	TH	RT	5th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	6	32	4	0	9	15	3	0	9	63	12	0	0	12	3	168	0
7:15 AM	0	15	27	6	0	4	22	2	0	15	62	9	0	0	15	5	182	0
7:30 AM	0	16	20	5	0	6	17	3	0	14	62	7	0	0	32	0	182	0
7:45 AM	**0**	**8**	**37**	**7**	**0**	**19**	**29**	**0**	**0**	**11**	**51**	**9**	**0**	**0**	**29**	**11**	**211**	743
8:00 AM	**0**	**6**	**34**	**10**	**0**	**8**	**15**	**1**	**0**	**16**	**45**	**10**	**0**	**0**	**32**	**5**	**182**	757
8:15 AM	**0**	**16**	**30**	**11**	**0**	**7**	**18**	**2**	**0**	**13**	**53**	**9**	**0**	**2**	**31**	**6**	**198**	773
8:30 AM	**0**	**15**	**19**	**8**	**0**	**7**	**19**	**3**	**0**	**11**	**55**	**15**	**0**	**0**	**37**	**8**	**197**	788
8:45 AM	0	18	23	12	0	8	15	0	0	12	57	5	0	0	43	9	202	779
Count Total	0	100	222	63	0	68	150	14	0	101	448	76	0	2	231	47	1,522	0
Peak Hour All	**0**	**45**	**120**	**36**	**0**	**41**	**81**	**6**	**0**	**51**	**204**	**43**	**0**	**2**	**129**	**30**	**788**	**0**
Peak Hour HV	**0**	**2**	**4**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**1**	**17**	**0**
Peak Hour HV%	**-**	**4%**	**3%**	**0%**	**-**	**2%**	**6%**	**0%**	**-**	**0%**	**0%**	**5%**	**-**	**0%**	**1%**	**3%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	5	2	1	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	6	0	1	*8*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	2	0	0	0	*2*	0	0	0	0	*0*	1	0	0	0	*1*
7:45 AM	**1**	**2**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**2**	**1**	**1**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**1**	**2**	**0**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**0**	*3*
8:30 AM	**2**	**1**	**2**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:45 AM	3	0	1	0	*4*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	17	14	5	3	*39*	0	0	0	0	*0*	5	0	0	0	*5*
Peak Hour	**6**	**6**	**3**	**2**	***17***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**0**	***3***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	5th St SE Northbound UT	LT	TH	RT	5th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	5	0	0	0	2	0	0	0	0	1	0	0	0	0	8	0
7:15 AM	0	0	1	0	0	0	6	0	0	0	0	0	0	0	1	0	8	0
7:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	21
8:00 AM	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	17
8:15 AM	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**5**	14
8:30 AM	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**5**	**17**
8:45 AM	0	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	4	18
Count Total	0	3	13	1	0	1	13	0	0	0	2	3	0	0	2	1	39	0
Peak Hour	**0**	**2**	**4**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**1**	**17**	**0**

Two-Hour Count Summaries - Bikes

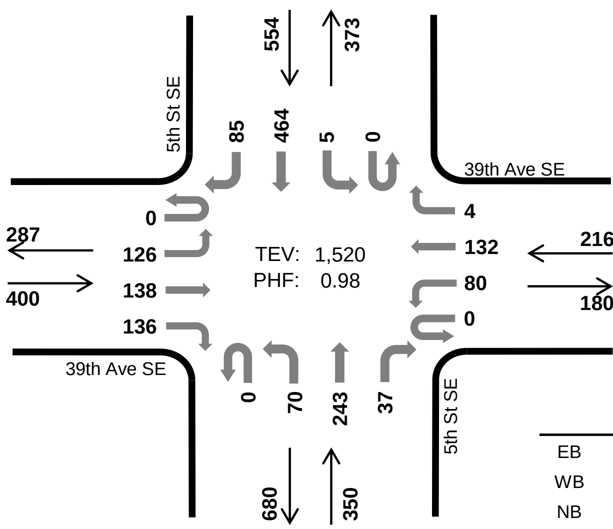
Interval Start	39th Ave SE Eastbound LT	TH	RT	39th Ave SE Westbound LT	TH	RT	5th St SE Northbound LT	TH	RT	5th St SE Southbound LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

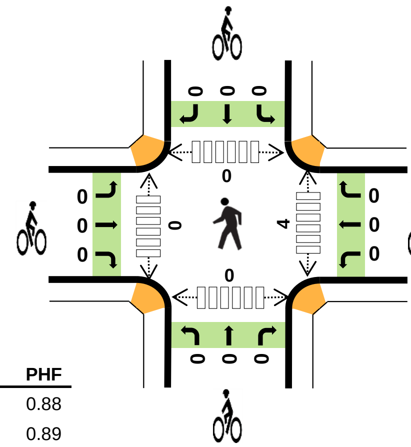
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

5th St SE
39th Ave SE

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	1.8%	0.88
WB	3.2%	0.89
NB	0.3%	0.97
SB	0.7%	0.88
TOTAL	1.3%	0.98

Two-Hour Count Summaries

Interval Start		39th Ave SE Eastbound UT	LT	TH	RT	39th Ave SE Westbound UT	LT	TH	RT	5th St SE Northbound UT	LT	TH	RT	5th St SE Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	16	41	30	0	17	40	0	0	16	55	7	0	0	114	17	353	0
4:15 PM		**0**	**32**	**24**	**25**	**0**	**19**	**32**	**2**	**0**	**15**	**61**	**14**	**0**	**0**	**136**	**21**	**381**	0
4:30 PM		**0**	**35**	**34**	**41**	**0**	**26**	**35**	**0**	**0**	**18**	**58**	**9**	**0**	**0**	**104**	**28**	**388**	0
4:45 PM		**0**	**32**	**34**	**29**	**0**	**17**	**30**	**2**	**0**	**20**	**64**	**6**	**0**	**1**	**107**	**20**	**362**	1,484
5:00 PM		**0**	**27**	**46**	**41**	**0**	**18**	**35**	**0**	**0**	**17**	**60**	**8**	**0**	**4**	**117**	**16**	**389**	**1,520**
5:15 PM		0	27	38	45	0	17	27	0	0	12	57	8	0	1	104	17	353	1,492
5:30 PM		0	27	34	26	0	16	20	0	0	16	43	11	0	1	110	20	324	1,428
5:45 PM		0	17	31	27	0	11	24	0	0	12	42	7	0	0	94	16	281	1,347
Count Total		0	213	282	264	0	141	243	4	0	126	440	70	0	7	886	155	2,831	0
Peak Hour	**All**	**0**	**126**	**138**	**136**	**0**	**80**	**132**	**4**	**0**	**70**	**243**	**37**	**0**	**5**	**464**	**85**	**1,520**	**0**
	HV	**0**	**0**	**4**	**3**	**0**	**1**	**4**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**2**	**19**	**0**
	HV%	**-**	**0%**	**3%**	**2%**	**-**	**1%**	**3%**	**50%**	**-**	**0%**	**0%**	**0%**	**-**	**20%**	**0%**	**2%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	2	2	1	3	*8*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**2**	**4**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:30 PM	**2**	**1**	**0**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:45 PM	**2**	**1**	**1**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**1**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	1	0	1	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	0	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	10	10	3	10	*33*	0	0	0	0	*0*	4	0	0	0	*4*
Peak Hour	**7**	**7**	**1**	**4**	***19***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SE Eastbound				39th Ave SE Westbound				5th St SE Northbound				5th St SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	1	0	0	0	2	0	0	1	0	0	0	0	0	3	8	0
4:15 PM	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	0
4:30 PM	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**5**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**5**	24
5:00 PM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**19**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	14
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	3	12
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	9
Count Total	0	1	6	3	0	1	7	2	0	1	1	1	0	2	3	5	33	0
Peak Hour	**0**	**0**	**4**	**3**	**0**	**1**	**4**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**2**	**19**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	39th Ave SE Eastbound			39th Ave SE Westbound			5th St SE Northbound			5th St SE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

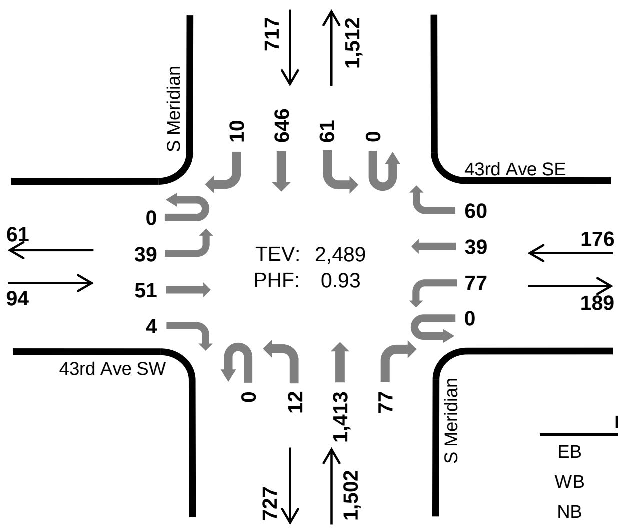
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

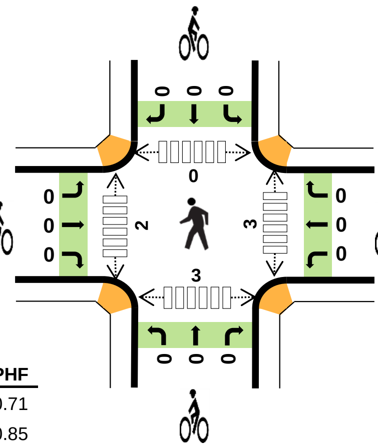
S Meridian
43rd Ave SW

Date: 12/15/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM

N

Peak Hour





	HV %:	PHF
EB	4.3%	0.71
WB	4.5%	0.85
NB	3.1%	0.86
SB	10.5%	0.90
TOTAL	5.3%	0.93

Two-Hour Count Summaries

Interval Start		43rd Ave SW Eastbound UT	LT	TH	RT	43rd Ave SE Westbound UT	LT	TH	RT	S Meridian Northbound UT	LT	TH	RT	S Meridian Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM		0	5	8	1	0	19	5	10	0	1	365	26	0	14	108	2	564	0
7:15 AM		**0**	**6**	**6**	**0**	**0**	**13**	**5**	**12**	**0**	**1**	**418**	**19**	**0**	**10**	**175**	**2**	**667**	0
7:30 AM		**0**	**8**	**12**	**1**	**0**	**16**	**12**	**19**	**0**	**5**	**346**	**20**	**0**	**19**	**137**	**1**	**596**	0
7:45 AM		**0**	**9**	**19**	**0**	**0**	**28**	**13**	**11**	**0**	**3**	**292**	**24**	**0**	**17**	**179**	**4**	**599**	2,426
8:00 AM		**0**	**16**	**14**	**3**	**0**	**20**	**9**	**18**	**0**	**3**	**357**	**14**	**0**	**15**	**155**	**3**	**627**	**2,489**
8:15 AM		0	13	17	4	0	20	10	17	0	3	294	19	0	24	199	2	622	2,444
8:30 AM		0	9	15	2	0	24	13	22	0	2	327	18	0	16	161	4	613	2,461
8:45 AM		0	10	21	2	0	32	19	17	0	7	280	22	0	24	165	4	603	2,465
Count Total		0	76	112	13	0	172	86	126	0	25	2,679	162	0	139	1,279	22	4,891	0
Peak Hour	**All**	**0**	**39**	**51**	**4**	**0**	**77**	**39**	**60**	**0**	**12**	**1,413**	**77**	**0**	**61**	**646**	**10**	**2,489**	**0**
	HV	**0**	**3**	**1**	**0**	**0**	**2**	**1**	**5**	**0**	**0**	**43**	**3**	**0**	**11**	**62**	**2**	**133**	**0**
	HV%	**-**	**8%**	**2%**	**0%**	**-**	**3%**	**3%**	**8%**	**-**	**0%**	**3%**	**4%**	**-**	**18%**	**10%**	**20%**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	1	11	12	*24*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**1**	**3**	**11**	**16**	***31***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:30 AM	**1**	**2**	**9**	**18**	***30***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:45 AM	**1**	**2**	**9**	**20**	***32***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**0**	**3**	*6*
8:00 AM	**1**	**1**	**17**	**21**	***40***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	2	18	18	*38*	0	0	0	0	*0*	0	1	0	1	*2*
8:30 AM	3	1	25	7	*36*	0	0	0	0	*0*	1	0	0	1	*2*
8:45 AM	0	0	18	13	*31*	0	0	0	0	*0*	0	1	1	0	*2*
Count Total	7	12	118	125	*262*	0	0	0	0	*0*	4	4	1	5	*14*
Peak Hour	**4**	**8**	**46**	**75**	***133***	**0**	**0**	**0**	**0**	***0***	**3**	**2**	**0**	**3**	***8***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	43rd Ave SW				43rd Ave SE				S Meridian				S Meridian				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	10	1	0	1	10	1	24	0
7:15 AM	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**9**	**2**	**0**	**2**	**14**	**0**	**31**	0
7:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**9**	**0**	**0**	**2**	**16**	**0**	**30**	0
7:45 AM	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**9**	**0**	**0**	**3**	**17**	**0**	**32**	117
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**16**	**1**	**0**	**4**	**15**	**2**	**40**	**133**
8:15 AM	0	0	0	0	0	1	1	0	0	0	17	1	0	1	17	0	38	140
8:30 AM	0	1	2	0	0	0	0	1	0	0	23	2	0	0	7	0	36	146
8:45 AM	0	0	0	0	0	0	0	0	0	0	17	1	0	2	11	0	31	145
Count Total	0	4	3	0	0	3	2	7	0	0	110	8	0	15	107	3	262	0
Peak Hour	**0**	**3**	**1**	**0**	**0**	**2**	**1**	**5**	**0**	**0**	**43**	**3**	**0**	**11**	**62**	**2**	**133**	**0**

Two-Hour Count Summaries - Bikes

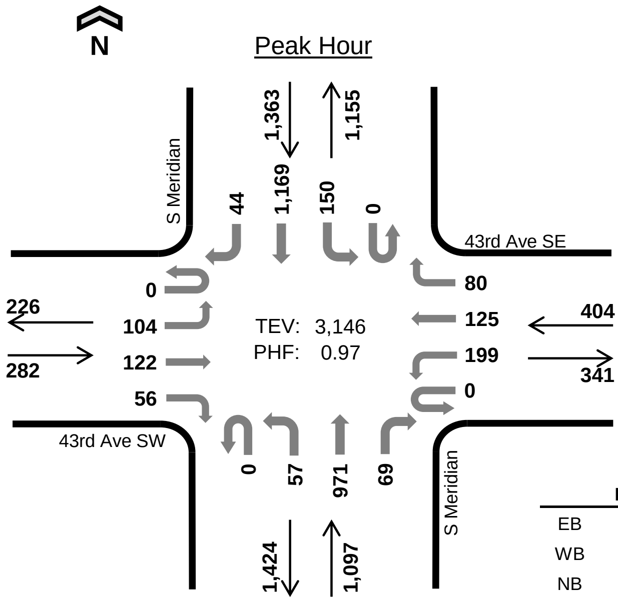
Interval Start	43rd Ave SW			43rd Ave SE			S Meridian			S Meridian			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

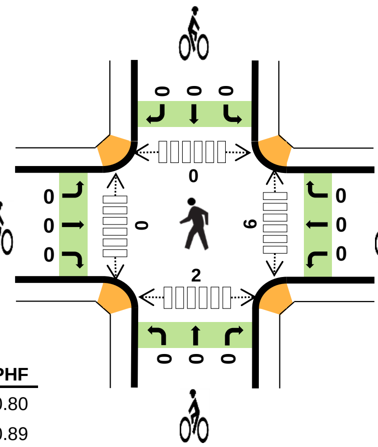
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Meridian
43rd Ave SW

Date: 12/15/2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour





	HV %:	PHF
EB	1.1%	0.80
WB	2.0%	0.89
NB	4.5%	0.98
SB	1.2%	0.92
TOTAL	2.4%	0.97

Two-Hour Count Summaries

Interval Start	43rd Ave SW Eastbound UT	LT	TH	RT	43rd Ave SE Westbound UT	LT	TH	RT	S Meridian Northbound UT	LT	TH	RT	S Meridian Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	17	40	15	0	57	41	24	0	14	238	24	0	43	277	12	802	0
4:15 PM	0	24	25	6	0	52	31	26	0	12	244	17	0	46	264	13	760	0
4:30 PM	0	23	19	14	0	65	40	23	0	12	223	20	0	37	257	11	744	0
4:45 PM	**0**	**27**	**26**	**14**	**0**	**54**	**32**	**26**	**0**	**10**	**236**	**17**	**0**	**37**	**325**	**10**	**814**	3,120
5:00 PM	**0**	**33**	**36**	**19**	**0**	**53**	**39**	**22**	**0**	**14**	**244**	**20**	**0**	**36**	**263**	**12**	**791**	3,109
5:15 PM	**0**	**25**	**33**	**12**	**0**	**45**	**29**	**14**	**0**	**13**	**256**	**8**	**0**	**40**	**306**	**11**	**792**	3,141
5:30 PM	**0**	**19**	**27**	**11**	**0**	**47**	**25**	**18**	**0**	**20**	**235**	**24**	**0**	**37**	**275**	**11**	**749**	**3,146**
5:45 PM	0	18	24	12	0	47	32	26	0	16	219	15	0	42	300	8	759	3,091
Count Total	0	186	230	103	0	420	269	179	0	111	1,895	145	0	318	2,267	88	6,211	0
Peak Hour All	**0**	**104**	**122**	**56**	**0**	**199**	**125**	**80**	**0**	**57**	**971**	**69**	**0**	**150**	**1,169**	**44**	**3,146**	**0**
Peak Hour HV	**0**	**1**	**2**	**0**	**0**	**2**	**1**	**5**	**0**	**0**	**49**	**0**	**0**	**3**	**14**	**0**	**77**	**0**
Peak Hour HV%	**-**	**1%**	**2%**	**0%**	**-**	**1%**	**1%**	**6%**	**-**	**0%**	**5%**	**0%**	**-**	**2%**	**1%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	1	8	6	*16*	0	0	0	0	*0*	2	0	0	2	*4*
4:15 PM	0	1	14	6	*21*	0	0	0	0	*0*	0	0	0	4	*4*
4:30 PM	0	2	5	10	*17*	0	0	0	0	*0*	1	0	0	1	*2*
4:45 PM	**0**	**3**	**17**	**2**	***22***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	*2*
5:00 PM	**2**	**1**	**8**	**7**	***18***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	*2*
5:15 PM	**1**	**3**	**14**	**8**	***26***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
5:30 PM	**0**	**1**	**10**	**0**	***11***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***
5:45 PM	0	1	4	6	*11*	0	0	0	0	*0*	0	0	0	2	*2*
Count Total	4	13	80	45	*142*	0	0	0	0	*0*	9	0	0	11	*20*
Peak Hour	**3**	**8**	**49**	**17**	***77***	**0**	**0**	**0**	**0**	***0***	**6**	**0**	**0**	**2**	***8***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	43rd Ave SW				43rd Ave SE				S Meridian				S Meridian				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	1	0	0	8	0	0	0	6	0	16	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	13	1	0	1	5	0	21	0
4:30 PM	0	0	0	0	0	1	0	1	0	0	5	0	0	1	9	0	17	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**17**	**0**	**0**	**1**	**1**	**0**	**22**	76
5:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**8**	**0**	**0**	**1**	**6**	**0**	**18**	78
5:15 PM	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**14**	**0**	**0**	**1**	**7**	**0**	**26**	83
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**11**	**77**
5:45 PM	0	0	0	0	0	1	0	0	0	0	4	0	0	2	4	0	11	66
Count Total	0	1	3	0	0	4	1	8	0	0	79	1	0	7	38	0	142	0
Peak Hour	**0**	**1**	**2**	**0**	**0**	**2**	**1**	**5**	**0**	**0**	**49**	**0**	**0**	**3**	**14**	**0**	**77**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	43rd Ave SW			43rd Ave SE			S Meridian			S Meridian			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix B

LOS Result Worksheets

Existing 2021 AM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	18	186	19	58	214
Future Volume (vph)	6	18	186	19	58	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		-4%			0%
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	771		286			501
Travel Time (s)	21.0		7.8			13.7
Confl. Peds. (#/hr)	1					
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	18	186	19	58	214
Future Vol, veh/h	6	18	186	19	58	214
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-4	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	2	2	3	3
Mvmt Flow	7	20	204	21	64	235

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	579	215	0	0	225	0
Stage 1	215	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	481	830	-	-	1338	-
Stage 1	826	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	457	830	-	-	1338	-
Mov Cap-2 Maneuver	541	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	672	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.7
HCM LOS	B		

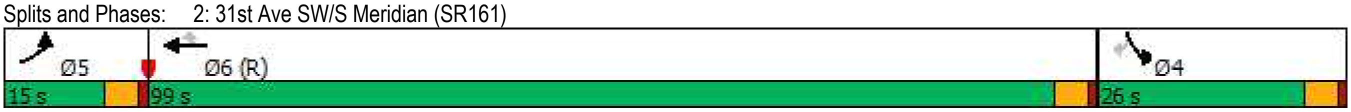
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	732	1338	-
HCM Lane V/C Ratio	-	-	0.036	0.048	-
HCM Control Delay (s)	-	-	10.1	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	319	778	1179	704	171	212
Future Volume (vph)	319	778	1179	704	171	212
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Storage Length (ft)	250			0	0	175
Storage Lanes	2			1	2	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		370	339		787	
Travel Time (s)		7.2	6.6		15.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0		10.0	10.0	8.0	8.0
Minimum Split (s)	12.6		20.6	20.6	12.6	12.6
Total Split (s)	15.0		99.0	99.0	26.0	26.0
Total Split (%)	10.7%		70.7%	70.7%	18.6%	18.6%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		C-Min	C-Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 41 (29%), Referenced to phase 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
! Phase conflict between lane groups.

Splits and Phases: 2: 31st Ave SW/S Meridian (SR161)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	319	778	1179	704	171	212
Future Volume (vph)	319	778	1179	704	171	212
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Total Lost time (s)	4.6	4.0	4.6	4.6	4.6	4.6
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3038	3132	3387	1515	3252	1500
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3038	3132	3387	1515	3252	1500
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	339	828	1254	749	182	226
RTOR Reduction (vph)	0	0	0	296	0	173
Lane Group Flow (vph)	339	828	1254	453	182	53
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Actuated Green, G (s)	29.4	140.0	83.6	83.6	13.2	13.2
Effective Green, g (s)	29.4	140.0	83.6	83.6	13.2	13.2
Actuated g/C Ratio	0.21	1.00	0.60	0.60	0.09	0.09
Clearance Time (s)	4.6		4.6	4.6	4.6	4.6
Vehicle Extension (s)	2.5		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	637	3132	2022	904	306	141
v/s Ratio Prot	c0.11	0.26	c0.37		c0.06	
v/s Ratio Perm				0.30		0.04
v/c Ratio	0.53	0.26	0.62	0.50	0.59	0.38
Uniform Delay, d1	49.2	0.0	18.0	16.2	60.8	59.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	1.4	2.0	2.6	1.2
Delay (s)	49.9	0.2	19.5	18.2	63.4	60.8
Level of Service	D	A	B	B	E	E
Approach Delay (s)		14.6	19.0		61.9	
Approach LOS		B	B		E	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	20	25	51	27	352	15	1481	32	257	630	25
Future Volume (vph)	22	20	25	51	27	352	15	1481	32	257	630	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	250		0	225		0	350		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		242			1349			645			449	
Travel Time (s)		6.6			26.3			12.6			8.7	
Confl. Peds. (#/hr)						1						1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			Free						
Detector Phase	3	8	8	7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	8.6	10.6	10.6	10.6	35.6		10.6	28.6		10.6	31.6	
Total Split (s)	15.0	25.0	25.0	27.0	37.0		15.0	68.0		20.0	73.0	
Total Split (%)	10.7%	17.9%	17.9%	19.3%	26.4%		10.7%	48.6%		14.3%	52.1%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 44 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 3: S Meridian (SR161) & 37th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	20	25	51	27	352	15	1481	32	257	630	25
Future Volume (veh/h)	22	20	25	51	27	352	15	1481	32	257	630	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1758	1758	1758	1772	1772	1772	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	23	21	26	53	28	0	16	1543	33	268	656	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	8	8	8
Cap, veh/h	28	120	54	68	105		33	2315	49	312	3560	
Arrive On Green	0.02	0.04	0.04	0.04	0.06	0.00	0.04	1.00	1.00	0.10	0.77	0.00
Sat Flow, veh/h	1674	3340	1490	1688	1772	1502	1674	3344	71	3118	4759	0
Grp Volume(v), veh/h	23	21	26	53	28	0	16	770	806	268	656	0
Grp Sat Flow(s),veh/h/ln	1674	1670	1490	1688	1772	1502	1674	1670	1745	1559	1536	0
Q Serve(g_s), s	1.9	0.9	2.4	4.4	2.1	0.0	1.3	0.0	0.0	11.8	5.3	0.0
Cycle Q Clear(g_c), s	1.9	0.9	2.4	4.4	2.1	0.0	1.3	0.0	0.0	11.8	5.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	28	120	54	68	105		33	1156	1208	312	3560	
V/C Ratio(X)	0.81	0.17	0.49	0.78	0.27		0.48	0.67	0.67	0.86	0.18	
Avail Cap(c_a), veh/h	124	487	217	270	410		124	1156	1208	343	3560	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.00	0.69	0.69	0.69	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.6	65.5	66.2	66.6	63.0	0.0	66.5	0.0	0.0	62.0	4.2	0.0
Incr Delay (d2), s/veh	46.6	0.7	6.7	16.8	1.4	0.0	7.3	2.1	2.0	18.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.4	1.0	2.2	1.0	0.0	0.6	0.7	0.7	5.5	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.1	66.2	72.9	83.4	64.3	0.0	73.8	2.1	2.0	80.1	4.3	0.0
LnGrp LOS	F	E	E	F	E		E	A	A	F	A	
Approach Vol, veh/h		70			81	A		1592			924	A
Approach Delay, s/veh		84.7			76.8			2.8			26.3	
Approach LOS		F			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	112.8	7.0	12.9	18.6	101.6	10.2	9.6
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	10.4	68.4	10.4	32.4	15.4	63.4	22.4	20.4
Max Q Clear Time (g_c+I1), s	3.3	7.3	3.9	4.1	13.8	2.0	6.4	4.4
Green Ext Time (p_c), s	0.0	6.3	0.0	0.1	0.1	23.1	0.1	0.1

Intersection Summary			
HCM 6th Ctrl Delay			15.3
HCM 6th LOS			B

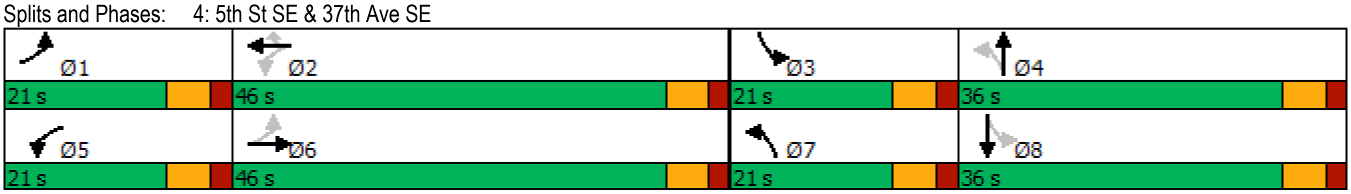
Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	262	25	12	292	134	70	187	11	112	158	46
Future Volume (vph)	32	262	25	12	292	134	70	187	11	112	158	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			0%			-5%	
Storage Length (ft)	200		0	225		150	200		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1349			1181			965			418	
Travel Time (s)		26.3			23.0			21.9			11.4	
Confl. Peds. (#/hr)	1					1			4			4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	4			8		
Detector Phase	1	6		5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0	26.0	11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0	46.0	21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%	37.1%	16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 56	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 4: 5th St SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	262	25	12	292	134	70	187	11	112	158	46
Future Volume (veh/h)	32	262	25	12	292	134	70	187	11	112	158	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1973	1973	1973	1870	1870	1870	2037	2037	2037
Adj Flow Rate, veh/h	36	294	28	13	328	0	79	210	0	126	178	52
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	4	4	4
Cap, veh/h	338	718	68	333	749		396	387		436	336	98
Arrive On Green	0.04	0.22	0.22	0.02	0.20	0.00	0.07	0.21	0.00	0.08	0.22	0.22
Sat Flow, veh/h	1753	3228	305	1879	3749	1672	1781	1870	0	1940	1512	442
Grp Volume(v), veh/h	36	158	164	13	328	0	79	210	0	126	0	230
Grp Sat Flow(s),veh/h/ln	1753	1749	1785	1879	1874	1672	1781	1870	0	1940	0	1954
Q Serve(g_s), s	0.8	3.9	4.0	0.3	3.9	0.0	1.7	5.1	0.0	2.5	0.0	5.3
Cycle Q Clear(g_c), s	0.8	3.9	4.0	0.3	3.9	0.0	1.7	5.1	0.0	2.5	0.0	5.3
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.00	1.00		0.23
Lane Grp Cap(c), veh/h	338	389	397	333	749		396	387		436	0	435
V/C Ratio(X)	0.11	0.41	0.41	0.04	0.44		0.20	0.54		0.29	0.00	0.53
Avail Cap(c_a), veh/h	787	1377	1406	857	2952		804	1105		850	0	1154
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	16.9	16.9	15.8	17.8	0.0	14.3	18.0	0.0	14.0	0.0	17.4
Incr Delay (d2), s/veh	0.1	0.7	0.7	0.0	0.4	0.0	0.2	1.2	0.0	0.4	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	1.5	0.1	1.5	0.0	0.6	2.1	0.0	1.0	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	17.6	17.6	15.8	18.2	0.0	14.5	19.2	0.0	14.4	0.0	18.4
LnGrp LOS	B	B	B	B	B		B	B		B	A	B
Approach Vol, veh/h		358			341	A		289	A		356	
Approach Delay, s/veh		17.3			18.1			17.9			17.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	16.1	10.2	16.5	6.8	17.3	9.4	17.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	2.8	5.9	4.5	7.1	2.3	6.0	3.7	7.3
Green Ext Time (p_c), s	0.0	2.2	0.2	1.1	0.0	1.9	0.1	1.4

Intersection Summary			
HCM 6th Ctrl Delay			17.6
HCM 6th LOS			B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	342	1	150	502	1	0	7	253	4	3	7
Future Volume (vph)	8	342	1	150	502	1	0	7	253	4	3	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			3%			0%	
Storage Length (ft)	225		0	200		0	200		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1181			510			1162			264	
Travel Time (s)		23.0			9.9			22.6			7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	14%	14%	14%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.0	16.0	12.0	11.0	34.0	
Total Split (s)	23.0	42.0		23.0	42.0		22.0	22.0	23.0	22.0	22.0	
Total Split (%)	21.1%	38.5%		21.1%	38.5%		20.2%	20.2%	21.1%	20.2%	20.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	7.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary

Area Type: Other

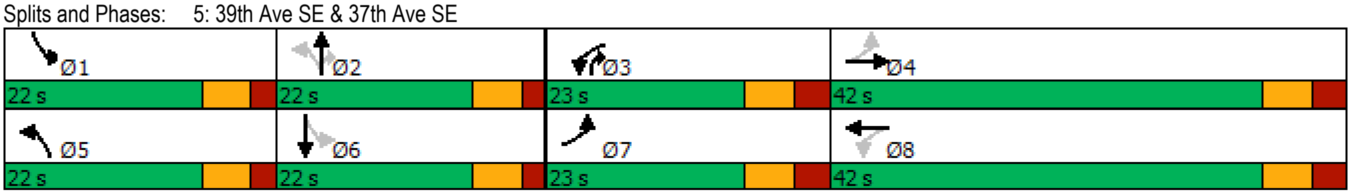
Cycle Length: 109

Actuated Cycle Length: 39.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: 39th Ave SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	342	1	150	502	1	0	7	253	4	3	7
Future Volume (veh/h)	8	342	1	150	502	1	0	7	253	4	3	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1629	1629	1629	2052	2052	2052	1803	1803	1803	1693	1693	1693
Adj Flow Rate, veh/h	9	376	1	165	552	1	0	8	278	4	3	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	3	3	3	3	3	3	14	14	14
Cap, veh/h	294	696	2	448	1216	2	406	360	453	335	129	343
Arrive On Green	0.01	0.22	0.22	0.10	0.30	0.30	0.00	0.20	0.20	0.01	0.32	0.32
Sat Flow, veh/h	1551	3166	8	1954	3992	7	1717	1803	1528	1612	408	1088
Grp Volume(v), veh/h	9	184	193	165	269	284	0	8	278	4	0	11
Grp Sat Flow(s),veh/h/ln	1551	1547	1627	1954	1949	2050	1717	1803	1528	1612	0	1497
Q Serve(g_s), s	0.2	5.7	5.7	3.4	6.1	6.1	0.0	0.2	8.5	0.1	0.0	0.3
Cycle Q Clear(g_c), s	0.2	5.7	5.7	3.4	6.1	6.1	0.0	0.2	8.5	0.1	0.0	0.3
Prop In Lane	1.00		0.01	1.00		0.00	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	294	340	358	448	594	625	406	360	453	335	0	472
V/C Ratio(X)	0.03	0.54	0.54	0.37	0.45	0.45	0.00	0.02	0.61	0.01	0.00	0.02
Avail Cap(c_a), veh/h	733	997	1048	834	1255	1321	908	531	597	801	0	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	18.8	18.8	14.2	15.2	15.2	0.0	17.5	16.4	15.7	0.0	12.8
Incr Delay (d2), s/veh	0.0	2.8	2.7	0.5	1.2	1.1	0.0	0.0	1.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	2.2	1.4	2.5	2.6	0.0	0.1	2.7	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	21.6	21.5	14.7	16.4	16.3	0.0	17.5	17.8	15.7	0.0	12.8
LnGrp LOS	B	C	C	B	B	B	A	B	B	B	A	B
Approach Vol, veh/h		386			718			286			15	
Approach Delay, s/veh		21.4			16.0			17.8			13.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	16.9	12.2	18.9	0.0	23.1	7.6	23.6
Change Period (Y+Rc), s	6.0	6.0	7.0	7.0	6.0	6.0	7.0	7.0
Max Green Setting (Gmax), s	16.0	16.0	16.0	35.0	16.0	16.0	16.0	35.0
Max Q Clear Time (g_c+I1), s	2.1	10.5	5.4	7.7	0.0	2.3	2.2	8.1
Green Ext Time (p_c), s	0.0	0.5	0.3	4.2	0.0	0.0	0.0	6.5

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	458	44	67	550	12	85	20	88	1	1	13
Future Volume (vph)	91	458	44	67	550	12	85	20	88	1	1	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-5%			-6%			-4%	
Storage Length (ft)	150		0	200		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		510			1994			256			231	
Travel Time (s)		9.9			38.8			5.8			6.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	3%	3%	3%	13%	13%	13%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.3	30.3		11.3	30.3		10.5	25.5		10.5	25.5	
Total Split (s)	21.3	51.3		21.3	51.3		21.3	21.3		21.3	21.3	
Total Split (%)	18.5%	44.5%		18.5%	44.5%		18.5%	18.5%		18.5%	18.5%	
Yellow Time (s)	4.3	4.3		4.3	4.3		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 115.2	
Actuated Cycle Length: 52.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 6: 10th St SE & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	458	44	67	550	12	85	20	88	1	1	13
Future Volume (veh/h)	91	458	44	67	550	12	85	20	88	1	1	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	2037	2037	2037	2091	2091	2091	1862	1862	1862
Adj Flow Rate, veh/h	100	503	48	74	604	13	93	22	97	1	1	14
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4	3	3	3	13	13	13
Cap, veh/h	404	975	93	431	1128	24	410	53	233	256	9	127
Arrive On Green	0.08	0.30	0.30	0.06	0.29	0.29	0.07	0.16	0.16	0.00	0.09	0.09
Sat Flow, veh/h	1753	3227	307	1940	3873	83	1991	337	1486	1774	106	1488
Grp Volume(v), veh/h	100	272	279	74	302	315	93	0	119	1	0	15
Grp Sat Flow(s),veh/h/ln	1753	1749	1785	1940	1935	2022	1991	0	1823	1774	0	1594
Q Serve(g_s), s	1.9	6.4	6.4	1.3	6.5	6.5	2.0	0.0	2.9	0.0	0.0	0.4
Cycle Q Clear(g_c), s	1.9	6.4	6.4	1.3	6.5	6.5	2.0	0.0	2.9	0.0	0.0	0.4
Prop In Lane	1.00		0.17	1.00		0.04	1.00		0.82	1.00		0.93
Lane Grp Cap(c), veh/h	404	528	539	431	563	589	410	0	285	256	0	136
V/C Ratio(X)	0.25	0.51	0.52	0.17	0.54	0.54	0.23	0.00	0.42	0.00	0.00	0.11
Avail Cap(c_a), veh/h	802	1586	1619	893	1755	1833	899	0	581	818	0	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	14.3	14.3	11.1	14.8	14.8	18.4	0.0	18.9	20.7	0.0	21.0
Incr Delay (d2), s/veh	0.3	1.1	1.1	0.2	1.1	1.1	0.3	0.0	1.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	2.3	0.5	2.6	2.7	0.9	0.0	1.2	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	15.4	15.4	11.3	15.9	15.9	18.7	0.0	19.9	20.7	0.0	21.3
LnGrp LOS	B	B	B	B	B	B	B	A	B	C	A	C
Approach Vol, veh/h		651			691			212			16	
Approach Delay, s/veh		14.8			15.4			19.3			21.3	
Approach LOS		B			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	20.7	5.6	13.3	9.5	21.3	9.1	9.7				
Change Period (Y+Rc), s	6.3	6.3	5.5	5.5	6.3	6.3	5.5	5.5				
Max Green Setting (Gmax), s	15.0	45.0	15.8	15.8	15.0	45.0	15.8	15.8				
Max Q Clear Time (g_c+I1), s	3.9	8.5	2.0	4.9	3.3	8.4	4.0	2.4				
Green Ext Time (p_c), s	0.2	5.9	0.0	0.4	0.1	5.2	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	195	319	581	116	34	58
Future Volume (vph)	195	319	581	116	34	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	-5%		0%	
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		25	
Link Distance (ft)		1994	773		209	
Travel Time (s)		38.8	15.1		5.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	3%	3%	40%	40%
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	5.0
Minimum Split (s)	11.3	16.3	35.3		34.5	34.5
Total Split (s)	31.3	46.3	46.3		50.5	50.5
Total Split (%)	24.4%	36.1%	36.1%		39.4%	39.4%
Yellow Time (s)	4.0	4.0	4.0		3.5	3.5
All-Red Time (s)	2.3	2.3	2.3		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3		5.5	5.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other

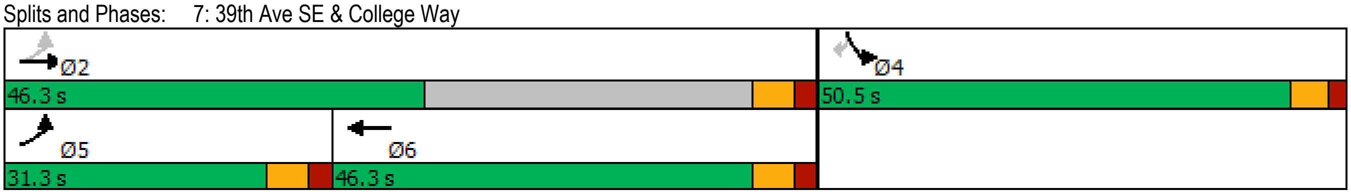
Cycle Length: 128.1

Actuated Cycle Length: 56.9

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: 39th Ave SE & College Way



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	195	319	581	116	34	58
Future Volume (veh/h)	195	319	581	116	34	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1811	1811	2052	2052	1307	1307
Adj Flow Rate, veh/h	205	336	612	122	36	61
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	3	3	40	40
Cap, veh/h	513	2112	1083	215	104	92
Arrive On Green	0.12	0.61	0.33	0.33	0.08	0.08
Sat Flow, veh/h	1725	3532	3343	645	1245	1108
Grp Volume(v), veh/h	205	336	368	366	36	61
Grp Sat Flow(s),veh/h/ln	1725	1721	1949	1936	1245	1108
Q Serve(g_s), s	2.6	1.6	6.0	6.1	1.1	2.1
Cycle Q Clear(g_c), s	2.6	1.6	6.0	6.1	1.1	2.1
Prop In Lane	1.00			0.33	1.00	1.00
Lane Grp Cap(c), veh/h	513	2112	651	647	104	92
V/C Ratio(X)	0.40	0.16	0.56	0.57	0.35	0.66
Avail Cap(c_a), veh/h	1417	3534	2001	1988	1438	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.6	3.2	10.6	10.6	16.8	17.3
Incr Delay (d2), s/veh	0.5	0.0	0.8	0.8	2.4	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.2	2.0	2.0	0.3	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	3.3	11.4	11.4	19.2	26.6
LnGrp LOS	A	A	B	B	B	C
Approach Vol, veh/h		541	734		97	
Approach Delay, s/veh		4.7	11.4		23.9	
Approach LOS		A	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.2		8.7	10.9	19.3
Change Period (Y+Rc), s		* 6.3		5.5	* 6.3	* 6.3
Max Green Setting (Gmax), s		* 40		45.0	* 25	* 40
Max Q Clear Time (g_c+I1), s		3.6		4.1	4.6	8.1
Green Ext Time (p_c), s		2.3		0.4	0.5	5.0
Intersection Summary						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			A			

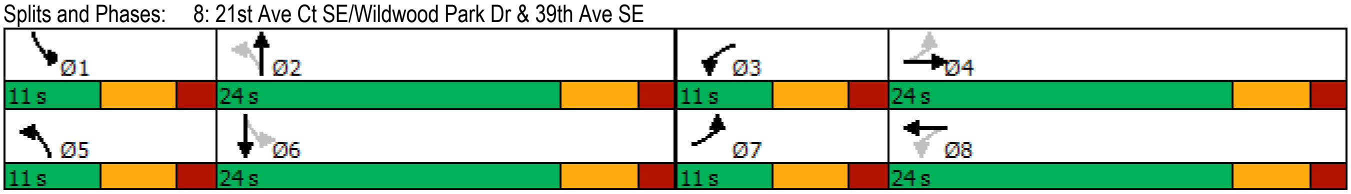
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	207	12	4	396	90	46	29	11	96	15	150
Future Volume (vph)	108	207	12	4	396	90	46	29	11	96	15	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			6%	
Storage Length (ft)	125		0	125		0	50		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		384			416			287			528	
Travel Time (s)		7.5			8.1			7.8			14.4	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 52.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: 21st Ave Ct SE/Wildwood Park Dr & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	207	12	4	396	90	46	29	11	96	15	150
Future Volume (veh/h)	108	207	12	4	396	90	46	29	11	96	15	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	2027	2027	2027	1870	1870	1870	1614	1614	1614
Adj Flow Rate, veh/h	119	227	13	4	435	99	51	32	12	105	16	165
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	6	2	2	2	2	2	2	5	5	5
Cap, veh/h	335	925	53	402	646	146	339	245	92	447	26	270
Arrive On Green	0.08	0.28	0.28	0.01	0.21	0.21	0.05	0.19	0.19	0.07	0.21	0.21
Sat Flow, veh/h	1725	3309	188	1931	3122	705	1781	1295	486	1537	122	1261
Grp Volume(v), veh/h	119	117	123	4	267	267	51	0	44	105	0	181
Grp Sat Flow(s),veh/h/ln	1725	1721	1777	1931	1926	1900	1781	0	1781	1537	0	1383
Q Serve(g_s), s	2.8	2.8	2.8	0.1	6.8	6.9	1.2	0.0	1.1	2.9	0.0	6.3
Cycle Q Clear(g_c), s	2.8	2.8	2.8	0.1	6.8	6.9	1.2	0.0	1.1	2.9	0.0	6.3
Prop In Lane	1.00		0.11	1.00		0.37	1.00		0.27	1.00		0.91
Lane Grp Cap(c), veh/h	335	481	497	402	399	393	339	0	338	447	0	296
V/C Ratio(X)	0.36	0.24	0.25	0.01	0.67	0.68	0.15	0.00	0.13	0.23	0.00	0.61
Avail Cap(c_a), veh/h	363	583	602	573	652	644	418	0	603	478	0	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	14.8	14.8	16.5	19.4	19.4	16.1	0.0	17.9	15.5	0.0	18.9
Incr Delay (d2), s/veh	0.6	0.3	0.3	0.0	2.0	2.1	0.2	0.0	0.2	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	1.0	0.0	2.9	2.9	0.5	0.0	0.4	1.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	15.1	15.1	16.5	21.4	21.5	16.3	0.0	18.1	15.7	0.0	20.9
LnGrp LOS	B	B	B	B	C	C	B	A	B	B	A	C
Approach Vol, veh/h		359			538			95			286	
Approach Delay, s/veh		15.3			21.4			17.1			19.0	
Approach LOS		B			C			B			B	

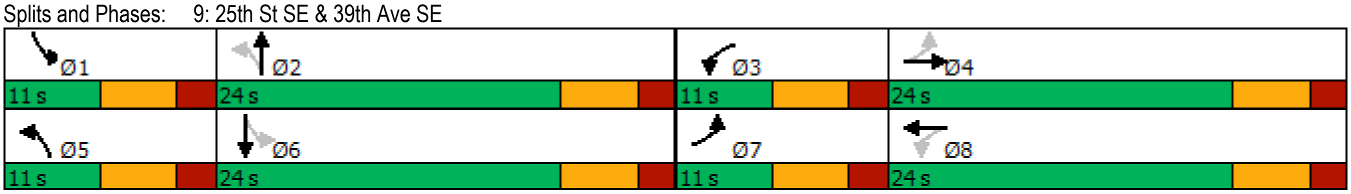
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	16.1	6.3	20.9	8.6	17.4	10.1	17.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	4.9	3.1	2.1	4.8	3.2	8.3	4.8	8.9
Green Ext Time (p_c), s	0.0	0.1	0.0	1.0	0.0	0.7	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	275	8	6	458	6	21	2	20	2	0	13
Future Volume (vph)	20	275	8	6	458	6	21	2	20	2	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	75		0	100		0	25		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		365			225			248			136	
Travel Time (s)		7.1			4.4			6.8			3.7	
Confl. Peds. (#/hr)			1	1			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 37.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 9: 25th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	275	8	6	458	6	21	2	20	2	0	13
Future Volume (veh/h)	20	275	8	6	458	6	21	2	20	2	0	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1870	1870	1870	1826	1826	1826	1900	1900	1900
Adj Flow Rate, veh/h	21	293	9	6	487	6	22	2	21	2	0	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	2	2	2	5	5	5	0	0	0
Cap, veh/h	341	916	28	408	902	11	351	17	177	324	0	160
Arrive On Green	0.03	0.27	0.27	0.01	0.25	0.25	0.03	0.12	0.12	0.00	0.00	0.10
Sat Flow, veh/h	1725	3408	104	1781	3595	44	1739	136	1430	1810	0	1608
Grp Volume(v), veh/h	21	148	154	6	241	252	22	0	23	2	0	14
Grp Sat Flow(s),veh/h/ln	1725	1721	1792	1781	1777	1862	1739	0	1566	1810	0	1608
Q Serve(g_s), s	0.4	2.8	2.8	0.1	4.7	4.7	0.5	0.0	0.5	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.4	2.8	2.8	0.1	4.7	4.7	0.5	0.0	0.5	0.0	0.0	0.3
Prop In Lane	1.00		0.06	1.00		0.02	1.00		0.91	1.00		1.00
Lane Grp Cap(c), veh/h	341	462	482	408	446	467	351	0	194	324	0	160
V/C Ratio(X)	0.06	0.32	0.32	0.01	0.54	0.54	0.06	0.00	0.12	0.01	0.00	0.09
Avail Cap(c_a), veh/h	510	770	802	615	795	833	520	0	701	544	0	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	11.8	11.8	11.1	13.1	13.1	15.5	0.0	15.7	16.2	0.0	16.5
Incr Delay (d2), s/veh	0.1	0.4	0.4	0.0	1.0	1.0	0.1	0.0	0.3	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	0.9	0.0	1.6	1.7	0.2	0.0	0.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	12.2	12.1	11.1	14.1	14.0	15.6	0.0	15.9	16.2	0.0	16.7
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		323			499			45			16	
Approach Delay, s/veh		12.1			14.0			15.8			16.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	11.0	6.3	16.8	7.1	10.0	7.0	16.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	2.5	2.1	4.8	2.5	2.3	2.4	6.7
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.1

Intersection Summary		
HCM 6th Ctrl Delay		13.4
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	0	203	1	0	0	385	723	1	0	279	177
Future Volume (vph)	128	0	203	1	0	0	385	723	1	0	279	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			8%			-4%			6%	
Storage Length (ft)	0		0	0		0	300		0	200		0
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		322			305			698			574	
Travel Time (s)		6.3			5.9			13.6			11.2	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	5%	5%	5%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	29.0	29.0	29.0	24.0	24.0		16.3	28.3		11.3	28.3	28.3
Total Split (s)	36.0	36.0	36.0	36.0	36.0		26.3	46.3		21.3	46.3	46.3
Total Split (%)	33.1%	33.1%	33.1%	33.1%	33.1%		24.2%	42.6%		19.6%	42.6%	42.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.3	2.3		2.3	2.3	2.3
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.3	6.3		6.3	6.3	6.3
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 108.6
Actuated Cycle Length: 71.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 10: Shaw Rd E & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	0	203	1	0	0	385	723	1	0	279	177
Future Volume (veh/h)	128	0	203	1	0	0	385	723	1	0	279	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1523	1523	1523	2027	2027	2027	1644	1644	1644
Adj Flow Rate, veh/h	144	0	228	1	0	0	433	812	1	0	313	199
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	5	5	5	0	0	0	2	2	2	3	3	3
Cap, veh/h	428	0	308	246	0	0	608	1182	1	294	456	386
Arrive On Green	0.20	0.00	0.20	0.20	0.00	0.00	0.20	0.58	0.58	0.00	0.28	0.28
Sat Flow, veh/h	1514	0	1547	598	0	0	1931	2024	2	1565	1644	1390
Grp Volume(v), veh/h	144	0	228	1	0	0	433	0	813	0	313	199
Grp Sat Flow(s),veh/h/ln	1514	0	1547	598	0	0	1931	0	2027	1565	1644	1390
Q Serve(g_s), s	0.0	0.0	7.8	0.1	0.0	0.0	8.1	0.0	15.8	0.0	9.6	6.8
Cycle Q Clear(g_c), s	4.1	0.0	7.8	4.2	0.0	0.0	8.1	0.0	15.8	0.0	9.6	6.8
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	428	0	308	246	0	0	608	0	1184	294	456	386
V/C Ratio(X)	0.34	0.00	0.74	0.00	0.00	0.00	0.71	0.00	0.69	0.00	0.69	0.52
Avail Cap(c_a), veh/h	885	0	819	556	0	0	912	0	1430	705	1160	981
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	21.3	21.6	0.0	0.0	10.9	0.0	8.2	0.0	18.3	17.3
Incr Delay (d2), s/veh	0.5	0.0	3.5	0.0	0.0	0.0	1.6	0.0	1.3	0.0	2.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.8	0.0	0.0	0.0	2.8	0.0	5.1	0.0	3.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	24.8	21.6	0.0	0.0	12.5	0.0	9.5	0.0	20.9	18.8
LnGrp LOS	C	A	C	C	A	A	B	A	A	A	C	B
Approach Vol, veh/h		372			1			1246			512	
Approach Delay, s/veh		23.1			21.6			10.5			20.1	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	39.4		17.3	17.4	22.0		17.3				
Change Period (Y+Rc), s	* 6.3	* 6.3		6.0	* 6.3	* 6.3		6.0				
Max Green Setting (Gmax), s	* 15	* 40		30.0	* 20	* 40		30.0				
Max Q Clear Time (g_c+I1), s	0.0	17.8		9.8	10.1	11.6		6.2				
Green Ext Time (p_c), s	0.0	8.5		1.5	1.0	3.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									

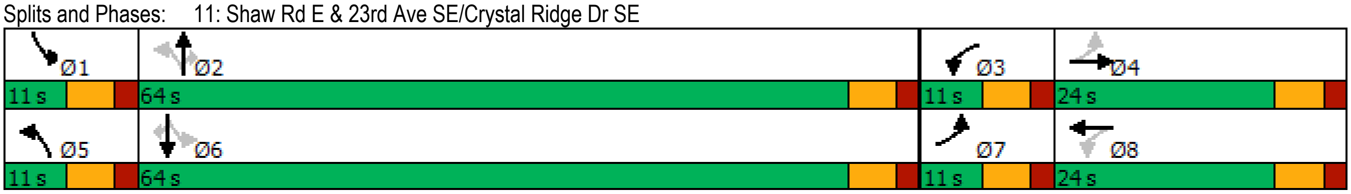
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	12	18	38	42	40	35	888	7	13	282	43
Future Volume (vph)	134	12	18	38	42	40	35	888	7	13	282	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-9%			3%			-9%			6%	
Storage Length (ft)	50		0	50		0	100		175	75		100
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		481			429			444			403	
Travel Time (s)		13.1			11.7			8.6			7.9	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	24.0		11.0	24.0		11.0	64.0	64.0	11.0	64.0	64.0
Total Split (%)	10.0%	21.8%		10.0%	21.8%		10.0%	58.2%	58.2%	10.0%	58.2%	58.2%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 81.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Shaw Rd E & 23rd Ave SE/Crystal Ridge Dr SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	12	18	38	42	40	35	888	7	13	282	43
Future Volume (veh/h)	134	12	18	38	42	40	35	888	7	13	282	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2239	2239	2239	1817	1817	1817	2224	2224	2224	1629	1629	1629
Adj Flow Rate, veh/h	138	12	19	39	43	41	36	915	7	13	291	44
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	4	4	4
Cap, veh/h	352	118	188	322	106	101	604	1083	917	185	762	645
Arrive On Green	0.06	0.15	0.15	0.04	0.12	0.12	0.03	0.49	0.49	0.02	0.47	0.47
Sat Flow, veh/h	2132	781	1236	1731	855	815	2118	2224	1883	1551	1629	1379
Grp Volume(v), veh/h	138	0	31	39	0	84	36	915	7	13	291	44
Grp Sat Flow(s),veh/h/ln	2132	0	2016	1731	0	1671	2118	2224	1883	1551	1629	1379
Q Serve(g_s), s	4.4	0.0	1.0	1.5	0.0	3.6	0.7	27.9	0.1	0.3	9.0	1.4
Cycle Q Clear(g_c), s	4.4	0.0	1.0	1.5	0.0	3.6	0.7	27.9	0.1	0.3	9.0	1.4
Prop In Lane	1.00		0.61	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	352	0	306	322	0	207	604	1083	917	185	762	645
V/C Ratio(X)	0.39	0.00	0.10	0.12	0.00	0.41	0.06	0.84	0.01	0.07	0.38	0.07
Avail Cap(c_a), veh/h	352	0	467	370	0	387	667	1660	1405	260	1215	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	28.4	28.0	0.0	31.4	10.3	17.4	10.3	15.0	13.4	11.4
Incr Delay (d2), s/veh	0.7	0.0	0.1	0.2	0.0	1.3	0.0	2.6	0.0	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.5	0.6	0.0	1.5	0.3	13.2	0.1	0.1	3.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	0.0	28.5	28.2	0.0	32.7	10.3	20.0	10.3	15.2	13.7	11.4
LnGrp LOS	C	A	C	C	A	C	B	B	B	B	B	B
Approach Vol, veh/h		169			123			958			348	
Approach Delay, s/veh		28.2			31.2			19.5			13.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	43.9	8.8	17.8	8.7	42.4	11.0	15.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	58.0	5.0	18.0	5.0	58.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	29.9	3.5	3.0	2.7	11.0	6.4	5.6
Green Ext Time (p_c), s	0.0	8.0	0.0	0.1	0.0	1.9	0.0	0.3

Intersection Summary		
HCM 6th Ctrl Delay		20.0
HCM 6th LOS		C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	211	130	44	136	12	87	1251	60	16	651	107
Future Volume (vph)	182	211	130	44	136	12	87	1251	60	16	651	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	350		0	225		0	200		0	210		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		571			1339			1348			645	
Travel Time (s)		11.1			26.1			26.3			12.6	
Confl. Peds. (#/hr)									4			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	9.6	27.6	27.6	10.6	16.6		10.6	29.6		10.6	29.6	29.6
Total Split (s)	30.0	30.0	30.0	30.0	30.0		21.0	65.0		15.0	59.0	59.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	21.4%		15.0%	46.4%		10.7%	42.1%	42.1%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 41 (29%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 12: S Meridian (SR161) & 39th Ave SW/39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	211	130	44	136	12	87	1251	60	16	651	107
Future Volume (veh/h)	182	211	130	44	136	12	87	1251	60	16	651	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1716	1716	1716	1758	1758	1758	1680	1680	1680	1716	1716	1716
Adj Flow Rate, veh/h	186	215	0	45	139	12	89	1277	61	16	664	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	6	6	6	3	3	3	5	5	5	6	6	6
Cap, veh/h	209	503		59	192	16	107	2044	98	32	1996	
Arrive On Green	0.13	0.15	0.00	0.04	0.06	0.06	0.13	1.00	1.00	0.04	1.00	0.00
Sat Flow, veh/h	1634	3260	1454	1674	3114	266	1600	3100	148	1634	3260	1454
Grp Volume(v), veh/h	186	215	0	45	74	77	89	656	682	16	664	0
Grp Sat Flow(s),veh/h/ln	1634	1630	1454	1674	1670	1710	1600	1596	1653	1634	1630	1454
Q Serve(g_s), s	15.7	8.4	0.0	3.7	6.1	6.2	7.6	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	15.7	8.4	0.0	3.7	6.1	6.2	7.6	0.0	0.0	1.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	209	503		59	103	106	107	1052	1089	32	1996	
V/C Ratio(X)	0.89	0.43		0.76	0.72	0.73	0.83	0.62	0.63	0.49	0.33	
Avail Cap(c_a), veh/h	296	591		304	303	310	187	1052	1089	121	1996	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.55	0.55	0.55	0.99	0.99	0.00
Uniform Delay (d), s/veh	60.1	53.6	0.0	66.9	64.5	64.5	59.9	0.0	0.0	66.5	0.0	0.0
Incr Delay (d2), s/veh	19.0	0.4	0.0	13.6	5.6	5.8	6.8	1.5	1.5	8.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	3.5	0.0	1.8	2.7	2.9	3.1	0.5	0.5	0.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	54.0	0.0	80.6	70.0	70.3	66.6	1.5	1.5	74.8	0.4	0.0
LnGrp LOS	E	D		F	E	E	E	A	A	E	A	
Approach Vol, veh/h		401	A		196			1427			680	A
Approach Delay, s/veh		65.7			72.6			5.6			2.2	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	90.3	22.5	13.3	7.4	96.9	9.6	26.2
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	16.4	54.4	25.4	25.4	10.4	60.4	25.4	25.4
Max Q Clear Time (g_c+I1), s	9.6	2.0	17.7	8.2	3.3	2.0	5.7	10.4
Green Ext Time (p_c), s	0.1	4.1	0.2	0.5	0.0	9.8	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

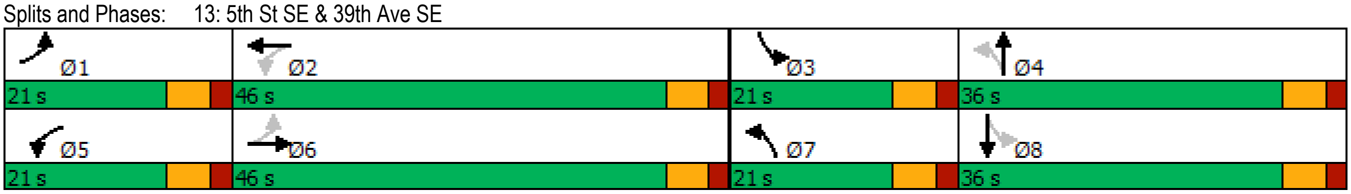
Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	188	36	52	101	6	51	204	76	2	129	30
Future Volume (vph)	45	188	36	52	101	6	51	204	76	2	129	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	150		0	175		0	225		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1339			1162			552			965	
Travel Time (s)		26.1			22.6			12.5			21.9	
Confl. Peds. (#/hr)									3	3		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0		11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0		21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%		16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 52	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 13: 5th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	188	36	52	101	6	51	204	76	2	129	30
Future Volume (veh/h)	45	188	36	52	101	6	51	204	76	2	129	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1826	1826	1826	2003	2003	2003	1885	1885	1885
Adj Flow Rate, veh/h	48	202	39	56	109	6	55	219	82	2	139	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	5	5	5	1	1	1	1	1	1
Cap, veh/h	459	595	113	396	691	38	411	360	135	280	309	71
Arrive On Green	0.05	0.20	0.20	0.05	0.21	0.21	0.05	0.26	0.26	0.00	0.21	0.21
Sat Flow, veh/h	1767	2957	560	1739	3345	183	1908	1388	520	1795	1481	341
Grp Volume(v), veh/h	48	119	122	56	56	59	55	0	301	2	0	171
Grp Sat Flow(s),veh/h/ln	1767	1763	1755	1739	1735	1793	1908	0	1907	1795	0	1822
Q Serve(g_s), s	1.0	2.9	3.0	1.2	1.3	1.3	1.1	0.0	6.9	0.0	0.0	4.1
Cycle Q Clear(g_c), s	1.0	2.9	3.0	1.2	1.3	1.3	1.1	0.0	6.9	0.0	0.0	4.1
Prop In Lane	1.00		0.32	1.00		0.10	1.00		0.27	1.00		0.19
Lane Grp Cap(c), veh/h	459	355	353	396	358	370	411	0	494	280	0	380
V/C Ratio(X)	0.10	0.34	0.35	0.14	0.16	0.16	0.13	0.00	0.61	0.01	0.00	0.45
Avail Cap(c_a), veh/h	906	1418	1412	827	1396	1443	884	0	1151	817	0	1100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	17.0	17.0	14.3	16.2	16.2	14.1	0.0	16.2	15.7	0.0	17.2
Incr Delay (d2), s/veh	0.1	0.6	0.6	0.2	0.2	0.2	0.1	0.0	1.2	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.1	0.4	0.5	0.5	0.4	0.0	2.8	0.0	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	17.6	17.6	14.5	16.4	16.4	14.3	0.0	17.4	15.7	0.0	18.0
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		289			171			356			173	
Approach Delay, s/veh		17.1			15.8			16.9			18.0	
Approach LOS		B			B			B			B	

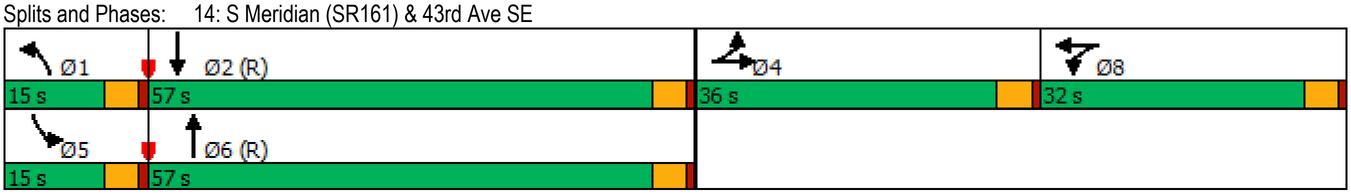
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	16.3	6.1	18.9	8.7	16.0	8.7	16.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	3.0	3.3	2.0	8.9	3.2	5.0	3.1	6.1
Green Ext Time (p_c), s	0.1	0.6	0.0	1.8	0.1	1.4	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	51	4	88	39	60	12	1447	110	61	656	10
Future Volume (vph)	39	51	4	88	39	60	12	1447	110	61	656	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-4%			6%			0%			0%	
Storage Length (ft)	150		0	275		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		332			544			617			1348	
Travel Time (s)		9.1			10.6			12.0			26.3	
Confl. Peds. (#/hr)			3	3					3			2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	11%	11%	11%
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases												
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	33.6	33.6		30.6	30.6		10.6	32.6		10.6	28.6	
Total Split (s)	36.0	36.0		32.0	32.0		15.0	57.0		15.0	57.0	
Total Split (%)	25.7%	25.7%		22.9%	22.9%		10.7%	40.7%		10.7%	40.7%	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

Splits and Phases: 14: S Meridian (SR161) & 43rd Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	51	4	88	39	60	12	1447	110	61	656	10
Future Volume (veh/h)	39	51	4	88	39	60	12	1447	110	61	656	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1892	1892	1892	1529	1529	1529	1758	1758	1758	1646	1646	1646
Adj Flow Rate, veh/h	42	55	4	95	42	65	13	1556	118	66	705	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	5	5	5	3	3	3	11	11	11
Cap, veh/h	100	97	7	145	54	83	28	2082	157	81	2193	34
Arrive On Green	0.06	0.06	0.06	0.10	0.10	0.10	0.02	0.66	0.66	0.10	1.00	1.00
Sat Flow, veh/h	1802	1740	127	1456	538	832	1674	3147	237	1567	3151	49
Grp Volume(v), veh/h	42	0	59	95	0	107	13	821	853	66	350	366
Grp Sat Flow(s),veh/h/ln	1802	0	1867	1456	0	1370	1674	1670	1715	1567	1563	1637
Q Serve(g_s), s	3.2	0.0	4.3	8.8	0.0	10.7	1.1	45.8	47.0	5.8	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	4.3	8.8	0.0	10.7	1.1	45.8	47.0	5.8	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.61	1.00		0.14	1.00		0.03
Lane Grp Cap(c), veh/h	100	0	104	145	0	137	28	1105	1134	81	1088	1139
V/C Ratio(X)	0.42	0.00	0.57	0.65	0.00	0.78	0.46	0.74	0.75	0.82	0.32	0.32
Avail Cap(c_a), veh/h	404	0	419	285	0	268	124	1105	1134	116	1088	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	63.9	0.0	64.4	60.7	0.0	61.5	68.2	15.8	16.0	62.2	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.8	3.9	0.0	7.6	7.6	4.5	4.6	23.6	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.2	3.4	0.0	4.0	0.5	17.6	18.5	2.7	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.1	0.0	68.3	64.6	0.0	69.1	75.7	20.3	20.6	85.8	0.7	0.7
LnGrp LOS	E	A	E	E	A	E	E	C	C	F	A	A
Approach Vol, veh/h		101			202			1687			782	
Approach Delay, s/veh		67.4			67.0			20.9			7.9	
Approach LOS		E			E			C			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	102.0		12.4	11.8	97.2		18.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	10.4	52.4		31.4	10.4	52.4		27.4				
Max Q Clear Time (g_c+I1), s	3.1	2.0		6.3	7.8	49.0		12.7				
Green Ext Time (p_c), s	0.0	4.5		0.3	0.0	2.8		0.6				
Intersection Summary												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									

Existing 2021 PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	11	34	341	11	34	417
Future Volume (vph)	11	34	341	11	34	417
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		-4%			0%
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	771		286			501
Travel Time (s)	21.0		7.8			13.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection						
Int Delay, s/veh	1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	34	341	11	34	417
Future Vol, veh/h	11	34	341	11	34	417
Conflicting Peds, #/hr	0	0	0	7	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-4	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	2	2	2	2
Mvmt Flow	12	38	383	12	38	469

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	941	396	0	0	402	0
Stage 1	396	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	295	658	-	-	1157	-
Stage 1	684	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	283	654	-	-	1149	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.6
HCM LOS	B		

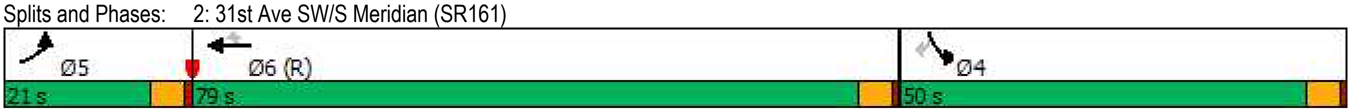
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	570	1149	-
HCM Lane V/C Ratio	-	-	0.089	0.033	-
HCM Control Delay (s)	-	-	11.9	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	247	1183	1134	380	556	260
Future Volume (vph)	247	1183	1134	380	556	260
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Storage Length (ft)	250			0	0	175
Storage Lanes	2			1	2	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		370	339		787	
Travel Time (s)		7.2	6.6		15.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0		10.0	10.0	8.0	8.0
Minimum Split (s)	12.6		20.6	20.6	12.6	12.6
Total Split (s)	21.0		79.0	79.0	50.0	50.0
Total Split (%)	14.0%		52.7%	52.7%	33.3%	33.3%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		C-Min	C-Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 44 (29%), Referenced to phase 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
! Phase conflict between lane groups.

Splits and Phases: 2: 31st Ave SW/S Meridian (SR161)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	247	1183	1134	380	556	260
Future Volume (vph)	247	1183	1134	380	556	260
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Total Lost time (s)	4.6	4.0	4.6	4.6	4.6	4.6
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3187	3286	3387	1515	3285	1515
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3187	3286	3387	1515	3285	1515
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	249	1195	1145	384	562	263
RTOR Reduction (vph)	0	0	0	136	0	188
Lane Group Flow (vph)	249	1195	1145	248	562	75
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Actuated Green, G (s)	16.5	150.0	88.9	88.9	30.8	30.8
Effective Green, g (s)	16.5	150.0	88.9	88.9	30.8	30.8
Actuated g/C Ratio	0.11	1.00	0.59	0.59	0.21	0.21
Clearance Time (s)	4.6		4.6	4.6	4.6	4.6
Vehicle Extension (s)	2.5		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	350	3286	2007	897	674	311
v/s Ratio Prot	c0.08	0.36	c0.34		c0.17	
v/s Ratio Perm				0.16		0.05
v/c Ratio	0.71	0.36	0.57	0.28	0.83	0.24
Uniform Delay, d1	64.5	0.0	18.8	14.9	57.1	49.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	0.3	1.2	0.8	8.6	0.3
Delay (s)	70.7	0.3	20.0	15.6	65.7	50.1
Level of Service	E	A	B	B	E	D
Approach Delay (s)		12.4	18.9		60.8	
Approach LOS		B	B		E	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	129	96	169	155	359	79	993	58	345	1245	58
Future Volume (vph)	60	129	96	169	155	359	79	993	58	345	1245	58
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	250		0	225		0	350		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		242			1349			645			449	
Travel Time (s)		6.6			26.3			12.6			8.7	
Confl. Peds. (#/hr)						2			2			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			Free						
Detector Phase	3	8	8	7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	8.6	10.6	10.6	10.6	35.6		10.6	28.6		10.6	31.6	
Total Split (s)	15.0	25.0	25.0	27.0	37.0		23.0	72.0		26.0	75.0	
Total Split (%)	10.0%	16.7%	16.7%	18.0%	24.7%		15.3%	48.0%		17.3%	50.0%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 28 (19%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: S Meridian (SR161) & 37th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	129	96	169	155	359	79	993	58	345	1245	58
Future Volume (veh/h)	60	129	96	169	155	359	79	993	58	345	1245	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1786	1786	1786	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	62	134	100	176	161	0	82	1034	60	359	1297	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	4	4	4	2	2	2
Cap, veh/h	78	281	126	198	274		100	1763	102	406	2988	
Arrive On Green	0.05	0.08	0.08	0.12	0.15	0.00	0.12	1.00	1.00	0.12	0.62	0.00
Sat Flow, veh/h	1701	3393	1514	1701	1786	1514	1661	3182	185	3274	4997	0
Grp Volume(v), veh/h	62	134	100	176	161	0	82	538	556	359	1297	0
Grp Sat Flow(s),veh/h/ln	1701	1697	1514	1701	1786	1514	1661	1657	1710	1637	1612	0
Q Serve(g_s), s	5.4	5.7	9.7	15.3	12.6	0.0	7.2	0.0	0.0	16.2	21.0	0.0
Cycle Q Clear(g_c), s	5.4	5.7	9.7	15.3	12.6	0.0	7.2	0.0	0.0	16.2	21.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	78	281	126	198	274		100	918	947	406	2988	
V/C Ratio(X)	0.79	0.48	0.80	0.89	0.59		0.82	0.59	0.59	0.88	0.43	
Avail Cap(c_a), veh/h	118	461	206	254	386		204	918	947	467	2988	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.00	0.67	0.67	0.67	1.00	1.00	0.00
Uniform Delay (d), s/veh	70.9	65.7	67.5	65.3	59.1	0.0	65.2	0.0	0.0	64.6	15.0	0.0
Incr Delay (d2), s/veh	21.6	1.2	10.9	20.9	1.7	0.0	10.6	1.8	1.8	16.4	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.5	4.2	7.8	5.8	0.0	3.2	0.5	0.5	7.7	7.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.4	66.9	78.4	86.2	60.8	0.0	75.8	1.8	1.8	81.1	15.4	0.0
LnGrp LOS	F	E	E	F	E		E	A	A	F	B	
Approach Vol, veh/h		296			337	A		1176			1656	A
Approach Delay, s/veh		76.1			74.0			7.0			29.7	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	97.3	11.5	27.6	23.2	87.7	22.1	17.0
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	18.4	70.4	10.4	32.4	21.4	67.4	22.4	20.4
Max Q Clear Time (g_c+I1), s	9.2	23.0	7.4	14.6	18.2	2.0	17.3	11.7
Green Ext Time (p_c), s	0.1	15.4	0.0	0.8	0.4	11.7	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

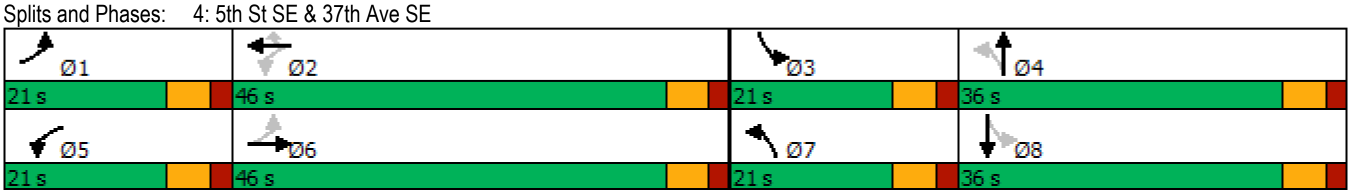
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	329	80	33	460	177	104	249	20	238	396	67
Future Volume (vph)	83	329	80	33	460	177	104	249	20	238	396	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			0%			-5%	
Storage Length (ft)	200		0	225		150	200		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1349			1181			965			418	
Travel Time (s)		26.3			23.0			21.9			11.4	
Confl. Peds. (#/hr)	3		1	1		3	1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	4			8		
Detector Phase	1	6		5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0	26.0	11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0	46.0	21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%	37.1%	16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 124
Actuated Cycle Length: 87.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: 5th St SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	329	80	33	460	177	104	249	20	238	396	67
Future Volume (veh/h)	83	329	80	33	460	177	104	249	20	238	396	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	2003	2003	2003	1885	1885	1885	2082	2082	2082
Adj Flow Rate, veh/h	87	346	84	35	484	0	109	262	0	251	417	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	1	1	1	1	1	1	1	1	1
Cap, veh/h	303	661	158	305	778		300	445		505	514	88
Arrive On Green	0.06	0.23	0.23	0.04	0.20	0.00	0.07	0.24	0.00	0.13	0.30	0.30
Sat Flow, veh/h	1810	2884	691	1908	3806	1697	1795	1885	0	1983	1733	295
Grp Volume(v), veh/h	87	215	215	35	484	0	109	262	0	251	0	488
Grp Sat Flow(s),veh/h/ln	1810	1805	1770	1908	1903	1697	1795	1885	0	1983	0	2027
Q Serve(g_s), s	2.4	6.7	6.9	0.9	7.5	0.0	2.9	8.0	0.0	6.0	0.0	14.4
Cycle Q Clear(g_c), s	2.4	6.7	6.9	0.9	7.5	0.0	2.9	8.0	0.0	6.0	0.0	14.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.00	1.00		0.15
Lane Grp Cap(c), veh/h	303	414	406	305	778		300	445		505	0	602
V/C Ratio(X)	0.29	0.52	0.53	0.11	0.62		0.36	0.59		0.50	0.00	0.81
Avail Cap(c_a), veh/h	612	1115	1093	678	2350		594	873		710	0	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	21.8	21.9	19.3	23.5	0.0	17.7	22.0	0.0	15.6	0.0	21.1
Incr Delay (d2), s/veh	0.5	1.0	1.1	0.2	0.8	0.0	0.7	1.2	0.0	0.8	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	2.8	0.4	3.2	0.0	1.2	3.5	0.0	2.6	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	22.8	23.0	19.4	24.3	0.0	18.4	23.2	0.0	16.4	0.0	24.2
LnGrp LOS	B	C	C	B	C		B	C		B	A	C
Approach Vol, veh/h		517			519	A		371	A		739	
Approach Delay, s/veh		22.3			24.0			21.8			21.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	19.2	14.3	21.3	8.3	20.9	10.4	25.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	4.4	9.5	8.0	10.0	2.9	8.9	4.9	16.4
Green Ext Time (p_c), s	0.1	3.3	0.4	1.4	0.0	2.6	0.2	2.8

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

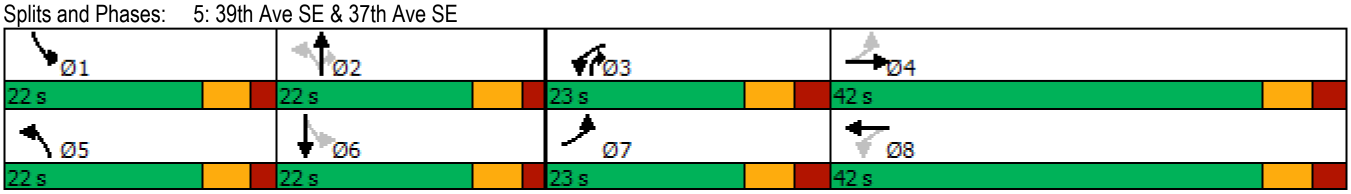
Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	587	6	259	626	5	1	7	237	4	9	19
Future Volume (vph)	8	587	6	259	626	5	1	7	237	4	9	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			3%			0%	
Storage Length (ft)	225		0	200		0	200		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1181			510			1162			264	
Travel Time (s)		23.0			9.9			22.6			7.2	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.0	16.0	12.0	11.0	34.0	
Total Split (s)	23.0	42.0		23.0	42.0		22.0	22.0	23.0	22.0	22.0	
Total Split (%)	21.1%	38.5%		21.1%	38.5%		20.2%	20.2%	21.1%	20.2%	20.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	7.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 109	
Actuated Cycle Length: 51.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 39th Ave SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	587	6	259	626	5	1	7	237	4	9	19
Future Volume (veh/h)	8	587	6	259	626	5	1	7	237	4	9	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1673	1673	2067	2067	2067	1817	1817	1817	1900	1900	1900
Adj Flow Rate, veh/h	9	624	6	276	666	5	1	7	252	4	10	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	0	0	0
Cap, veh/h	333	979	9	476	1667	13	328	313	459	311	100	200
Arrive On Green	0.01	0.30	0.30	0.13	0.42	0.42	0.00	0.17	0.17	0.01	0.18	0.18
Sat Flow, veh/h	1593	3226	31	1968	3995	30	1731	1817	1540	1810	565	1131
Grp Volume(v), veh/h	9	307	323	276	327	344	1	7	252	4	0	30
Grp Sat Flow(s),veh/h/ln	1593	1589	1668	1968	1963	2061	1731	1817	1540	1810	0	1696
Q Serve(g_s), s	0.3	11.0	11.0	5.8	7.7	7.7	0.0	0.2	9.1	0.1	0.0	1.0
Cycle Q Clear(g_c), s	0.3	11.0	11.0	5.8	7.7	7.7	0.0	0.2	9.1	0.1	0.0	1.0
Prop In Lane	1.00		0.02	1.00		0.01	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	333	482	506	476	819	860	328	313	459	311	0	299
V/C Ratio(X)	0.03	0.64	0.64	0.58	0.40	0.40	0.00	0.02	0.55	0.01	0.00	0.10
Avail Cap(c_a), veh/h	701	842	883	705	1040	1091	745	440	566	740	0	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.6	19.9	19.9	13.1	13.5	13.5	22.6	22.7	19.5	22.4	0.0	22.8
Incr Delay (d2), s/veh	0.0	3.0	2.8	1.1	0.7	0.6	0.0	0.0	1.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.1	4.3	2.3	3.1	3.3	0.0	0.1	3.1	0.1	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	22.9	22.7	14.2	14.1	14.1	22.6	22.7	20.5	22.4	0.0	23.0
LnGrp LOS	B	C	C	B	B	B	C	C	C	C	A	C
Approach Vol, veh/h		639			947			260			34	
Approach Delay, s/veh		22.7			14.2			20.6			22.9	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	17.4	15.3	27.1	6.1	17.7	7.8	34.6				
Change Period (Y+Rc), s	6.0	6.0	7.0	7.0	6.0	6.0	7.0	7.0				
Max Green Setting (Gmax), s	16.0	16.0	16.0	35.0	16.0	16.0	16.0	35.0				
Max Q Clear Time (g_c+I1), s	2.1	11.1	7.8	13.0	2.0	3.0	2.3	9.7				
Green Ext Time (p_c), s	0.0	0.4	0.5	7.0	0.0	0.1	0.0	8.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	663	136	138	690	4	84	6	67	14	27	114
Future Volume (vph)	33	663	136	138	690	4	84	6	67	14	27	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-5%			-6%			-4%	
Storage Length (ft)	150		0	200		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		510			1994			256			231	
Travel Time (s)		9.9			38.8			5.8			6.3	
Confl. Peds. (#/hr)	1		2	2		1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.3	30.3		11.3	30.3		10.5	25.5		10.5	25.5	
Total Split (s)	21.3	51.3		21.3	51.3		21.3	21.3		21.3	21.3	
Total Split (%)	18.5%	44.5%		18.5%	44.5%		18.5%	18.5%		18.5%	18.5%	
Yellow Time (s)	4.3	4.3		4.3	4.3		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 115.2	
Actuated Cycle Length: 79.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 6: 10th St SE & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	663	136	138	690	4	84	6	67	14	27	114
Future Volume (veh/h)	33	663	136	138	690	4	84	6	67	14	27	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	2067	2067	2067	2061	2061	2061	2057	2057	2057
Adj Flow Rate, veh/h	37	737	151	153	767	4	93	7	74	16	30	127
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	0	0	0
Cap, veh/h	373	1116	229	378	1664	9	284	25	267	325	42	177
Arrive On Green	0.04	0.38	0.38	0.08	0.42	0.42	0.06	0.16	0.16	0.02	0.12	0.12
Sat Flow, veh/h	1795	2959	606	1968	4005	21	1963	153	1617	1959	343	1453
Grp Volume(v), veh/h	37	446	442	153	376	395	93	0	81	16	0	157
Grp Sat Flow(s),veh/h/ln	1795	1791	1774	1968	1963	2063	1963	0	1770	1959	0	1796
Q Serve(g_s), s	0.8	13.4	13.4	3.0	9.0	9.0	2.6	0.0	2.6	0.5	0.0	5.5
Cycle Q Clear(g_c), s	0.8	13.4	13.4	3.0	9.0	9.0	2.6	0.0	2.6	0.5	0.0	5.5
Prop In Lane	1.00		0.34	1.00		0.01	1.00		0.91	1.00		0.81
Lane Grp Cap(c), veh/h	373	675	669	378	816	857	284	0	292	325	0	218
V/C Ratio(X)	0.10	0.66	0.66	0.41	0.46	0.46	0.33	0.00	0.28	0.05	0.00	0.72
Avail Cap(c_a), veh/h	720	1239	1228	683	1359	1428	638	0	430	763	0	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	16.8	16.8	12.3	13.7	13.7	23.0	0.0	23.8	24.2	0.0	27.5
Incr Delay (d2), s/veh	0.1	1.6	1.6	0.7	0.6	0.6	0.7	0.0	0.5	0.1	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.1	5.1	1.2	3.6	3.8	1.2	0.0	1.1	0.2	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	18.4	18.4	13.0	14.3	14.3	23.6	0.0	24.3	24.3	0.0	31.9
LnGrp LOS	B	B	B	B	B	B	C	A	C	C	A	C
Approach Vol, veh/h		925			924			174			173	
Approach Delay, s/veh		18.1			14.1			23.9			31.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	33.3	6.8	16.2	11.2	30.8	9.6	13.4
Change Period (Y+Rc), s	6.3	6.3	5.5	5.5	6.3	6.3	5.5	5.5
Max Green Setting (Gmax), s	15.0	45.0	15.8	15.8	15.0	45.0	15.8	15.8
Max Q Clear Time (g_c+I1), s	2.8	11.0	2.5	4.6	5.0	15.4	4.6	7.5
Green Ext Time (p_c), s	0.0	7.7	0.0	0.2	0.3	9.1	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

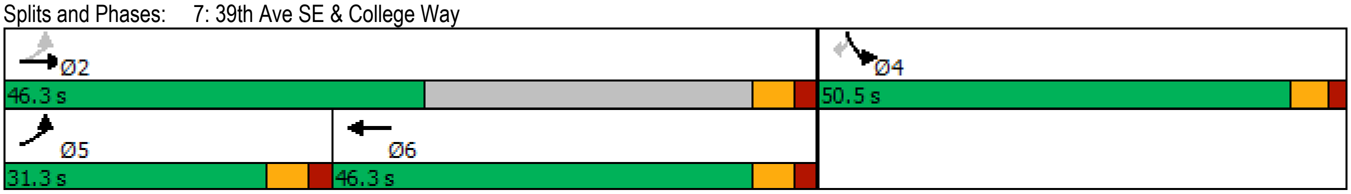
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	113	637	660	68	68	114
Future Volume (vph)	113	637	660	68	68	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	-5%		0%	
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		25	
Link Distance (ft)		1994	702		209	
Travel Time (s)		38.8	13.7		5.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	5%	5%
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	5.0
Minimum Split (s)	11.3	16.3	35.3		34.5	34.5
Total Split (s)	31.3	46.3	46.3		50.5	50.5
Total Split (%)	24.4%	36.1%	36.1%		39.4%	39.4%
Yellow Time (s)	4.0	4.0	4.0		3.5	3.5
All-Red Time (s)	2.3	2.3	2.3		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3		5.5	5.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 128.1	
Actuated Cycle Length: 55.8	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 7: 39th Ave SE & College Way



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	113	637	660	68	68	114
Future Volume (veh/h)	113	637	660	68	68	114
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	2082	2082	1826	1826
Adj Flow Rate, veh/h	124	700	725	75	75	125
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	1	5	5
Cap, veh/h	459	2099	1242	128	227	202
Arrive On Green	0.09	0.59	0.34	0.34	0.13	0.13
Sat Flow, veh/h	1795	3676	3722	374	1739	1547
Grp Volume(v), veh/h	124	700	396	404	75	125
Grp Sat Flow(s),veh/h/ln	1795	1791	1978	2014	1739	1547
Q Serve(g_s), s	1.6	4.2	6.9	6.9	1.6	3.2
Cycle Q Clear(g_c), s	1.6	4.2	6.9	6.9	1.6	3.2
Prop In Lane	1.00			0.19	1.00	1.00
Lane Grp Cap(c), veh/h	459	2099	679	692	227	202
V/C Ratio(X)	0.27	0.33	0.58	0.58	0.33	0.62
Avail Cap(c_a), veh/h	1373	3439	1899	1934	1879	1672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.1	4.4	11.2	11.2	16.4	17.1
Incr Delay (d2), s/veh	0.3	0.1	0.8	0.8	1.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	2.4	2.4	0.6	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.4	4.5	12.0	12.0	17.5	20.8
LnGrp LOS	A	A	B	B	B	C
Approach Vol, veh/h		824	800		200	
Approach Delay, s/veh		5.0	12.0		19.6	
Approach LOS		A	B		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.7		10.9	10.1	20.6
Change Period (Y+Rc), s		* 6.3		5.5	* 6.3	* 6.3
Max Green Setting (Gmax), s		* 40		45.0	* 25	* 40
Max Q Clear Time (g_c+I1), s		6.2		5.2	3.6	8.9
Green Ext Time (p_c), s		5.3		0.9	0.3	5.4

Intersection Summary						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			A			

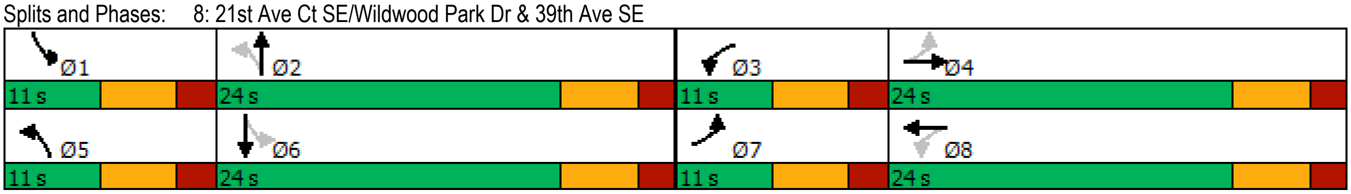
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	481	46	10	538	26	35	6	4	43	27	98
Future Volume (vph)	110	481	46	10	538	26	35	6	4	43	27	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			6%	
Storage Length (ft)	125		0	125		0	50		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		384			416			287			528	
Travel Time (s)		7.5			8.1			7.8			14.4	
Confl. Peds. (#/hr)			1	1					1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 51.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: 21st Ave Ct SE/Wildwood Park Dr & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	481	46	10	538	26	35	6	4	43	27	98
Future Volume (veh/h)	110	481	46	10	538	26	35	6	4	43	27	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	2042	2042	2042	1900	1900	1900	1658	1658	1658
Adj Flow Rate, veh/h	118	517	49	11	578	28	38	6	4	46	29	105
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	2	2	2
Cap, veh/h	352	964	91	314	853	41	348	194	129	434	59	214
Arrive On Green	0.08	0.29	0.29	0.01	0.23	0.23	0.04	0.18	0.18	0.05	0.19	0.19
Sat Flow, veh/h	1795	3307	313	1945	3767	182	1810	1063	708	1579	314	1137
Grp Volume(v), veh/h	118	279	287	11	297	309	38	0	10	46	0	134
Grp Sat Flow(s),veh/h/ln	1795	1791	1828	1945	1940	2009	1810	0	1771	1579	0	1452
Q Serve(g_s), s	2.5	6.8	6.8	0.2	7.2	7.2	0.9	0.0	0.2	1.2	0.0	4.3
Cycle Q Clear(g_c), s	2.5	6.8	6.8	0.2	7.2	7.2	0.9	0.0	0.2	1.2	0.0	4.3
Prop In Lane	1.00		0.17	1.00		0.09	1.00		0.40	1.00		0.78
Lane Grp Cap(c), veh/h	352	522	533	314	439	455	348	0	323	434	0	273
V/C Ratio(X)	0.34	0.54	0.54	0.03	0.68	0.68	0.11	0.00	0.03	0.11	0.00	0.49
Avail Cap(c_a), veh/h	384	625	638	475	677	701	450	0	618	514	0	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	15.3	15.3	15.1	18.2	18.2	16.1	0.0	17.3	15.8	0.0	18.7
Incr Delay (d2), s/veh	0.6	0.9	0.8	0.0	1.8	1.8	0.1	0.0	0.0	0.1	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.5	2.5	0.1	3.0	3.1	0.3	0.0	0.1	0.4	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	16.2	16.2	15.1	20.0	20.0	16.2	0.0	17.4	15.9	0.0	20.1
LnGrp LOS	B	B	B	B	C	C	B	A	B	B	A	C
Approach Vol, veh/h		684			617			48			180	
Approach Delay, s/veh		15.9			19.9			16.4			19.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	15.4	6.7	21.0	8.1	15.7	10.1	17.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	2.2	2.2	8.8	2.9	6.3	4.5	9.2
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	0.5	0.0	2.3

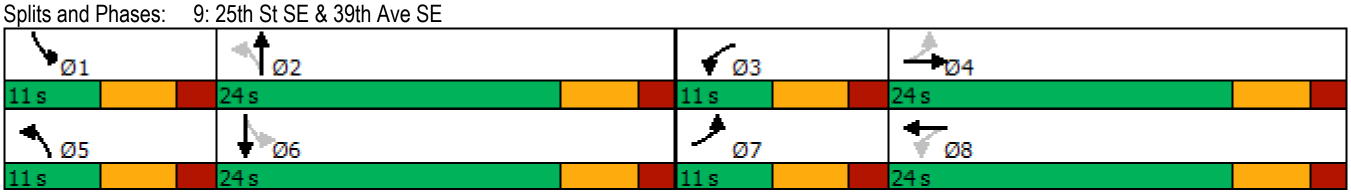
Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	493	26	25	530	1	16	0	13	7	0	23
Future Volume (vph)	11	493	26	25	530	1	16	0	13	7	0	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	75		0	100		0	25		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		365			225			248			136	
Travel Time (s)		7.1			4.4			6.8			3.7	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 34.2
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 9: 25th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	493	26	25	530	1	16	0	13	7	0	23
Future Volume (veh/h)	11	493	26	25	530	1	16	0	13	7	0	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	12	530	28	27	570	1	17	0	14	8	0	25
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	0	0	0
Cap, veh/h	317	862	45	333	975	2	344	0	186	346	0	168
Arrive On Green	0.02	0.25	0.25	0.03	0.27	0.27	0.02	0.00	0.12	0.01	0.00	0.10
Sat Flow, veh/h	1795	3460	183	1795	3668	6	1810	0	1610	1810	0	1610
Grp Volume(v), veh/h	12	274	284	27	278	293	17	0	14	8	0	25
Grp Sat Flow(s),veh/h/ln	1795	1791	1852	1795	1791	1884	1810	0	1610	1810	0	1610
Q Serve(g_s), s	0.2	5.5	5.5	0.4	5.5	5.5	0.3	0.0	0.3	0.2	0.0	0.6
Cycle Q Clear(g_c), s	0.2	5.5	5.5	0.4	5.5	5.5	0.3	0.0	0.3	0.2	0.0	0.6
Prop In Lane	1.00		0.10	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	446	461	333	476	501	344	0	186	346	0	168
V/C Ratio(X)	0.04	0.61	0.62	0.08	0.58	0.58	0.05	0.00	0.08	0.02	0.00	0.15
Avail Cap(c_a), veh/h	510	796	823	496	796	837	528	0	716	550	0	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	13.5	13.5	11.0	12.9	12.9	15.6	0.0	16.0	15.9	0.0	16.5
Incr Delay (d2), s/veh	0.0	1.4	1.3	0.1	1.1	1.1	0.1	0.0	0.2	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.9	2.0	0.1	1.9	1.9	0.1	0.0	0.1	0.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	14.9	14.8	11.1	14.1	14.0	15.7	0.0	16.2	16.0	0.0	16.9
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		570			598			31			33	
Approach Delay, s/veh		14.8			13.9			15.9			16.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	10.7	7.3	16.1	6.9	10.2	6.6	16.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	2.3	2.4	7.5	2.3	2.6	2.2	7.5
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.1	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	0	373	1	2	0	300	368	3	0	489	304
Future Volume (vph)	199	0	373	1	2	0	300	368	3	0	489	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			8%			-4%			6%	
Storage Length (ft)	0		0	0		0	300		0	200		0
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		507			360			460			462	
Travel Time (s)		9.9			7.0			9.0			9.0	
Confl. Peds. (#/hr)			2	2					2	2		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	29.0	29.0	29.0	24.0	24.0		16.3	28.3		11.3	28.3	28.3
Total Split (s)	36.0	36.0	36.0	36.0	36.0		26.3	46.3		21.3	46.3	46.3
Total Split (%)	33.1%	33.1%	33.1%	33.1%	33.1%		24.2%	42.6%		19.6%	42.6%	42.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.3	2.3		2.3	2.3	2.3
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.3	6.3		6.3	6.3	6.3
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 108.6	
Actuated Cycle Length: 85.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 10: Shaw Rd E & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	0	373	1	2	0	300	368	3	0	489	304
Future Volume (veh/h)	199	0	373	1	2	0	300	368	3	0	489	304
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1523	1523	1523	2027	2027	2027	1673	1673	1673
Adj Flow Rate, veh/h	205	0	385	1	2	0	309	379	3	0	504	313
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	2	2	2	1	1	1
Cap, veh/h	312	0	513	62	86	0	372	1096	9	396	590	499
Arrive On Green	0.32	0.00	0.32	0.32	0.32	0.00	0.12	0.55	0.55	0.00	0.35	0.35
Sat Flow, veh/h	729	0	1605	30	268	0	1931	2009	16	1593	1673	1414
Grp Volume(v), veh/h	205	0	385	3	0	0	309	0	382	0	504	313
Grp Sat Flow(s),veh/h/ln	729	0	1605	298	0	0	1931	0	2024	1593	1673	1414
Q Serve(g_s), s	0.3	0.0	19.6	0.1	0.0	0.0	8.7	0.0	9.6	0.0	25.5	16.8
Cycle Q Clear(g_c), s	27.1	0.0	19.6	27.0	0.0	0.0	8.7	0.0	9.6	0.0	25.5	16.8
Prop In Lane	1.00		1.00	0.33		0.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	312	0	513	148	0	0	372	0	1105	396	590	499
V/C Ratio(X)	0.66	0.00	0.75	0.02	0.00	0.00	0.83	0.00	0.35	0.00	0.85	0.63
Avail Cap(c_a), veh/h	325	0	528	159	0	0	556	0	1105	656	733	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	27.8	24.1	0.0	0.0	19.5	0.0	11.6	0.0	27.4	24.6
Incr Delay (d2), s/veh	4.5	0.0	5.8	0.1	0.0	0.0	6.6	0.0	0.3	0.0	8.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	8.0	0.0	0.0	0.0	4.2	0.0	4.0	0.0	11.1	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	0.0	33.6	24.1	0.0	0.0	26.1	0.0	11.9	0.0	36.3	26.4
LnGrp LOS	D	A	C	C	A	A	C	A	B	A	D	C
Approach Vol, veh/h		590			3			691			817	
Approach Delay, s/veh		34.1			24.1			18.2			32.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	56.2		35.3	17.6	38.5		35.3				
Change Period (Y+Rc), s	* 6.3	* 6.3		6.0	* 6.3	* 6.3		6.0				
Max Green Setting (Gmax), s	* 15	* 40		30.0	* 20	* 40		30.0				
Max Q Clear Time (g_c+I1), s	0.0	11.6		29.1	10.7	27.5		29.0				
Green Ext Time (p_c), s	0.0	3.4		0.3	0.6	4.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			28.2
HCM 6th LOS			C

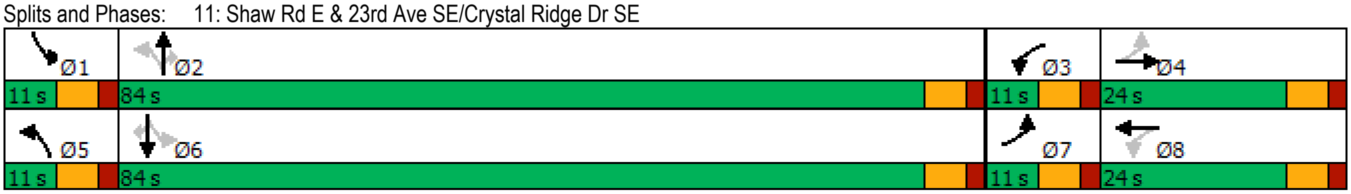
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	49	41	30	37	17	46	450	26	12	876	152
Future Volume (vph)	99	49	41	30	37	17	46	450	26	12	876	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-9%			3%			-9%			6%	
Storage Length (ft)	50		0	50		0	100		175	75		100
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		481			429			444			403	
Travel Time (s)		13.1			11.7			8.6			7.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	24.0		11.0	24.0		11.0	84.0	84.0	11.0	84.0	84.0
Total Split (%)	8.5%	18.5%		8.5%	18.5%		8.5%	64.6%	64.6%	8.5%	64.6%	64.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 105.3	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Shaw Rd E & 23rd Ave SE/Crystal Ridge Dr SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	49	41	30	37	17	46	450	26	12	876	152
Future Volume (veh/h)	99	49	41	30	37	17	46	450	26	12	876	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2254	2239	2239	1847	1847	1847	2224	2224	2224	1673	1673	1673
Adj Flow Rate, veh/h	108	53	45	33	40	18	50	489	28	13	952	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	1	0	0	0	2	2	2	1	1	1
Cap, veh/h	261	121	102	198	110	49	196	1398	1185	504	1017	862
Arrive On Green	0.05	0.11	0.11	0.03	0.09	0.09	0.04	0.63	0.63	0.01	0.61	0.61
Sat Flow, veh/h	2147	1118	950	1759	1206	543	2118	2224	1885	1593	1673	1418
Grp Volume(v), veh/h	108	0	98	33	0	58	50	489	28	13	952	165
Grp Sat Flow(s),veh/h/ln	2147	0	2068	1759	0	1749	2118	2224	1885	1593	1673	1418
Q Serve(g_s), s	5.0	0.0	4.9	1.8	0.0	3.4	0.9	11.4	0.6	0.3	56.6	5.6
Cycle Q Clear(g_c), s	5.0	0.0	4.9	1.8	0.0	3.4	0.9	11.4	0.6	0.3	56.6	5.6
Prop In Lane	1.00		0.46	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	0	223	198	0	159	196	1398	1185	504	1017	862
V/C Ratio(X)	0.41	0.00	0.44	0.17	0.00	0.36	0.26	0.35	0.02	0.03	0.94	0.19
Avail Cap(c_a), veh/h	261	0	340	228	0	288	217	1586	1344	553	1193	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	0.0	45.7	43.2	0.0	46.7	23.1	9.7	7.6	8.2	19.5	9.5
Incr Delay (d2), s/veh	1.0	0.0	1.4	0.4	0.0	1.4	0.7	0.1	0.0	0.0	12.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.6	0.8	0.0	1.6	0.7	5.2	0.2	0.1	22.9	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	0.0	47.0	43.6	0.0	48.1	23.8	9.8	7.7	8.3	31.9	9.6
LnGrp LOS	D	A	D	D	A	D	C	A	A	A	C	A
Approach Vol, veh/h		206			91			567			1130	
Approach Delay, s/veh		45.4			46.5			10.9			28.3	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	74.8	9.2	17.8	9.9	72.5	11.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	78.0	5.0	18.0	5.0	78.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	13.4	3.8	6.9	2.9	58.6	7.0	5.4
Green Ext Time (p_c), s	0.0	3.5	0.0	0.3	0.0	7.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	410	210	138	297	44	161	942	63	38	1093	342
Future Volume (vph)	272	410	210	138	297	44	161	942	63	38	1093	342
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	350		0	225		0	200		0	210		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		571			1339			1348			645	
Travel Time (s)		11.1			26.1			26.3			12.6	
Confl. Peds. (#/hr)			2						2			9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	9.6	27.6	27.6	10.6	16.6		10.6	29.6		10.6	29.6	29.6
Total Split (s)	32.0	31.0	31.0	31.0	30.0		22.0	73.0		15.0	66.0	66.0
Total Split (%)	21.3%	20.7%	20.7%	20.7%	20.0%		14.7%	48.7%		10.0%	44.0%	44.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 40 (27%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 12: S Meridian (SR161) & 39th Ave SW/39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	410	210	138	297	44	161	942	63	38	1093	342
Future Volume (veh/h)	272	410	210	138	297	44	161	942	63	38	1093	342
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1786	1786	1786	1694	1694	1694	1772	1772	1772
Adj Flow Rate, veh/h	280	423	0	142	306	45	166	971	65	39	1127	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	1	1	1	4	4	4	2	2	2
Cap, veh/h	299	681		164	361	53	185	1672	112	54	1561	
Arrive On Green	0.18	0.20	0.00	0.10	0.12	0.12	0.11	0.55	0.55	0.06	0.93	0.00
Sat Flow, veh/h	1688	3367	1502	1701	2972	433	1613	3061	205	1688	3367	1502
Grp Volume(v), veh/h	280	423	0	142	173	178	166	510	526	39	1127	0
Grp Sat Flow(s),veh/h/ln	1688	1683	1502	1701	1697	1708	1613	1609	1656	1688	1683	1502
Q Serve(g_s), s	24.5	17.2	0.0	12.3	15.0	15.3	15.2	31.6	31.6	3.4	11.0	0.0
Cycle Q Clear(g_c), s	24.5	17.2	0.0	12.3	15.0	15.3	15.2	31.6	31.6	3.4	11.0	0.0
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	299	681		164	206	207	185	879	905	54	1561	
V/C Ratio(X)	0.94	0.62		0.86	0.84	0.86	0.90	0.58	0.58	0.72	0.72	
Avail Cap(c_a), veh/h	308	681		299	287	289	187	879	905	117	1561	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.96	0.60	0.60	0.60	0.84	0.84	0.00
Uniform Delay (d), s/veh	60.8	54.6	0.0	66.8	64.5	64.6	65.5	22.6	22.6	69.5	3.3	0.0
Incr Delay (d2), s/veh	34.0	1.6	0.0	9.3	11.9	13.6	26.2	1.7	1.6	10.6	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	7.4	0.0	5.8	7.1	7.4	7.6	12.2	12.6	1.6	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.8	56.2	0.0	76.1	76.4	78.2	91.7	24.3	24.2	80.1	5.8	0.0
LnGrp LOS	F	E		E	E	E	F	C	C	F	A	
Approach Vol, veh/h		703	A		493			1202			1166	A
Approach Delay, s/veh		71.6			76.9			33.6			8.3	
Approach LOS		E			E			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.8	74.2	31.2	22.8	9.4	86.6	19.1	34.9
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	17.4	61.4	27.4	25.4	10.4	68.4	26.4	26.4
Max Q Clear Time (g_c+I1), s	17.2	13.0	26.5	17.3	5.4	33.6	14.3	19.2
Green Ext Time (p_c), s	0.0	8.3	0.1	0.9	0.0	6.2	0.2	1.3

Intersection Summary	
HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	182	136	96	163	4	70	243	59	5	464	85
Future Volume (vph)	126	182	136	96	163	4	70	243	59	5	464	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	150		0	175		0	225		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1339			1162			552			965	
Travel Time (s)		26.1			22.6			12.5			21.9	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0		11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0		21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%		16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other

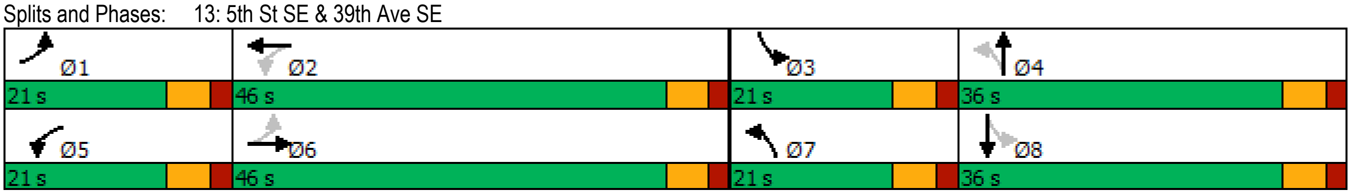
Cycle Length: 124

Actuated Cycle Length: 80.1

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 5th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	182	136	96	163	4	70	243	59	5	464	85
Future Volume (veh/h)	126	182	136	96	163	4	70	243	59	5	464	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	2018	2018	2018	1885	1885	1885
Adj Flow Rate, veh/h	129	186	139	98	166	4	71	248	60	5	473	87
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	3	3	3	0	0	0	1	1	1
Cap, veh/h	388	335	237	304	527	13	275	628	152	430	545	100
Arrive On Green	0.08	0.17	0.17	0.07	0.15	0.15	0.05	0.40	0.40	0.01	0.35	0.35
Sat Flow, veh/h	1781	1988	1406	1767	3519	85	1922	1569	380	1795	1548	285
Grp Volume(v), veh/h	129	165	160	98	83	87	71	0	308	5	0	560
Grp Sat Flow(s),veh/h/ln	1781	1777	1617	1767	1763	1840	1922	0	1948	1795	0	1833
Q Serve(g_s), s	4.0	5.7	6.1	3.1	2.8	2.8	1.5	0.0	7.5	0.1	0.0	19.0
Cycle Q Clear(g_c), s	4.0	5.7	6.1	3.1	2.8	2.8	1.5	0.0	7.5	0.1	0.0	19.0
Prop In Lane	1.00		0.87	1.00		0.05	1.00		0.19	1.00		0.16
Lane Grp Cap(c), veh/h	388	299	272	304	264	275	275	0	780	430	0	645
V/C Ratio(X)	0.33	0.55	0.59	0.32	0.31	0.32	0.26	0.00	0.39	0.01	0.00	0.87
Avail Cap(c_a), veh/h	638	1064	968	585	1055	1102	601	0	875	821	0	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	25.5	25.6	22.0	25.3	25.4	15.1	0.0	14.3	13.9	0.0	20.2
Incr Delay (d2), s/veh	0.5	1.6	2.0	0.6	0.7	0.7	0.5	0.0	0.3	0.0	0.0	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.4	2.3	1.2	1.2	1.2	0.6	0.0	3.1	0.0	0.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	27.1	27.6	22.6	26.0	26.0	15.6	0.0	14.6	13.9	0.0	28.2
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	C
Approach Vol, veh/h		454			268			379			565	
Approach Delay, s/veh		25.7			24.8			14.8			28.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	16.0	6.4	32.7	10.4	17.3	9.7	29.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	6.0	4.8	2.1	9.5	5.1	8.1	3.5	21.0
Green Ext Time (p_c), s	0.2	0.9	0.0	1.8	0.1	2.0	0.1	2.5

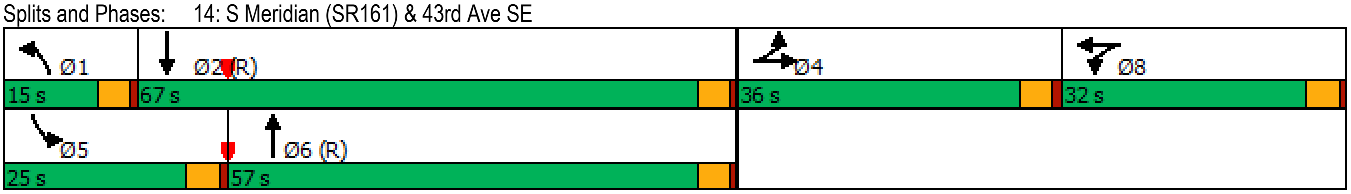
Intersection Summary		
HCM 6th Ctrl Delay		23.9
HCM 6th LOS		C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	122	56	215	125	80	57	993	91	150	1184	44
Future Volume (vph)	104	122	56	215	125	80	57	993	91	150	1184	44
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-4%			6%			0%			0%	
Storage Length (ft)	150		0	275		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		332			544			617			1348	
Travel Time (s)		9.1			10.6			12.0			26.3	
Confl. Peds. (#/hr)			2	2					6			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases												
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	33.6	33.6		30.6	30.6		10.6	32.6		10.6	28.6	
Total Split (s)	36.0	36.0		32.0	32.0		15.0	57.0		25.0	67.0	
Total Split (%)	24.0%	24.0%		21.3%	21.3%		10.0%	38.0%		16.7%	44.7%	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 90 (60%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 14: S Meridian (SR161) & 43rd Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	122	56	215	125	80	57	993	91	150	1184	44
Future Volume (veh/h)	104	122	56	215	125	80	57	993	91	150	1184	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1935	1935	1571	1571	1571	1730	1730	1730	1786	1786	1786
Adj Flow Rate, veh/h	107	126	58	222	129	82	59	1024	94	155	1221	45
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	1	1	1
Cap, veh/h	224	152	70	244	146	93	74	1490	137	175	1828	67
Arrive On Green	0.12	0.12	0.12	0.16	0.16	0.16	0.04	0.49	0.49	0.21	1.00	1.00
Sat Flow, veh/h	1843	1252	576	1496	896	570	1647	3042	279	1701	3338	123
Grp Volume(v), veh/h	107	0	184	222	0	211	59	553	565	155	620	646
Grp Sat Flow(s),veh/h/ln	1843	0	1828	1496	0	1466	1647	1643	1678	1701	1697	1764
Q Serve(g_s), s	8.1	0.0	14.8	21.9	0.0	21.1	5.3	38.8	38.9	13.3	0.0	0.0
Cycle Q Clear(g_c), s	8.1	0.0	14.8	21.9	0.0	21.1	5.3	38.8	38.9	13.3	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.39	1.00		0.17	1.00		0.07
Lane Grp Cap(c), veh/h	224	0	222	244	0	239	74	805	821	175	929	966
V/C Ratio(X)	0.48	0.00	0.83	0.91	0.00	0.88	0.80	0.69	0.69	0.89	0.67	0.67
Avail Cap(c_a), veh/h	386	0	383	273	0	268	114	805	821	231	929	966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	61.4	0.0	64.4	61.6	0.0	61.3	71.0	29.4	29.4	58.7	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	6.3	29.4	0.0	24.8	14.7	4.8	4.7	17.6	2.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	7.3	10.3	0.0	9.5	2.5	16.2	16.5	6.0	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	0.0	70.6	91.1	0.0	86.1	85.7	34.2	34.1	76.3	2.3	2.3
LnGrp LOS	E	A	E	F	A	F	F	C	C	E	A	A
Approach Vol, veh/h		291			433			1177			1421	
Approach Delay, s/veh		67.7			88.6			36.7			10.4	
Approach LOS		E			F			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.3	86.8		22.8	20.0	78.1		29.1
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6
Max Green Setting (Gmax), s	10.4	62.4		31.4	20.4	52.4		27.4
Max Q Clear Time (g_c+I1), s	7.3	2.0		16.8	15.3	40.9		23.9
Green Ext Time (p_c), s	0.0	10.4		1.0	0.2	5.2		0.6

Intersection Summary			
HCM 6th Ctrl Delay			34.9
HCM 6th LOS			C

2032 Without Project AM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	18	219	19	58	252
Future Volume (vph)	6	18	219	19	58	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		-4%			0%
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	771		286			501
Travel Time (s)	21.0		7.8			13.7
Confl. Peds. (#/hr)	1					
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection						
Int Delay, s/veh	1.2					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	18	219	19	58	252
Future Vol, veh/h	6	18	219	19	58	252
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-4	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	2	2	3	3
Mvmt Flow	7	20	241	21	64	277

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	658	252	0	0	262	0
Stage 1	252	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	432	792	-	-	1296	-
Stage 1	795	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	410	792	-	-	1296	-
Mov Cap-2 Maneuver	507	-	-	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	643	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	1.5
HCM LOS	B		

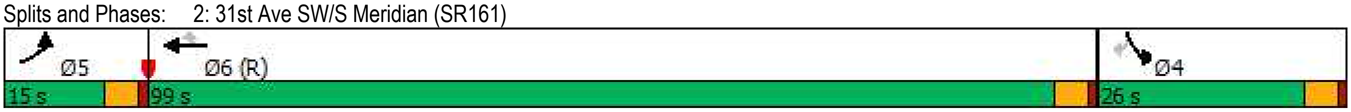
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	694	1296	-
HCM Lane V/C Ratio	-	-	0.038	0.049	-
HCM Control Delay (s)	-	-	10.4	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	376	916	1389	829	201	250
Future Volume (vph)	376	916	1389	829	201	250
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Storage Length (ft)	250			0	0	175
Storage Lanes	2			1	2	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		370	339		787	
Travel Time (s)		7.2	6.6		15.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0		10.0	10.0	8.0	8.0
Minimum Split (s)	12.6		20.6	20.6	12.6	12.6
Total Split (s)	15.0		99.0	99.0	26.0	26.0
Total Split (%)	10.7%		70.7%	70.7%	18.6%	18.6%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		C-Min	C-Min	None	None

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 41 (29%), Referenced to phase 6:WBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
! Phase conflict between lane groups.

Splits and Phases: 2: 31st Ave SW/S Meridian (SR161)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	376	916	1389	829	201	250
Future Volume (vph)	376	916	1389	829	201	250
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Total Lost time (s)	4.6	4.0	4.6	4.6	4.6	4.6
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3038	3132	3387	1515	3252	1500
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3038	3132	3387	1515	3252	1500
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	376	916	1389	829	201	250
RTOR Reduction (vph)	0	0	0	327	0	152
Lane Group Flow (vph)	376	916	1389	502	201	98
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Actuated Green, G (s)	33.3	140.0	77.7	77.7	15.2	15.2
Effective Green, g (s)	33.3	140.0	77.7	77.7	15.2	15.2
Actuated g/C Ratio	0.24	1.00	0.56	0.56	0.11	0.11
Clearance Time (s)	4.6		4.6	4.6	4.6	4.6
Vehicle Extension (s)	2.5		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	722	3132	1879	840	353	162
v/s Ratio Prot	c0.12	0.29	c0.41		0.06	
v/s Ratio Perm				0.33		c0.07
v/c Ratio	0.52	0.29	0.74	0.60	0.57	0.60
Uniform Delay, d1	46.4	0.0	23.5	20.7	59.3	59.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	2.7	3.1	1.7	5.2
Delay (s)	46.9	0.2	26.2	23.9	61.0	64.7
Level of Service	D	A	C	C	E	E
Approach Delay (s)		13.8	25.3		63.1	
Approach LOS		B	C		E	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	24	29	60	32	415	17	1745	38	303	742	29
Future Volume (vph)	26	24	29	60	32	415	17	1745	38	303	742	29
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	250		0	225		0	350		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		242			1349			645			449	
Travel Time (s)		6.6			26.3			12.6			8.7	
Confl. Peds. (#/hr)						1						1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			Free						
Detector Phase	3	8	8	7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	8.6	10.6	10.6	10.6	35.6		10.6	28.6		10.6	31.6	
Total Split (s)	15.0	25.0	25.0	27.0	37.0		15.0	68.0		20.0	73.0	
Total Split (%)	10.7%	17.9%	17.9%	19.3%	26.4%		10.7%	48.6%		14.3%	52.1%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 44 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: S Meridian (SR161) & 37th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	24	29	60	32	415	17	1745	38	303	742	29
Future Volume (veh/h)	26	24	29	60	32	415	17	1745	38	303	742	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1758	1758	1758	1772	1772	1772	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	26	24	29	60	32	0	17	1745	38	303	742	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	8	8	8
Cap, veh/h	32	125	56	76	113		35	2259	49	343	3525	
Arrive On Green	0.02	0.04	0.04	0.05	0.06	0.00	0.04	1.00	1.00	0.11	0.77	0.00
Sat Flow, veh/h	1674	3340	1490	1688	1772	1502	1674	3342	73	3118	4759	0
Grp Volume(v), veh/h	26	24	29	60	32	0	17	870	913	303	742	0
Grp Sat Flow(s),veh/h/ln	1674	1670	1490	1688	1772	1502	1674	1670	1745	1559	1536	0
Q Serve(g_s), s	2.2	1.0	2.7	4.9	2.4	0.0	1.4	0.0	0.0	13.4	6.3	0.0
Cycle Q Clear(g_c), s	2.2	1.0	2.7	4.9	2.4	0.0	1.4	0.0	0.0	13.4	6.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	32	125	56	76	113		35	1129	1179	343	3525	
V/C Ratio(X)	0.82	0.19	0.52	0.79	0.28		0.49	0.77	0.77	0.88	0.21	
Avail Cap(c_a), veh/h	124	487	217	270	410		124	1129	1179	343	3525	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.00	0.49	0.49	0.49	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.4	65.3	66.1	66.2	62.5	0.0	66.4	0.0	0.0	61.4	4.6	0.0
Incr Delay (d2), s/veh	43.2	0.7	7.3	14.6	1.3	0.0	5.2	2.6	2.5	22.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.4	1.1	2.4	1.1	0.0	0.6	0.8	0.8	6.4	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.7	66.1	73.5	80.7	63.8	0.0	71.5	2.6	2.5	84.1	4.7	0.0
LnGrp LOS	F	E	E	F	E		E	A	A	F	A	
Approach Vol, veh/h		79			92	A		1800			1045	A
Approach Delay, s/veh		83.8			74.9			3.2			27.7	
Approach LOS		F			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	111.7	7.3	13.5	20.0	99.2	10.9	9.8
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	10.4	68.4	10.4	32.4	15.4	63.4	22.4	20.4
Max Q Clear Time (g_c+I1), s	3.4	8.3	4.2	4.4	15.4	2.0	6.9	4.7
Green Ext Time (p_c), s	0.0	7.4	0.0	0.1	0.0	29.8	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.0
HCM 6th LOS	B

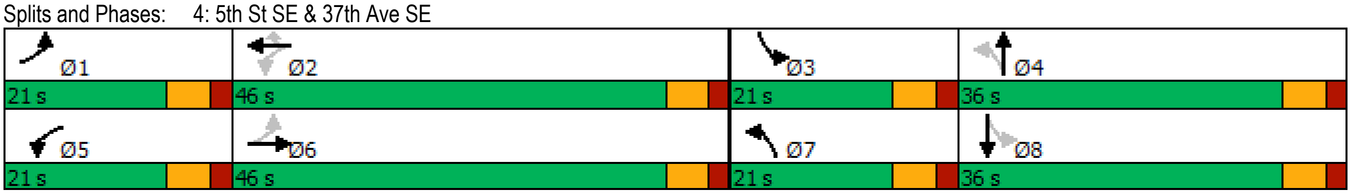
Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	309	29	14	344	158	82	220	13	132	186	54
Future Volume (vph)	38	309	29	14	344	158	82	220	13	132	186	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			0%			-5%	
Storage Length (ft)	200		0	225		150	200		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1349			1181			965			418	
Travel Time (s)		26.3			23.0			21.9			11.4	
Confl. Peds. (#/hr)	1					1			4			4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	4			8		
Detector Phase	1	6		5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0	26.0	11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0	46.0	21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%	37.1%	16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 65.7	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 4: 5th St SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↱		↰	↱	
Traffic Volume (veh/h)	38	309	29	14	344	158	82	220	13	132	186	54
Future Volume (veh/h)	38	309	29	14	344	158	82	220	13	132	186	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1973	1973	1973	1870	1870	1870	2037	2037	2037
Adj Flow Rate, veh/h	43	347	33	16	387	0	92	247	0	148	209	61
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	4	4	4
Cap, veh/h	320	715	68	311	737		374	381		415	337	98
Arrive On Green	0.04	0.22	0.22	0.02	0.20	0.00	0.07	0.20	0.00	0.09	0.22	0.22
Sat Flow, veh/h	1753	3228	305	1879	3749	1672	1781	1870	0	1940	1513	442
Grp Volume(v), veh/h	43	187	193	16	387	0	92	247	0	148	0	270
Grp Sat Flow(s),veh/h/ln	1753	1749	1785	1879	1874	1672	1781	1870	0	1940	0	1954
Q Serve(g_s), s	1.0	4.8	4.9	0.3	4.8	0.0	2.0	6.3	0.0	3.0	0.0	6.4
Cycle Q Clear(g_c), s	1.0	4.8	4.9	0.3	4.8	0.0	2.0	6.3	0.0	3.0	0.0	6.4
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.00	1.00		0.23
Lane Grp Cap(c), veh/h	320	387	395	311	737		374	381		415	0	435
V/C Ratio(X)	0.13	0.48	0.49	0.05	0.53		0.25	0.65		0.36	0.00	0.62
Avail Cap(c_a), veh/h	751	1356	1384	820	2906		766	1088		805	0	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	17.5	17.5	16.1	18.6	0.0	14.6	18.8	0.0	14.4	0.0	18.1
Incr Delay (d2), s/veh	0.2	0.9	0.9	0.1	0.6	0.0	0.3	1.9	0.0	0.5	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	1.8	0.1	1.9	0.0	0.8	2.6	0.0	1.2	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	18.4	18.5	16.2	19.1	0.0	15.0	20.7	0.0	14.9	0.0	19.5
LnGrp LOS	B	B	B	B	B		B	C		B	A	B
Approach Vol, veh/h		423			403	A		339	A		418	
Approach Delay, s/veh		18.2			19.0			19.1			17.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	16.1	10.6	16.5	7.0	17.4	9.7	17.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	3.0	6.8	5.0	8.3	2.3	6.9	4.0	8.4
Green Ext Time (p_c), s	0.0	2.6	0.3	1.4	0.0	2.3	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	403	1	177	591	1	0	8	298	5	4	8
Future Volume (vph)	9	403	1	177	591	1	0	8	298	5	4	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			3%			0%	
Storage Length (ft)	225		0	200		0	200		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1181			510			1162			264	
Travel Time (s)		23.0			9.9			22.6			7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	14%	14%	14%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.0	16.0	12.0	11.0	34.0	
Total Split (s)	23.0	42.0		23.0	42.0		22.0	22.0	23.0	22.0	22.0	
Total Split (%)	21.1%	38.5%		21.1%	38.5%		20.2%	20.2%	21.1%	20.2%	20.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	7.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary

Area Type: Other

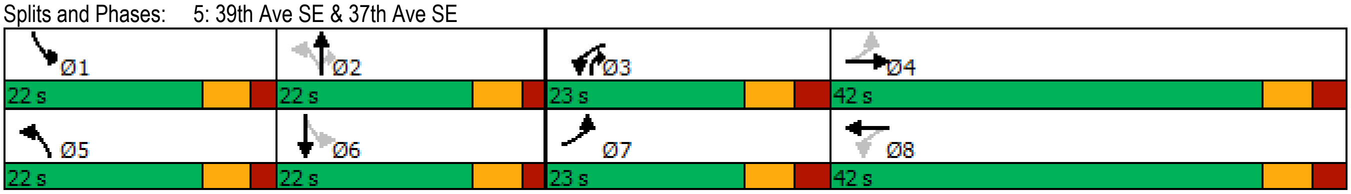
Cycle Length: 109

Actuated Cycle Length: 41.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: 39th Ave SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	403	1	177	591	1	0	8	298	5	4	8
Future Volume (veh/h)	9	403	1	177	591	1	0	8	298	5	4	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1629	1629	1629	2052	2052	2052	1803	1803	1803	1693	1693	1693
Adj Flow Rate, veh/h	10	443	1	195	649	1	0	9	327	5	4	9
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	3	3	3	3	3	3	14	14	14
Cap, veh/h	276	756	2	445	1325	2	420	399	500	334	151	340
Arrive On Green	0.01	0.24	0.24	0.11	0.33	0.33	0.00	0.22	0.22	0.01	0.33	0.33
Sat Flow, veh/h	1551	3167	7	1954	3993	6	1717	1803	1528	1612	463	1042
Grp Volume(v), veh/h	10	216	228	195	317	333	0	9	327	5	0	13
Grp Sat Flow(s),veh/h/ln	1551	1547	1627	1954	1949	2051	1717	1803	1528	1612	0	1505
Q Serve(g_s), s	0.3	7.5	7.5	4.3	7.9	7.9	0.0	0.2	11.1	0.1	0.0	0.4
Cycle Q Clear(g_c), s	0.3	7.5	7.5	4.3	7.9	7.9	0.0	0.2	11.1	0.1	0.0	0.4
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	276	369	388	445	647	680	420	399	500	334	0	491
V/C Ratio(X)	0.04	0.59	0.59	0.44	0.49	0.49	0.00	0.02	0.65	0.01	0.00	0.03
Avail Cap(c_a), veh/h	664	890	937	751	1122	1180	869	474	564	748	0	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	20.5	20.5	14.7	16.2	16.2	0.0	18.5	17.5	16.7	0.0	13.9
Incr Delay (d2), s/veh	0.1	3.1	3.0	0.7	1.2	1.2	0.0	0.0	2.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.8	2.9	1.8	3.3	3.5	0.0	0.1	3.7	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	23.6	23.5	15.4	17.4	17.4	0.0	18.6	19.8	16.7	0.0	13.9
LnGrp LOS	B	C	C	B	B	B	A	B	B	B	A	B
Approach Vol, veh/h		454			845			336			18	
Approach Delay, s/veh		23.4			16.9			19.8			14.7	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	19.5	13.4	21.5	0.0	25.9	7.8	27.2
Change Period (Y+Rc), s	6.0	6.0	7.0	7.0	6.0	6.0	7.0	7.0
Max Green Setting (Gmax), s	16.0	16.0	16.0	35.0	16.0	16.0	16.0	35.0
Max Q Clear Time (g_c+I1), s	2.1	13.1	6.3	9.5	0.0	2.4	2.3	9.9
Green Ext Time (p_c), s	0.0	0.3	0.4	5.0	0.0	0.0	0.0	7.7

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	540	52	79	648	14	100	24	104	1	1	15
Future Volume (vph)	107	540	52	79	648	14	100	24	104	1	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-5%			-6%			-4%	
Storage Length (ft)	150		0	200		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		510			1994			256			231	
Travel Time (s)		9.9			38.8			5.8			6.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	3%	3%	3%	13%	13%	13%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.3	30.3		11.3	30.3		10.5	25.5		10.5	25.5	
Total Split (s)	21.3	51.3		21.3	51.3		21.3	21.3		21.3	21.3	
Total Split (%)	18.5%	44.5%		18.5%	44.5%		18.5%	18.5%		18.5%	18.5%	
Yellow Time (s)	4.3	4.3		4.3	4.3		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 115.2
Actuated Cycle Length: 57.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: 10th St SE & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	540	52	79	648	14	100	24	104	1	1	15
Future Volume (veh/h)	107	540	52	79	648	14	100	24	104	1	1	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	2037	2037	2037	2091	2091	2091	1862	1862	1862
Adj Flow Rate, veh/h	118	593	57	87	712	15	110	26	114	1	1	16
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4	3	3	3	13	13	13
Cap, veh/h	392	1076	103	421	1256	26	400	53	235	242	8	126
Arrive On Green	0.08	0.33	0.33	0.07	0.32	0.32	0.08	0.16	0.16	0.00	0.08	0.08
Sat Flow, veh/h	1753	3224	309	1940	3875	82	1991	339	1485	1774	94	1499
Grp Volume(v), veh/h	118	321	329	87	355	372	110	0	140	1	0	17
Grp Sat Flow(s),veh/h/ln	1753	1749	1785	1940	1935	2022	1991	0	1824	1774	0	1592
Q Serve(g_s), s	2.3	8.1	8.1	1.5	8.2	8.2	2.6	0.0	3.8	0.0	0.0	0.5
Cycle Q Clear(g_c), s	2.3	8.1	8.1	1.5	8.2	8.2	2.6	0.0	3.8	0.0	0.0	0.5
Prop In Lane	1.00		0.17	1.00		0.04	1.00		0.81	1.00		0.94
Lane Grp Cap(c), veh/h	392	583	596	421	627	655	400	0	288	242	0	134
V/C Ratio(X)	0.30	0.55	0.55	0.21	0.57	0.57	0.28	0.00	0.49	0.00	0.00	0.13
Avail Cap(c_a), veh/h	747	1465	1496	832	1621	1694	836	0	536	761	0	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.1	14.6	14.6	11.0	15.0	15.0	19.7	0.0	20.6	22.5	0.0	22.8
Incr Delay (d2), s/veh	0.4	1.2	1.1	0.2	1.1	1.1	0.4	0.0	1.3	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.9	2.9	0.6	3.2	3.4	1.1	0.0	1.6	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	15.8	15.8	11.2	16.2	16.1	20.1	0.0	21.9	22.5	0.0	23.2
LnGrp LOS	B	B	B	B	B	B	C	A	C	C	A	C
Approach Vol, veh/h		768			814			250			18	
Approach Delay, s/veh		15.1			15.6			21.1			23.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	23.7	5.6	14.0	9.9	24.2	9.5	10.0
Change Period (Y+Rc), s	6.3	6.3	5.5	5.5	6.3	6.3	5.5	5.5
Max Green Setting (Gmax), s	15.0	45.0	15.8	15.8	15.0	45.0	15.8	15.8
Max Q Clear Time (g_c+I1), s	4.3	10.2	2.0	5.8	3.5	10.1	4.6	2.5
Green Ext Time (p_c), s	0.2	7.2	0.0	0.5	0.1	6.3	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

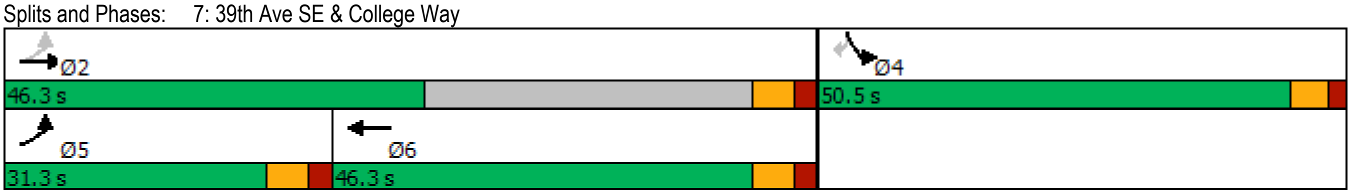
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	195	376	684	116	34	58
Future Volume (vph)	195	376	684	116	34	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	-5%		0%	
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		25	
Link Distance (ft)		1994	773		209	
Travel Time (s)		38.8	15.1		5.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	3%	3%	40%	40%
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	5.0
Minimum Split (s)	11.3	16.3	35.3		34.5	34.5
Total Split (s)	31.3	46.3	46.3		50.5	50.5
Total Split (%)	24.4%	36.1%	36.1%		39.4%	39.4%
Yellow Time (s)	4.0	4.0	4.0		3.5	3.5
All-Red Time (s)	2.3	2.3	2.3		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3		5.5	5.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 128.1	
Actuated Cycle Length: 60.8	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 7: 39th Ave SE & College Way



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	195	376	684	116	34	58
Future Volume (veh/h)	195	376	684	116	34	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1811	1811	2052	2052	1307	1307
Adj Flow Rate, veh/h	205	396	720	122	36	61
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	3	3	40	40
Cap, veh/h	491	2175	1220	207	101	90
Arrive On Green	0.11	0.63	0.37	0.37	0.08	0.08
Sat Flow, veh/h	1725	3532	3437	565	1245	1108
Grp Volume(v), veh/h	205	396	421	421	36	61
Grp Sat Flow(s),veh/h/ln	1725	1721	1949	1950	1245	1108
Q Serve(g_s), s	2.6	2.0	7.2	7.2	1.1	2.2
Cycle Q Clear(g_c), s	2.6	2.0	7.2	7.2	1.1	2.2
Prop In Lane	1.00			0.29	1.00	1.00
Lane Grp Cap(c), veh/h	491	2175	713	713	101	90
V/C Ratio(X)	0.42	0.18	0.59	0.59	0.36	0.68
Avail Cap(c_a), veh/h	1343	3342	1893	1894	1360	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.7	3.1	10.6	10.6	17.9	18.4
Incr Delay (d2), s/veh	0.6	0.0	0.8	0.8	2.5	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	2.4	2.4	0.4	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.3	3.2	11.3	11.3	20.4	28.6
LnGrp LOS	A	A	B	B	C	C
Approach Vol, veh/h		601	842		97	
Approach Delay, s/veh		4.6	11.3		25.5	
Approach LOS		A	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.3		8.9	11.0	21.4
Change Period (Y+Rc), s		* 6.3		5.5	* 6.3	* 6.3
Max Green Setting (Gmax), s		* 40		45.0	* 25	* 40
Max Q Clear Time (g_c+I1), s		4.0		4.2	4.6	9.2
Green Ext Time (p_c), s		2.7		0.4	0.5	5.9

Intersection Summary			
HCM 6th Ctrl Delay			9.6
HCM 6th LOS			A

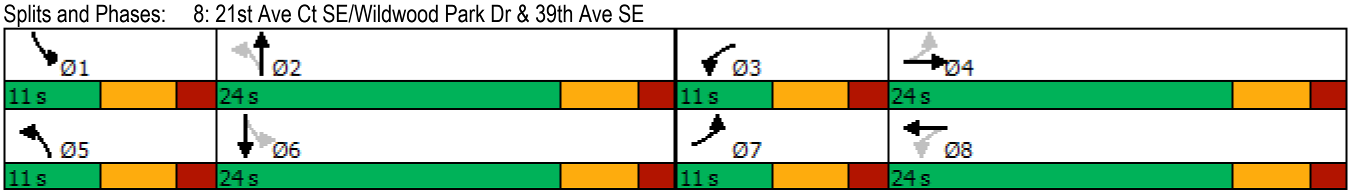
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	240	14	5	456	106	54	34	13	113	18	177
Future Volume (vph)	127	240	14	5	456	106	54	34	13	113	18	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			6%	
Storage Length (ft)	125		0	125		0	50		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		384			416			287			528	
Travel Time (s)		7.5			8.1			7.8			14.4	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 52	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: 21st Ave Ct SE/Wildwood Park Dr & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	240	14	5	456	106	54	34	13	113	18	177
Future Volume (veh/h)	127	240	14	5	456	106	54	34	13	113	18	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	2027	2027	2027	1870	1870	1870	1614	1614	1614
Adj Flow Rate, veh/h	140	264	15	5	501	116	59	37	14	124	20	195
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	6	2	2	2	2	2	2	5	5	5
Cap, veh/h	332	1002	57	408	697	161	301	233	88	441	27	267
Arrive On Green	0.09	0.30	0.30	0.01	0.22	0.22	0.05	0.18	0.18	0.09	0.21	0.21
Sat Flow, veh/h	1725	3311	187	1931	3108	716	1781	1292	489	1537	129	1255
Grp Volume(v), veh/h	140	137	142	5	309	308	59	0	51	124	0	215
Grp Sat Flow(s),veh/h/ln	1725	1721	1777	1931	1926	1898	1781	0	1780	1537	0	1384
Q Serve(g_s), s	3.4	3.4	3.4	0.1	8.4	8.5	1.5	0.0	1.4	3.6	0.0	8.2
Cycle Q Clear(g_c), s	3.4	3.4	3.4	0.1	8.4	8.5	1.5	0.0	1.4	3.6	0.0	8.2
Prop In Lane	1.00		0.11	1.00		0.38	1.00		0.27	1.00		0.91
Lane Grp Cap(c), veh/h	332	521	538	408	432	426	301	0	321	441	0	294
V/C Ratio(X)	0.42	0.26	0.26	0.01	0.72	0.72	0.20	0.00	0.16	0.28	0.00	0.73
Avail Cap(c_a), veh/h	338	548	566	566	613	605	364	0	567	445	0	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	14.9	14.9	16.8	20.3	20.3	17.5	0.0	19.5	16.6	0.0	20.7
Incr Delay (d2), s/veh	0.9	0.3	0.3	0.0	2.3	2.5	0.3	0.0	0.2	0.3	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.2	1.3	0.0	3.6	3.6	0.6	0.0	0.6	1.2	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	15.2	15.2	16.8	22.6	22.8	17.8	0.0	19.8	16.9	0.0	24.2
LnGrp LOS	B	B	B	B	C	C	B	A	B	B	A	C
Approach Vol, veh/h		419			622			110			339	
Approach Delay, s/veh		15.5			22.6			18.7			21.6	
Approach LOS		B			C			B			C	

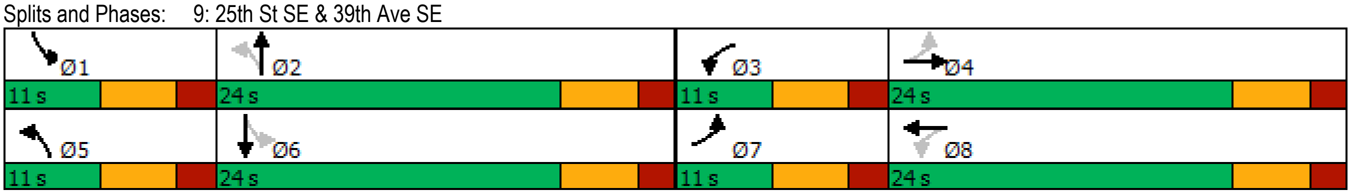
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	16.2	6.4	23.1	9.0	18.0	10.8	18.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.6	3.4	2.1	5.4	3.5	10.2	5.4	10.5
Green Ext Time (p_c), s	0.0	0.1	0.0	1.2	0.0	0.8	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	320	9	7	530	7	25	2	24	2	0	15
Future Volume (vph)	24	320	9	7	530	7	25	2	24	2	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	75		0	100		0	25		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		365			225			248			136	
Travel Time (s)		7.1			4.4			6.8			3.7	
Confl. Peds. (#/hr)			1	1			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 36.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 9: 25th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	320	9	7	530	7	25	2	24	2	0	15
Future Volume (veh/h)	24	320	9	7	530	7	25	2	24	2	0	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1870	1870	1870	1826	1826	1826	1900	1900	1900
Adj Flow Rate, veh/h	26	340	10	7	564	7	27	2	26	2	0	16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	2	2	2	5	5	5	0	0	0
Cap, veh/h	316	922	27	385	892	11	366	15	201	331	0	175
Arrive On Green	0.03	0.27	0.27	0.01	0.25	0.25	0.03	0.14	0.14	0.00	0.00	0.11
Sat Flow, veh/h	1725	3413	100	1781	3594	45	1739	112	1451	1810	0	1608
Grp Volume(v), veh/h	26	171	179	7	279	292	27	0	28	2	0	16
Grp Sat Flow(s),veh/h/ln	1725	1721	1793	1781	1777	1862	1739	0	1563	1810	0	1608
Q Serve(g_s), s	0.5	3.3	3.4	0.1	5.8	5.8	0.6	0.0	0.7	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	3.3	3.4	0.1	5.8	5.8	0.6	0.0	0.7	0.0	0.0	0.4
Prop In Lane	1.00		0.06	1.00		0.02	1.00		0.93	1.00		1.00
Lane Grp Cap(c), veh/h	316	465	484	385	441	462	366	0	216	331	0	175
V/C Ratio(X)	0.08	0.37	0.37	0.02	0.63	0.63	0.07	0.00	0.13	0.01	0.00	0.09
Avail Cap(c_a), veh/h	470	748	779	584	772	809	520	0	679	545	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	12.2	12.3	11.5	13.9	13.9	15.5	0.0	15.7	16.4	0.0	16.6
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.0	1.5	1.4	0.1	0.0	0.3	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.1	1.1	0.0	2.0	2.1	0.2	0.0	0.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	12.7	12.7	11.5	15.4	15.3	15.6	0.0	15.9	16.4	0.0	16.8
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		376			578			55			18	
Approach Delay, s/veh		12.6			15.3			15.8			16.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	11.7	6.4	17.2	7.3	10.5	7.3	16.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0				
Max Q Clear Time (g_c+I1), s	2.0	2.7	2.1	5.4	2.6	2.4	2.5	7.8				
Green Ext Time (p_c), s	0.0	0.1	0.0	1.5	0.0	0.0	0.0	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			14.4									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	0	239	1	0	0	454	852	1	0	329	208
Future Volume (vph)	151	0	239	1	0	0	454	852	1	0	329	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			8%			-4%			6%	
Storage Length (ft)	0		0	0		0	300		0	200		0
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		322			305			698			574	
Travel Time (s)		6.3			5.9			13.6			11.2	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	5%	5%	5%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	29.0	29.0	29.0	24.0	24.0		16.3	28.3		11.3	28.3	28.3
Total Split (s)	36.0	36.0	36.0	36.0	36.0		26.3	46.3		21.3	46.3	46.3
Total Split (%)	33.1%	33.1%	33.1%	33.1%	33.1%		24.2%	42.6%		19.6%	42.6%	42.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.3	2.3		2.3	2.3	2.3
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.3	6.3		6.3	6.3	6.3
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 108.6	
Actuated Cycle Length: 79.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 10: Shaw Rd E & 39th Ave SE

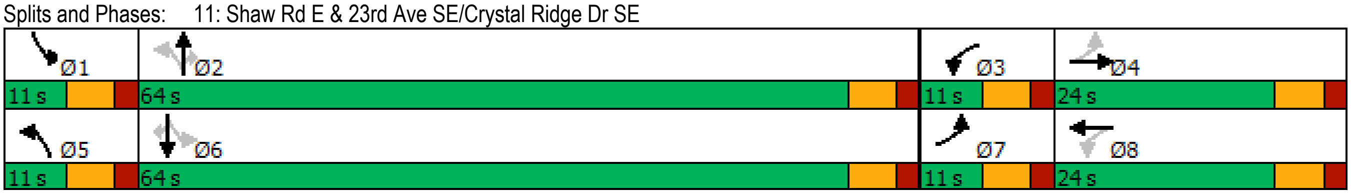
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	0	239	1	0	0	454	852	1	0	329	208
Future Volume (veh/h)	151	0	239	1	0	0	454	852	1	0	329	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1523	1523	1523	2027	2027	2027	1644	1644	1644
Adj Flow Rate, veh/h	170	0	269	1	0	0	510	957	1	0	370	234
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	5	5	5	0	0	0	2	2	2	3	3	3
Cap, veh/h	438	0	338	226	0	0	595	1218	1	234	493	417
Arrive On Green	0.22	0.00	0.22	0.22	0.00	0.00	0.21	0.60	0.60	0.00	0.30	0.30
Sat Flow, veh/h	1523	0	1547	553	0	0	1931	2025	2	1565	1644	1390
Grp Volume(v), veh/h	170	0	269	1	0	0	510	0	958	0	370	234
Grp Sat Flow(s),veh/h/ln	1523	0	1547	553	0	0	1931	0	2027	1565	1644	1390
Q Serve(g_s), s	0.0	0.0	11.2	0.1	0.0	0.0	11.3	0.0	24.4	0.0	13.9	9.7
Cycle Q Clear(g_c), s	5.8	0.0	11.2	5.9	0.0	0.0	11.3	0.0	24.4	0.0	13.9	9.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	438	0	338	226	0	0	595	0	1220	234	493	417
V/C Ratio(X)	0.39	0.00	0.80	0.00	0.00	0.00	0.86	0.00	0.79	0.00	0.75	0.56
Avail Cap(c_a), veh/h	743	0	679	425	0	0	755	0	1220	575	961	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	25.3	25.7	0.0	0.0	13.0	0.0	10.3	0.0	21.6	20.1
Incr Delay (d2), s/veh	0.6	0.0	4.3	0.0	0.0	0.0	7.9	0.0	3.7	0.0	3.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	4.2	0.0	0.0	0.0	5.2	0.0	9.4	0.0	5.3	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	29.6	25.7	0.0	0.0	20.9	0.0	13.9	0.0	24.9	21.8
LnGrp LOS	C	A	C	C	A	A	C	A	B	A	C	C
Approach Vol, veh/h		439			1			1468			604	
Approach Delay, s/veh		27.3			25.7			16.4			23.7	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	47.5		20.9	20.6	26.8		20.9				
Change Period (Y+Rc), s	* 6.3	* 6.3		6.0	* 6.3	* 6.3		6.0				
Max Green Setting (Gmax), s	* 15	* 40		30.0	* 20	* 40		30.0				
Max Q Clear Time (g_c+I1), s	0.0	26.4		13.2	13.3	15.9		7.9				
Green Ext Time (p_c), s	0.0	7.8		1.7	1.0	4.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			20.0									
HCM 6th LOS			C									
Notes												

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	14	21	45	49	47	41	1044	8	15	327	51
Future Volume (vph)	158	14	21	45	49	47	41	1044	8	15	327	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-9%			3%			-9%			6%	
Storage Length (ft)	50		0	50		0	100		175	75		100
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		481			429			444			403	
Travel Time (s)		13.1			11.7			8.6			7.9	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	24.0		11.0	24.0		11.0	64.0	64.0	11.0	64.0	64.0
Total Split (%)	10.0%	21.8%		10.0%	21.8%		10.0%	58.2%	58.2%	10.0%	58.2%	58.2%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 97	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Shaw Rd E & 23rd Ave SE/Crystal Ridge Dr SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	14	21	45	49	47	41	1044	8	15	327	51
Future Volume (veh/h)	158	14	21	45	49	47	41	1044	8	15	327	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2239	2239	2239	1817	1817	1817	2224	2224	2224	1629	1629	1629
Adj Flow Rate, veh/h	163	14	22	46	51	48	42	1076	8	15	337	53
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	4	4	4
Cap, veh/h	287	101	159	295	96	90	634	1213	1027	162	857	726
Arrive On Green	0.06	0.13	0.13	0.04	0.11	0.11	0.04	0.55	0.55	0.02	0.53	0.53
Sat Flow, veh/h	2132	784	1233	1731	861	810	2118	2224	1883	1551	1629	1379
Grp Volume(v), veh/h	163	0	36	46	0	99	42	1076	8	15	337	53
Grp Sat Flow(s),veh/h/ln	2132	0	2017	1731	0	1671	2118	2224	1883	1551	1629	1379
Q Serve(g_s), s	5.0	0.0	1.4	2.1	0.0	5.0	0.8	37.9	0.2	0.4	11.0	1.7
Cycle Q Clear(g_c), s	5.0	0.0	1.4	2.1	0.0	5.0	0.8	37.9	0.2	0.4	11.0	1.7
Prop In Lane	1.00		0.61	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	0	261	295	0	186	634	1213	1027	162	857	726
V/C Ratio(X)	0.57	0.00	0.14	0.16	0.00	0.53	0.07	0.89	0.01	0.09	0.39	0.07
Avail Cap(c_a), veh/h	287	0	408	327	0	338	676	1451	1228	222	1062	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	34.3	33.1	0.0	37.3	9.4	17.8	9.2	17.0	12.6	10.4
Incr Delay (d2), s/veh	2.7	0.0	0.2	0.2	0.0	2.4	0.0	6.2	0.0	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.7	0.9	0.0	2.2	0.3	19.0	0.1	0.1	3.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	34.6	33.3	0.0	39.7	9.4	24.0	9.2	17.2	12.9	10.4
LnGrp LOS	D	A	C	C	A	D	A	C	A	B	B	B
Approach Vol, veh/h		199			145			1126			405	
Approach Delay, s/veh		36.6			37.7			23.4			12.7	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	54.5	9.4	17.5	9.2	52.8	11.0	15.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	58.0	5.0	18.0	5.0	58.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	39.9	4.1	3.4	2.8	13.0	7.0	7.0
Green Ext Time (p_c), s	0.0	8.6	0.0	0.1	0.0	2.3	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	249	153	52	160	14	102	1474	71	19	767	126
Future Volume (vph)	214	249	153	52	160	14	102	1474	71	19	767	126
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	350		0	225		0	200		0	210		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		571			1339			1348			645	
Travel Time (s)		11.1			26.1			26.3			12.6	
Confl. Peds. (#/hr)									4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	9.6	27.6	27.6	10.6	16.6		10.6	29.6		10.6	29.6	29.6
Total Split (s)	30.0	30.0	30.0	30.0	30.0		21.0	65.0		15.0	59.0	59.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	21.4%		15.0%	46.4%		10.7%	42.1%	42.1%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 41 (29%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 12: S Meridian (SR161) & 39th Ave SW/39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	249	153	52	160	14	102	1474	71	19	767	126
Future Volume (veh/h)	214	249	153	52	160	14	102	1474	71	19	767	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1716	1716	1716	1758	1758	1758	1680	1680	1680	1716	1716	1716
Adj Flow Rate, veh/h	214	249	0	52	160	14	102	1474	71	19	767	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	6	6	6	3	3	3	5	5	5	6	6	6
Cap, veh/h	236	568		66	215	19	121	1960	94	37	1889	
Arrive On Green	0.14	0.17	0.00	0.04	0.07	0.07	0.15	1.00	1.00	0.04	1.00	0.00
Sat Flow, veh/h	1634	3260	1454	1674	3110	269	1600	3099	149	1634	3260	1454
Grp Volume(v), veh/h	214	249	0	52	85	89	102	757	788	19	767	0
Grp Sat Flow(s),veh/h/ln	1634	1630	1454	1674	1670	1709	1600	1596	1652	1634	1630	1454
Q Serve(g_s), s	18.0	9.6	0.0	4.3	7.0	7.1	8.7	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	18.0	9.6	0.0	4.3	7.0	7.1	8.7	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	236	568		66	115	118	121	1009	1045	37	1889	
V/C Ratio(X)	0.91	0.44		0.79	0.74	0.75	0.85	0.75	0.75	0.52	0.41	
Avail Cap(c_a), veh/h	296	591		304	303	310	187	1009	1045	121	1889	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.99	0.99	0.99	0.35	0.35	0.35	0.98	0.98	0.00
Uniform Delay (d), s/veh	58.9	51.7	0.0	66.7	63.9	64.0	58.6	0.0	0.0	66.1	0.0	0.0
Incr Delay (d2), s/veh	24.6	0.4	0.0	13.9	5.5	5.7	6.2	1.8	1.8	8.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	3.9	0.0	2.1	3.1	3.3	3.5	0.5	0.5	0.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.6	52.1	0.0	80.6	69.4	69.7	64.8	1.8	1.8	74.2	0.6	0.0
LnGrp LOS	F	D		F	E	E	E	A	A	E	A	
Approach Vol, veh/h		463	A		226			1647			786	A
Approach Delay, s/veh		66.6			72.1			5.7			2.4	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	85.7	24.8	14.3	7.7	93.1	10.1	29.0
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	16.4	54.4	25.4	25.4	10.4	60.4	25.4	25.4
Max Q Clear Time (g_c+I1), s	10.7	2.0	20.0	9.1	3.6	2.0	6.3	11.6
Green Ext Time (p_c), s	0.1	4.9	0.2	0.6	0.0	12.9	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

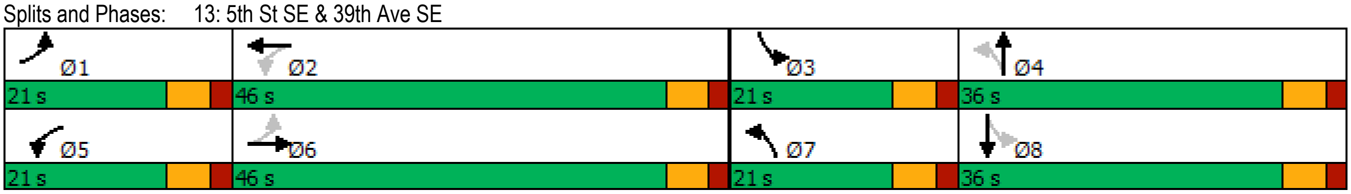
Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	221	42	61	119	7	60	240	90	2	152	35
Future Volume (vph)	53	221	42	61	119	7	60	240	90	2	152	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	150		0	175		0	225		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1339			1162			552			965	
Travel Time (s)		26.1			22.6			12.5			21.9	
Confl. Peds. (#/hr)									3	3		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0		11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0		21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%		16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 55.2	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 13: 5th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	221	42	61	119	7	60	240	90	2	152	35
Future Volume (veh/h)	53	221	42	61	119	7	60	240	90	2	152	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1826	1826	1826	2003	2003	2003	1885	1885	1885
Adj Flow Rate, veh/h	57	238	45	66	128	8	65	258	97	2	163	38
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	5	5	5	1	1	1	1	1	1
Cap, veh/h	453	589	110	383	676	42	392	364	137	245	304	71
Arrive On Green	0.05	0.20	0.20	0.06	0.20	0.20	0.06	0.26	0.26	0.00	0.21	0.21
Sat Flow, veh/h	1767	2967	552	1739	3318	206	1908	1386	521	1795	1477	344
Grp Volume(v), veh/h	57	140	143	66	66	70	65	0	355	2	0	201
Grp Sat Flow(s),veh/h/ln	1767	1763	1756	1739	1735	1789	1908	0	1907	1795	0	1821
Q Serve(g_s), s	1.3	3.5	3.6	1.5	1.6	1.6	1.3	0.0	8.5	0.0	0.0	5.0
Cycle Q Clear(g_c), s	1.3	3.5	3.6	1.5	1.6	1.6	1.3	0.0	8.5	0.0	0.0	5.0
Prop In Lane	1.00		0.31	1.00		0.12	1.00		0.27	1.00		0.19
Lane Grp Cap(c), veh/h	453	350	349	383	354	365	392	0	501	245	0	375
V/C Ratio(X)	0.13	0.40	0.41	0.17	0.19	0.19	0.17	0.00	0.71	0.01	0.00	0.54
Avail Cap(c_a), veh/h	882	1400	1395	797	1377	1420	847	0	1136	774	0	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.5	17.6	17.6	14.5	16.6	16.6	14.3	0.0	16.8	16.1	0.0	17.9
Incr Delay (d2), s/veh	0.1	0.7	0.8	0.2	0.3	0.3	0.2	0.0	1.9	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.3	1.3	0.5	0.6	0.6	0.5	0.0	3.5	0.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	18.3	18.4	14.7	16.9	16.9	14.5	0.0	18.7	16.1	0.0	19.0
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		340			202			420			203	
Approach Delay, s/veh		17.7			16.2			18.1			19.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	16.3	6.1	19.2	9.0	16.0	9.0	16.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	3.3	3.6	2.0	10.5	3.5	5.6	3.3	7.0
Green Ext Time (p_c), s	0.1	0.7	0.0	2.1	0.1	1.7	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	60	5	104	46	71	14	1704	130	72	773	12
Future Volume (vph)	46	60	5	104	46	71	14	1704	130	72	773	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-4%			6%			0%			0%	
Storage Length (ft)	150		0	275		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		332			544			617			1348	
Travel Time (s)		9.1			10.6			12.0			26.3	
Confl. Peds. (#/hr)			3	3					3			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	11%	11%	11%
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases												
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	33.6	33.6		30.6	30.6		10.6	32.6		10.6	28.6	
Total Split (s)	36.0	36.0		32.0	32.0		15.0	57.0		15.0	57.0	
Total Split (%)	25.7%	25.7%		22.9%	22.9%		10.7%	40.7%		10.7%	40.7%	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 140

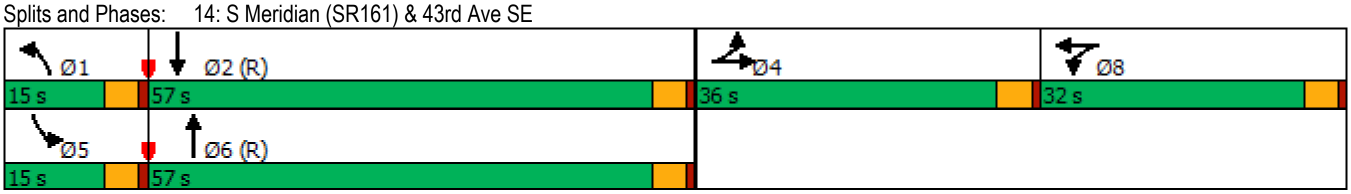
Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 14: S Meridian (SR161) & 43rd Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	60	5	104	46	71	14	1704	130	72	773	12
Future Volume (veh/h)	46	60	5	104	46	71	14	1704	130	72	773	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1892	1892	1892	1529	1529	1529	1758	1758	1758	1646	1646	1646
Adj Flow Rate, veh/h	46	60	5	104	46	71	14	1704	130	72	773	12
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	4	5	5	5	3	3	3	11	11	11
Cap, veh/h	107	102	8	156	58	89	30	2035	154	87	2157	33
Arrive On Green	0.06	0.06	0.06	0.11	0.11	0.11	0.02	0.65	0.65	0.11	1.00	1.00
Sat Flow, veh/h	1802	1720	143	1456	539	832	1674	3147	238	1567	3151	49
Grp Volume(v), veh/h	46	0	65	104	0	117	14	896	938	72	383	402
Grp Sat Flow(s),veh/h/ln	1802	0	1864	1456	0	1371	1674	1670	1714	1567	1563	1637
Q Serve(g_s), s	3.4	0.0	4.8	9.6	0.0	11.7	1.2	57.3	59.8	6.3	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	4.8	9.6	0.0	11.7	1.2	57.3	59.8	6.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.61	1.00		0.14	1.00		0.03
Lane Grp Cap(c), veh/h	107	0	110	156	0	146	30	1080	1109	87	1070	1120
V/C Ratio(X)	0.43	0.00	0.59	0.67	0.00	0.80	0.46	0.83	0.85	0.82	0.36	0.36
Avail Cap(c_a), veh/h	404	0	418	285	0	268	124	1080	1109	116	1070	1120
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	63.6	0.0	64.2	60.1	0.0	61.1	68.1	18.9	19.3	61.5	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.9	3.9	0.0	7.8	7.4	7.4	8.0	26.1	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	2.4	3.7	0.0	4.4	0.6	22.8	24.5	3.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	0.0	68.1	64.1	0.0	68.8	75.5	26.3	27.3	87.7	0.8	0.8
LnGrp LOS	E	A	E	E	A	E	E	C	C	F	A	A
Approach Vol, veh/h		111			221			1848			857	
Approach Delay, s/veh		67.2			66.6			27.2			8.1	
Approach LOS		E			E			C			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	100.4		12.9	12.4	95.1		19.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	10.4	52.4		31.4	10.4	52.4		27.4				
Max Q Clear Time (g_c+I1), s	3.2	2.0		6.8	8.3	61.8		13.7				
Green Ext Time (p_c), s	0.0	5.1		0.4	0.0	0.0		0.6				
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									

2032 Without Project PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	11	34	402	11	34	491
Future Volume (vph)	11	34	402	11	34	491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		-4%			0%
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	771		286			501
Travel Time (s)	21.0		7.8			13.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection						
Int Delay, s/veh	0.8					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	34	402	11	34	491
Future Vol, veh/h	11	34	402	11	34	491
Conflicting Peds, #/hr	0	0	0	7	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-4	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	2	2	2	2
Mvmt Flow	12	38	452	12	38	552

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1093	465	0	0	471	0
Stage 1	465	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	239	602	-	-	1091	-
Stage 1	636	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	229	598	-	-	1084	-
Mov Cap-2 Maneuver	362	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	516	1084	-
HCM Lane V/C Ratio	-	-	0.098	0.035	-
HCM Control Delay (s)	-	-	12.7	8.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	291	1394	1336	448	655	306
Future Volume (vph)	291	1394	1336	448	655	306
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Storage Length (ft)	250			0	0	175
Storage Lanes	2			1	2	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		370	339		787	
Travel Time (s)		7.2	6.6		15.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0		10.0	10.0	8.0	8.0
Minimum Split (s)	12.6		20.6	20.6	12.6	12.6
Total Split (s)	21.0		79.0	79.0	50.0	50.0
Total Split (%)	14.0%		52.7%	52.7%	33.3%	33.3%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		C-Min	C-Min	None	None

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

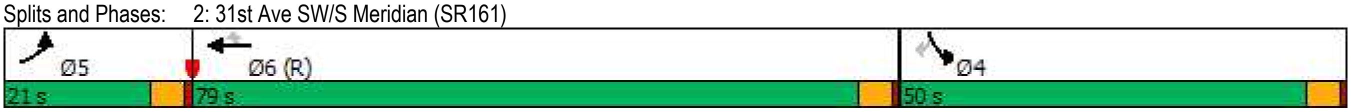
Offset: 44 (29%), Referenced to phase 6:WBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

! Phase conflict between lane groups.

Splits and Phases: 2: 31st Ave SW/S Meridian (SR161)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	291	1394	1336	448	655	306
Future Volume (vph)	291	1394	1336	448	655	306
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Total Lost time (s)	4.6	4.0	4.6	4.6	4.6	4.6
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3187	3286	3387	1515	3285	1515
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3187	3286	3387	1515	3285	1515
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	291	1394	1336	448	655	306
RTOR Reduction (vph)	0	0	0	149	0	169
Lane Group Flow (vph)	291	1394	1336	299	655	137
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Actuated Green, G (s)	18.2	150.0	83.0	83.0	35.0	35.0
Effective Green, g (s)	18.2	150.0	83.0	83.0	35.0	35.0
Actuated g/C Ratio	0.12	1.00	0.55	0.55	0.23	0.23
Clearance Time (s)	4.6		4.6	4.6	4.6	4.6
Vehicle Extension (s)	2.5		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	386	3286	1874	838	766	353
v/s Ratio Prot	c0.09	0.42	c0.39		c0.20	
v/s Ratio Perm				0.20		0.09
v/c Ratio	0.75	0.42	0.71	0.36	0.86	0.39
Uniform Delay, d1	63.7	0.0	24.7	18.6	55.1	48.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.7	0.4	2.3	1.2	9.1	0.5
Delay (s)	71.5	0.4	27.1	19.8	64.2	49.0
Level of Service	E	A	C	B	E	D
Approach Delay (s)		12.7	25.2		59.4	
Approach LOS		B	C		E	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
! Phase conflict between lane groups.			
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	152	113	199	183	423	93	1170	68	406	1467	68
Future Volume (vph)	71	152	113	199	183	423	93	1170	68	406	1467	68
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	250		0	225		0	350		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		242			1349			645			449	
Travel Time (s)		6.6			26.3			12.6			8.7	
Confl. Peds. (#/hr)						2			2			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			Free						
Detector Phase	3	8	8	7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	8.6	10.6	10.6	10.6	35.6		10.6	28.6		10.6	31.6	
Total Split (s)	15.0	25.0	25.0	27.0	37.0		23.0	72.0		26.0	75.0	
Total Split (%)	10.0%	16.7%	16.7%	18.0%	24.7%		15.3%	48.0%		17.3%	50.0%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 28 (19%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: S Meridian (SR161) & 37th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	152	113	199	183	423	93	1170	68	406	1467	68
Future Volume (veh/h)	71	152	113	199	183	423	93	1170	68	406	1467	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1786	1786	1786	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	71	152	113	199	183	0	93	1170	68	406	1467	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	4	4	4	2	2	2
Cap, veh/h	88	311	139	221	302		112	1653	96	448	2848	
Arrive On Green	0.05	0.09	0.09	0.13	0.17	0.00	0.13	1.00	1.00	0.14	0.59	0.00
Sat Flow, veh/h	1701	3393	1514	1701	1786	1514	1661	3182	185	3274	4997	0
Grp Volume(v), veh/h	71	152	113	199	183	0	93	609	629	406	1467	0
Grp Sat Flow(s),veh/h/ln	1701	1697	1514	1701	1786	1514	1661	1657	1710	1637	1612	0
Q Serve(g_s), s	6.2	6.4	11.0	17.3	14.2	0.0	8.2	0.0	0.0	18.3	26.8	0.0
Cycle Q Clear(g_c), s	6.2	6.4	11.0	17.3	14.2	0.0	8.2	0.0	0.0	18.3	26.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	88	311	139	221	302		112	860	888	448	2848	
V/C Ratio(X)	0.80	0.49	0.82	0.90	0.61		0.83	0.71	0.71	0.91	0.52	
Avail Cap(c_a), veh/h	118	461	206	254	386		204	860	888	467	2848	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.72	0.72	0.00	0.50	0.50	0.50	1.00	1.00	0.00
Uniform Delay (d), s/veh	70.3	64.8	66.9	64.3	57.7	0.0	64.1	0.0	0.0	63.8	18.2	0.0
Incr Delay (d2), s/veh	26.3	1.2	14.3	23.4	1.5	0.0	7.9	2.5	2.4	20.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.9	4.8	8.9	6.6	0.0	3.5	0.6	0.6	8.9	10.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.7	66.0	81.2	87.7	59.2	0.0	72.0	2.5	2.4	84.6	18.9	0.0
LnGrp LOS	F	E	F	F	E		E	A	A	F	B	
Approach Vol, veh/h		336			382	A		1331			1873	A
Approach Delay, s/veh		77.6			74.1			7.3			33.1	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	92.9	12.4	30.0	25.1	82.5	24.0	18.3
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	18.4	70.4	10.4	32.4	21.4	67.4	22.4	20.4
Max Q Clear Time (g_c+I1), s	10.2	28.8	8.2	16.2	20.3	2.0	19.3	13.0
Green Ext Time (p_c), s	0.1	17.7	0.0	0.9	0.2	14.6	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

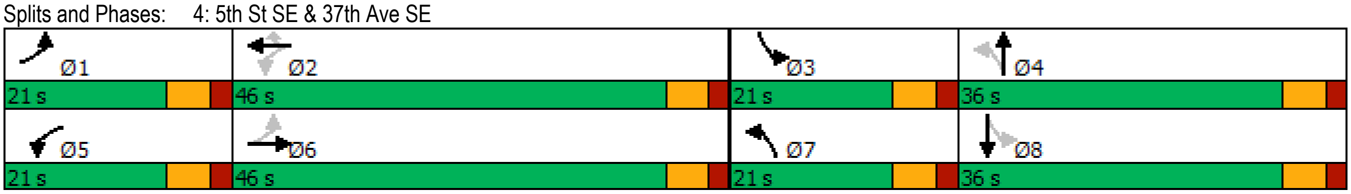
Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	388	94	39	542	208	123	293	24	280	466	79
Future Volume (vph)	98	388	94	39	542	208	123	293	24	280	466	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			0%			-5%	
Storage Length (ft)	200		0	225		150	200		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1349			1181			965			418	
Travel Time (s)		26.3			23.0			21.9			11.4	
Confl. Peds. (#/hr)	3		1	1		3	1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	4			8		
Detector Phase	1	6		5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0	26.0	11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0	46.0	21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%	37.1%	16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 95.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 4: 5th St SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	388	94	39	542	208	123	293	24	280	466	79
Future Volume (veh/h)	98	388	94	39	542	208	123	293	24	280	466	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	2003	2003	2003	1885	1885	1885	2082	2082	2082
Adj Flow Rate, veh/h	103	408	99	41	571	0	129	308	0	295	491	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	1	1	1	1	1	1	1	1	1
Cap, veh/h	280	706	170	281	836		279	499		507	564	95
Arrive On Green	0.06	0.24	0.24	0.04	0.22	0.00	0.07	0.26	0.00	0.14	0.33	0.33
Sat Flow, veh/h	1810	2883	693	1908	3806	1697	1795	1885	0	1983	1735	293
Grp Volume(v), veh/h	103	254	253	41	571	0	129	308	0	295	0	574
Grp Sat Flow(s),veh/h/ln	1810	1805	1770	1908	1903	1697	1795	1885	0	1983	0	2028
Q Serve(g_s), s	3.3	9.4	9.5	1.2	10.4	0.0	3.9	10.9	0.0	7.8	0.0	20.2
Cycle Q Clear(g_c), s	3.3	9.4	9.5	1.2	10.4	0.0	3.9	10.9	0.0	7.8	0.0	20.2
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.00	1.00		0.14
Lane Grp Cap(c), veh/h	280	442	433	281	836		279	499		507	0	659
V/C Ratio(X)	0.37	0.57	0.58	0.15	0.68		0.46	0.62		0.58	0.00	0.87
Avail Cap(c_a), veh/h	524	954	936	586	2011		500	747		632	0	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	25.1	25.2	21.7	27.1	0.0	19.7	24.5	0.0	16.8	0.0	24.0
Incr Delay (d2), s/veh	0.8	1.2	1.3	0.2	1.0	0.0	1.2	1.2	0.0	1.1	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.9	3.9	0.5	4.6	0.0	1.6	4.8	0.0	3.5	0.0	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	26.3	26.4	21.9	28.1	0.0	20.9	25.7	0.0	17.8	0.0	32.9
LnGrp LOS	C	C	C	C	C		C	C		B	A	C
Approach Vol, veh/h		610			612	A		437	A		869	
Approach Delay, s/veh		25.7			27.7			24.3			27.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	22.6	16.2	26.0	8.9	24.5	11.7	30.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	5.3	12.4	9.8	12.9	3.2	11.5	5.9	22.2
Green Ext Time (p_c), s	0.1	4.0	0.4	1.6	0.0	3.1	0.2	2.4

Intersection Summary		
HCM 6th Ctrl Delay		26.6
HCM 6th LOS		C

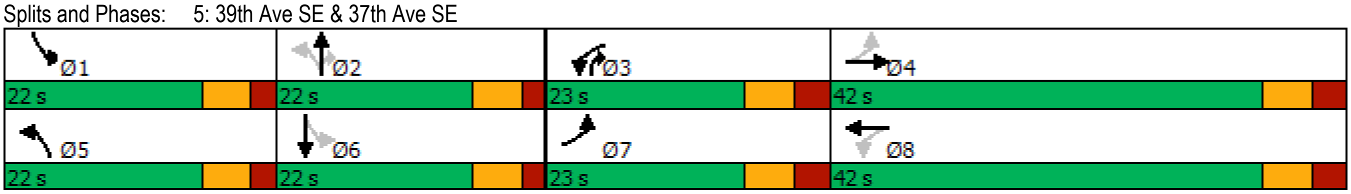
Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	691	7	305	737	6	1	8	279	5	11	22
Future Volume (vph)	9	691	7	305	737	6	1	8	279	5	11	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			3%			0%	
Storage Length (ft)	225		0	200		0	200		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1181			510			1162			264	
Travel Time (s)		23.0			9.9			22.6			7.2	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.0	16.0	12.0	11.0	34.0	
Total Split (s)	23.0	42.0		23.0	42.0		22.0	22.0	23.0	22.0	22.0	
Total Split (%)	21.1%	38.5%		21.1%	38.5%		20.2%	20.2%	21.1%	20.2%	20.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	7.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 109	
Actuated Cycle Length: 60.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 39th Ave SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	691	7	305	737	6	1	8	279	5	11	22
Future Volume (veh/h)	9	691	7	305	737	6	1	8	279	5	11	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1673	1673	2067	2067	2067	1817	1817	1817	1900	1900	1900
Adj Flow Rate, veh/h	10	735	7	324	784	6	1	9	297	5	12	23
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	0	0	0
Cap, veh/h	306	1047	10	460	1785	14	336	346	501	310	114	218
Arrive On Green	0.01	0.32	0.32	0.13	0.45	0.45	0.00	0.19	0.19	0.01	0.20	0.20
Sat Flow, veh/h	1593	3226	31	1968	3994	31	1731	1817	1540	1810	583	1117
Grp Volume(v), veh/h	10	362	380	324	385	405	1	9	297	5	0	35
Grp Sat Flow(s),veh/h/ln	1593	1589	1668	1968	1963	2061	1731	1817	1540	1810	0	1699
Q Serve(g_s), s	0.3	15.1	15.1	7.7	10.2	10.2	0.0	0.3	12.2	0.2	0.0	1.3
Cycle Q Clear(g_c), s	0.3	15.1	15.1	7.7	10.2	10.2	0.0	0.3	12.2	0.2	0.0	1.3
Prop In Lane	1.00		0.02	1.00		0.01	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	306	516	541	460	877	921	336	346	501	310	0	332
V/C Ratio(X)	0.03	0.70	0.70	0.70	0.44	0.44	0.00	0.03	0.59	0.02	0.00	0.11
Avail Cap(c_a), veh/h	624	736	772	611	909	954	700	384	533	681	0	359
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	22.3	22.3	15.2	14.4	14.4	24.7	24.9	21.3	24.5	0.0	25.0
Incr Delay (d2), s/veh	0.0	3.7	3.5	2.4	0.7	0.7	0.0	0.0	1.6	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.7	6.0	3.3	4.3	4.5	0.0	0.1	4.3	0.1	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	26.0	25.9	17.6	15.1	15.1	24.7	24.9	22.9	24.5	0.0	25.1
LnGrp LOS	B	C	C	B	B	B	C	C	C	C	A	C
Approach Vol, veh/h		752			1114			307			40	
Approach Delay, s/veh		25.8			15.8			23.0			25.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	20.4	17.2	31.6	6.1	20.8	7.9	40.8
Change Period (Y+Rc), s	6.0	6.0	7.0	7.0	6.0	6.0	7.0	7.0
Max Green Setting (Gmax), s	16.0	16.0	16.0	35.0	16.0	16.0	16.0	35.0
Max Q Clear Time (g_c+I1), s	2.2	14.2	9.7	17.1	2.0	3.3	2.3	12.2
Green Ext Time (p_c), s	0.0	0.2	0.5	7.5	0.0	0.1	0.0	9.1

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	781	160	163	813	5	99	7	79	16	32	134
Future Volume (vph)	39	781	160	163	813	5	99	7	79	16	32	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-5%			-6%			-4%	
Storage Length (ft)	150		0	200		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		510			1994			256			231	
Travel Time (s)		9.9			38.8			5.8			6.3	
Confl. Peds. (#/hr)	1		2	2		1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.3	30.3		11.3	30.3		10.5	25.5		10.5	25.5	
Total Split (s)	21.3	51.3		21.3	51.3		21.3	21.3		21.3	21.3	
Total Split (%)	18.5%	44.5%		18.5%	44.5%		18.5%	18.5%		18.5%	18.5%	
Yellow Time (s)	4.3	4.3		4.3	4.3		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 115.2
Actuated Cycle Length: 88.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: 10th St SE & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	781	160	163	813	5	99	7	79	16	32	134
Future Volume (veh/h)	39	781	160	163	813	5	99	7	79	16	32	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	2067	2067	2067	2061	2061	2061	2057	2057	2057
Adj Flow Rate, veh/h	43	868	178	181	903	6	110	8	88	18	36	149
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	0	0	0
Cap, veh/h	344	1207	247	350	1796	12	273	27	292	325	46	192
Arrive On Green	0.04	0.41	0.41	0.08	0.45	0.45	0.07	0.18	0.18	0.02	0.13	0.13
Sat Flow, veh/h	1795	2959	607	1968	3999	27	1963	147	1622	1959	350	1447
Grp Volume(v), veh/h	43	525	521	181	443	466	110	0	96	18	0	185
Grp Sat Flow(s),veh/h/ln	1795	1791	1774	1968	1963	2062	1963	0	1769	1959	0	1797
Q Serve(g_s), s	1.0	18.7	18.7	3.9	12.2	12.2	3.6	0.0	3.6	0.6	0.0	7.6
Cycle Q Clear(g_c), s	1.0	18.7	18.7	3.9	12.2	12.2	3.6	0.0	3.6	0.6	0.0	7.6
Prop In Lane	1.00		0.34	1.00		0.01	1.00		0.92	1.00		0.81
Lane Grp Cap(c), veh/h	344	731	724	350	882	926	273	0	319	325	0	238
V/C Ratio(X)	0.13	0.72	0.72	0.52	0.50	0.50	0.40	0.00	0.30	0.06	0.00	0.78
Avail Cap(c_a), veh/h	628	1061	1051	580	1163	1221	547	0	368	692	0	374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.5	18.8	18.8	14.2	14.9	14.9	26.0	0.0	27.0	27.5	0.0	31.9
Incr Delay (d2), s/veh	0.2	1.9	1.9	1.2	0.6	0.6	1.0	0.0	0.5	0.1	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.4	7.3	1.6	5.0	5.3	1.7	0.0	1.5	0.3	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	20.7	20.8	15.4	15.5	15.5	27.0	0.0	27.5	27.6	0.0	37.3
LnGrp LOS	B	C	C	B	B	B	C	A	C	C	A	D
Approach Vol, veh/h		1089			1090			206			203	
Approach Delay, s/veh		20.4			15.5			27.2			36.4	
Approach LOS		C			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	40.4	7.1	19.2	12.4	37.3	10.7	15.6				
Change Period (Y+Rc), s	6.3	6.3	5.5	5.5	6.3	6.3	5.5	5.5				
Max Green Setting (Gmax), s	15.0	45.0	15.8	15.8	15.0	45.0	15.8	15.8				
Max Q Clear Time (g_c+I1), s	3.0	14.2	2.6	5.6	5.9	20.7	5.6	9.6				
Green Ext Time (p_c), s	0.0	9.3	0.0	0.3	0.3	10.3	0.2	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			20.1									
HCM 6th LOS			C									

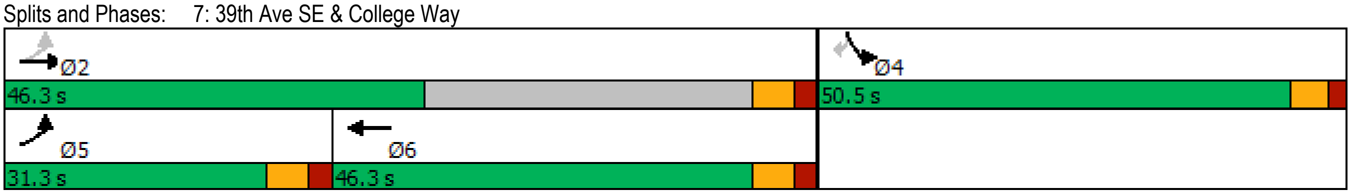
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	113	750	777	68	68	114
Future Volume (vph)	113	750	777	68	68	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	-5%		0%	
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		25	
Link Distance (ft)		1994	702		209	
Travel Time (s)		38.8	13.7		5.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	5%	5%
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	5.0
Minimum Split (s)	11.3	16.3	35.3		34.5	34.5
Total Split (s)	31.3	46.3	46.3		50.5	50.5
Total Split (%)	24.4%	36.1%	36.1%		39.4%	39.4%
Yellow Time (s)	4.0	4.0	4.0		3.5	3.5
All-Red Time (s)	2.3	2.3	2.3		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3		5.5	5.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 128.1	
Actuated Cycle Length: 60.6	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 7: 39th Ave SE & College Way



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	113	750	777	68	68	114
Future Volume (veh/h)	113	750	777	68	68	114
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	2082	2082	1826	1826
Adj Flow Rate, veh/h	124	824	854	75	75	125
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	1	5	5
Cap, veh/h	435	2176	1394	122	224	199
Arrive On Green	0.09	0.61	0.38	0.38	0.13	0.13
Sat Flow, veh/h	1795	3676	3782	323	1739	1547
Grp Volume(v), veh/h	124	824	459	470	75	125
Grp Sat Flow(s),veh/h/ln	1795	1791	1978	2023	1739	1547
Q Serve(g_s), s	1.6	5.2	8.4	8.4	1.8	3.4
Cycle Q Clear(g_c), s	1.6	5.2	8.4	8.4	1.8	3.4
Prop In Lane	1.00			0.16	1.00	1.00
Lane Grp Cap(c), veh/h	435	2176	749	767	224	199
V/C Ratio(X)	0.29	0.38	0.61	0.61	0.34	0.63
Avail Cap(c_a), veh/h	1280	3202	1768	1809	1749	1556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	4.5	11.2	11.2	17.7	18.5
Incr Delay (d2), s/veh	0.4	0.1	0.8	0.8	1.1	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	2.9	3.0	0.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.6	4.6	12.1	12.0	18.8	22.4
LnGrp LOS	A	A	B	B	B	C
Approach Vol, veh/h		948	929		200	
Approach Delay, s/veh		5.0	12.0		21.0	
Approach LOS		A	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.5		11.3	10.2	23.3
Change Period (Y+Rc), s		* 6.3		5.5	* 6.3	* 6.3
Max Green Setting (Gmax), s		* 40		45.0	* 25	* 40
Max Q Clear Time (g_c+I1), s		7.2		5.4	3.6	10.4
Green Ext Time (p_c), s		6.4		0.9	0.3	6.6

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

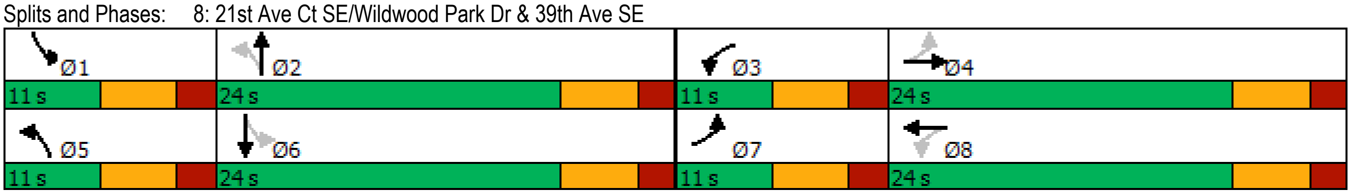
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	561	54	12	631	31	41	7	5	51	32	115
Future Volume (vph)	130	561	54	12	631	31	41	7	5	51	32	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			6%	
Storage Length (ft)	125		0	125		0	50		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		384			416			287			528	
Travel Time (s)		7.5			8.1			7.8			14.4	
Confl. Peds. (#/hr)			1	1					1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 8: 21st Ave Ct SE/Wildwood Park Dr & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	561	54	12	631	31	41	7	5	51	32	115
Future Volume (veh/h)	130	561	54	12	631	31	41	7	5	51	32	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	2042	2042	2042	1900	1900	1900	1658	1658	1658
Adj Flow Rate, veh/h	140	603	58	13	678	33	44	8	5	55	34	124
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	2	2	2
Cap, veh/h	341	1034	99	298	932	45	320	195	122	428	58	212
Arrive On Green	0.08	0.31	0.31	0.02	0.25	0.25	0.04	0.18	0.18	0.05	0.19	0.19
Sat Flow, veh/h	1795	3301	317	1945	3766	183	1810	1093	683	1579	312	1139
Grp Volume(v), veh/h	140	327	334	13	349	362	44	0	13	55	0	158
Grp Sat Flow(s),veh/h/ln	1795	1791	1828	1945	1940	2009	1810	0	1776	1579	0	1451
Q Serve(g_s), s	3.1	8.4	8.4	0.3	9.0	9.0	1.1	0.0	0.3	1.5	0.0	5.4
Cycle Q Clear(g_c), s	3.1	8.4	8.4	0.3	9.0	9.0	1.1	0.0	0.3	1.5	0.0	5.4
Prop In Lane	1.00		0.17	1.00		0.09	1.00		0.38	1.00		0.78
Lane Grp Cap(c), veh/h	341	561	572	298	480	497	320	0	317	428	0	270
V/C Ratio(X)	0.41	0.58	0.58	0.04	0.73	0.73	0.14	0.00	0.04	0.13	0.00	0.59
Avail Cap(c_a), veh/h	358	591	603	445	640	663	406	0	586	491	0	479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	15.7	15.7	15.1	18.8	18.8	17.1	0.0	18.5	16.7	0.0	20.3
Incr Delay (d2), s/veh	0.8	1.3	1.3	0.1	2.8	2.7	0.2	0.0	0.1	0.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.1	3.2	0.1	3.9	4.0	0.4	0.0	0.1	0.5	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	17.1	17.1	15.2	21.6	21.6	17.3	0.0	18.6	16.9	0.0	22.3
LnGrp LOS	B	B	B	B	C	C	B	A	B	B	A	C
Approach Vol, veh/h		801			724			57			213	
Approach Delay, s/veh		16.7			21.5			17.6			20.9	
Approach LOS		B			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	15.7	6.9	23.1	8.4	16.1	10.5	19.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.5	2.3	2.3	10.4	3.1	7.4	5.1	11.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.6	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	575	31	29	621	1	19	0	15	8	0	27
Future Volume (vph)	13	575	31	29	621	1	19	0	15	8	0	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	75		0	100		0	25		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		365			225			248			136	
Travel Time (s)		7.1			4.4			6.8			3.7	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other

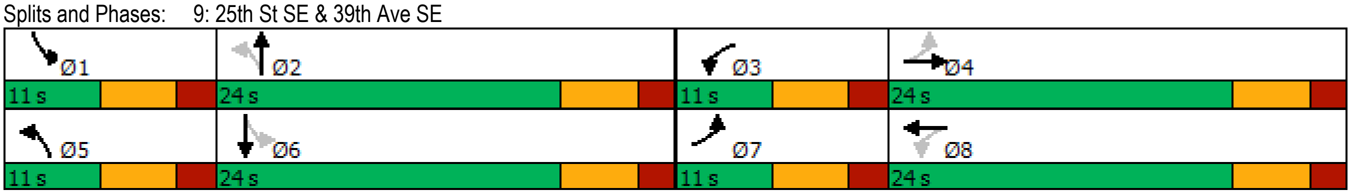
Cycle Length: 70

Actuated Cycle Length: 34.5

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 9: 25th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	575	31	29	621	1	19	0	15	8	0	27
Future Volume (veh/h)	13	575	31	29	621	1	19	0	15	8	0	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	618	33	31	668	1	20	0	16	9	0	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	0	0	0
Cap, veh/h	298	928	50	318	1051	2	347	0	202	349	0	181
Arrive On Green	0.02	0.27	0.27	0.04	0.29	0.29	0.02	0.00	0.13	0.01	0.00	0.11
Sat Flow, veh/h	1795	3458	184	1795	3670	5	1810	0	1610	1810	0	1610
Grp Volume(v), veh/h	14	320	331	31	326	343	20	0	16	9	0	29
Grp Sat Flow(s),veh/h/ln	1795	1791	1852	1795	1791	1884	1810	0	1610	1810	0	1610
Q Serve(g_s), s	0.2	6.8	6.9	0.5	6.8	6.8	0.4	0.0	0.4	0.2	0.0	0.7
Cycle Q Clear(g_c), s	0.2	6.8	6.9	0.5	6.8	6.8	0.4	0.0	0.4	0.2	0.0	0.7
Prop In Lane	1.00		0.10	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	481	497	318	513	540	347	0	202	349	0	181
V/C Ratio(X)	0.05	0.67	0.67	0.10	0.64	0.64	0.06	0.00	0.08	0.03	0.00	0.16
Avail Cap(c_a), veh/h	475	750	775	462	750	789	513	0	674	538	0	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.5	14.0	14.0	11.2	13.4	13.4	16.2	0.0	16.6	16.6	0.0	17.2
Incr Delay (d2), s/veh	0.1	1.6	1.5	0.1	1.3	1.2	0.1	0.0	0.2	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.4	2.5	0.2	2.3	2.5	0.2	0.0	0.1	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	15.6	15.6	11.3	14.7	14.6	16.2	0.0	16.8	16.6	0.0	17.6
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		665			700			36			38	
Approach Delay, s/veh		15.5			14.5			16.5			17.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	11.4	7.5	17.5	7.1	10.8	6.8	18.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	2.4	2.5	8.9	2.4	2.7	2.2	8.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.6	0.0	0.1	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	0	439	1	2	0	353	433	4	0	576	358
Future Volume (vph)	234	0	439	1	2	0	353	433	4	0	576	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			8%			-4%			6%	
Storage Length (ft)	0		0	0		0	300		0	200		0
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		507			360			460			462	
Travel Time (s)		9.9			7.0			9.0			9.0	
Confl. Peds. (#/hr)			2	2					2	2		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	29.0	29.0	29.0	24.0	24.0		16.3	28.3		11.3	28.3	28.3
Total Split (s)	36.0	36.0	36.0	36.0	36.0		26.3	46.3		21.3	46.3	46.3
Total Split (%)	33.1%	33.1%	33.1%	33.1%	33.1%		24.2%	42.6%		19.6%	42.6%	42.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.3	2.3		2.3	2.3	2.3
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.3	6.3		6.3	6.3	6.3
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 108.6	
Actuated Cycle Length: 96.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 10: Shaw Rd E & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	0	439	1	2	0	353	433	4	0	576	358
Future Volume (veh/h)	234	0	439	1	2	0	353	433	4	0	576	358
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1523	1523	1523	2027	2027	2027	1673	1673	1673
Adj Flow Rate, veh/h	241	0	453	1	2	0	364	446	4	0	594	369
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	2	2	2	1	1	1
Cap, veh/h	256	0	459	46	58	0	400	1197	11	386	627	530
Arrive On Green	0.29	0.00	0.29	0.29	0.29	0.00	0.16	0.60	0.60	0.00	0.37	0.37
Sat Flow, veh/h	656	0	1605	0	203	0	1931	2006	18	1593	1673	1414
Grp Volume(v), veh/h	241	0	453	3	0	0	364	0	450	0	594	369
Grp Sat Flow(s),veh/h/ln	656	0	1605	203	0	0	1931	0	2024	1593	1673	1414
Q Serve(g_s), s	0.0	0.0	29.4	0.0	0.0	0.0	14.5	0.0	12.1	0.0	36.1	23.1
Cycle Q Clear(g_c), s	30.0	0.0	29.4	30.0	0.0	0.0	14.5	0.0	12.1	0.0	36.1	23.1
Prop In Lane	1.00		1.00	0.33		0.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	256	0	459	104	0	0	400	0	1207	386	627	530
V/C Ratio(X)	0.94	0.00	0.99	0.03	0.00	0.00	0.91	0.00	0.37	0.00	0.95	0.70
Avail Cap(c_a), veh/h	256	0	459	104	0	0	457	0	1207	612	638	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0	37.2	30.0	0.0	0.0	29.8	0.0	11.0	0.0	31.8	27.7
Incr Delay (d2), s/veh	40.2	0.0	38.4	0.1	0.0	0.0	20.6	0.0	0.3	0.0	23.4	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	16.0	0.1	0.0	0.0	11.3	0.0	5.1	0.0	18.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.9	0.0	75.6	30.1	0.0	0.0	50.4	0.0	11.2	0.0	55.1	31.9
LnGrp LOS	F	A	E	C	A	A	D	A	B	A	E	C
Approach Vol, veh/h		694			3			814			963	
Approach Delay, s/veh		77.4			30.1			28.8			46.2	
Approach LOS		E			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	68.8		36.0	23.2	45.6		36.0				
Change Period (Y+Rc), s	* 6.3	* 6.3		6.0	* 6.3	* 6.3		6.0				
Max Green Setting (Gmax), s	* 15	* 40		30.0	* 20	* 40		30.0				
Max Q Clear Time (g_c+I1), s	0.0	14.1		32.0	16.5	38.1		32.0				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.4	1.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			49.2
HCM 6th LOS			D

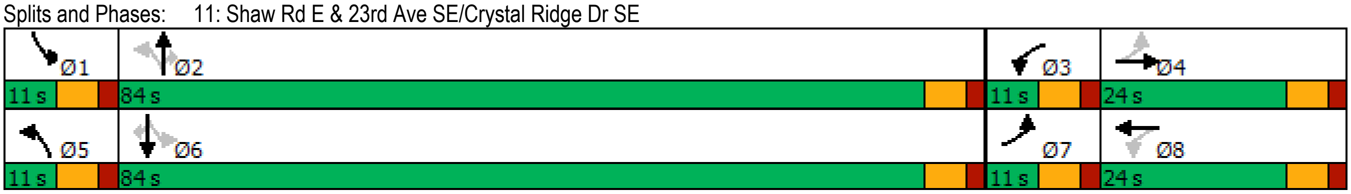
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	58	48	35	44	20	54	527	31	14	1030	179
Future Volume (vph)	117	58	48	35	44	20	54	527	31	14	1030	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-9%			3%			-9%			6%	
Storage Length (ft)	50		0	50		0	100		175	75		100
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		481			429			444			403	
Travel Time (s)		13.1			11.7			8.6			7.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	24.0		11.0	24.0		11.0	84.0	84.0	11.0	84.0	84.0
Total Split (%)	8.5%	18.5%		8.5%	18.5%		8.5%	64.6%	64.6%	8.5%	64.6%	64.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 122	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Shaw Rd E & 23rd Ave SE/Crystal Ridge Dr SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	58	48	35	44	20	54	527	31	14	1030	179
Future Volume (veh/h)	117	58	48	35	44	20	54	527	31	14	1030	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2254	2239	2239	1847	1847	1847	2224	2224	2224	1673	1673	1673
Adj Flow Rate, veh/h	127	63	52	38	48	22	59	573	34	15	1120	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	1	0	0	0	2	2	2	1	1	1
Cap, veh/h	219	106	88	163	99	45	135	1473	1248	482	1076	912
Arrive On Green	0.04	0.09	0.09	0.03	0.08	0.08	0.04	0.66	0.66	0.02	0.64	0.64
Sat Flow, veh/h	2147	1134	936	1759	1199	549	2118	2224	1885	1593	1673	1418
Grp Volume(v), veh/h	127	0	115	38	0	70	59	573	34	15	1120	195
Grp Sat Flow(s),veh/h/ln	2147	0	2070	1759	0	1748	2118	2224	1885	1593	1673	1418
Q Serve(g_s), s	5.0	0.0	6.5	2.4	0.0	4.6	1.1	14.2	0.8	0.4	78.0	6.9
Cycle Q Clear(g_c), s	5.0	0.0	6.5	2.4	0.0	4.6	1.1	14.2	0.8	0.4	78.0	6.9
Prop In Lane	1.00		0.45	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	0	194	163	0	144	135	1473	1248	482	1076	912
V/C Ratio(X)	0.58	0.00	0.59	0.23	0.00	0.49	0.44	0.39	0.03	0.03	1.04	0.21
Avail Cap(c_a), veh/h	219	0	307	183	0	259	147	1473	1248	522	1076	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	0.0	52.7	49.0	0.0	53.2	31.5	9.3	7.0	7.7	21.7	9.0
Incr Delay (d2), s/veh	3.8	0.0	2.9	0.7	0.0	2.5	2.2	0.2	0.0	0.0	38.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	3.5	1.1	0.0	2.2	1.2	6.5	0.3	0.1	38.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	0.0	55.6	49.7	0.0	55.7	33.8	9.5	7.1	7.7	60.4	9.1
LnGrp LOS	D	A	E	D	A	E	C	A	A	A	F	A
Approach Vol, veh/h		242			108			666			1330	
Approach Delay, s/veh		55.1			53.6			11.5			52.3	
Approach LOS		E			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	86.3	9.6	17.4	10.3	84.0	11.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	78.0	5.0	18.0	5.0	78.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	16.2	4.4	8.5	3.1	80.0	7.0	6.6
Green Ext Time (p_c), s	0.0	4.3	0.0	0.4	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	483	247	163	350	52	190	1110	74	45	1287	403
Future Volume (vph)	320	483	247	163	350	52	190	1110	74	45	1287	403
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	350		0	225		0	200		0	210		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		571			1339			1348			645	
Travel Time (s)		11.1			26.1			26.3			12.6	
Confl. Peds. (#/hr)			2						2			9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	9.6	27.6	27.6	10.6	16.6		10.6	29.6		10.6	29.6	29.6
Total Split (s)	32.0	31.0	31.0	31.0	30.0		22.0	73.0		15.0	66.0	66.0
Total Split (%)	21.3%	20.7%	20.7%	20.7%	20.0%		14.7%	48.7%		10.0%	44.0%	44.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 40 (27%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 12: S Meridian (SR161) & 39th Ave SW/39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	483	247	163	350	52	190	1110	74	45	1287	403
Future Volume (veh/h)	320	483	247	163	350	52	190	1110	74	45	1287	403
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1786	1786	1786	1694	1694	1694	1772	1772	1772
Adj Flow Rate, veh/h	320	483	0	163	350	52	190	1110	74	45	1287	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	1	1	1	4	4	4	2	2	2
Cap, veh/h	308	705		185	403	59	187	1607	107	57	1491	
Arrive On Green	0.18	0.21	0.00	0.11	0.14	0.14	0.08	0.35	0.35	0.07	0.89	0.00
Sat Flow, veh/h	1688	3367	1502	1701	2967	437	1613	3062	204	1688	3367	1502
Grp Volume(v), veh/h	320	483	0	163	199	203	190	583	601	45	1287	0
Grp Sat Flow(s),veh/h/ln	1688	1683	1502	1701	1697	1707	1613	1609	1657	1688	1683	1502
Q Serve(g_s), s	27.4	19.9	0.0	14.2	17.2	17.5	17.4	46.5	46.6	3.9	27.9	0.0
Cycle Q Clear(g_c), s	27.4	19.9	0.0	14.2	17.2	17.5	17.4	46.5	46.6	3.9	27.9	0.0
Prop In Lane	1.00		1.00	1.00		0.26	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	308	705		185	231	232	187	845	870	57	1491	
V/C Ratio(X)	1.04	0.68		0.88	0.86	0.88	1.02	0.69	0.69	0.79	0.86	
Avail Cap(c_a), veh/h	308	705		299	287	289	187	845	870	117	1491	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.93	0.93	0.93	0.30	0.30	0.30	0.77	0.77	0.00
Uniform Delay (d), s/veh	61.3	54.7	0.0	65.8	63.4	63.6	69.2	38.2	38.2	69.4	6.4	0.0
Incr Delay (d2), s/veh	61.5	2.6	0.0	12.5	16.7	18.5	40.0	1.4	1.4	12.7	5.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	8.7	0.0	6.8	8.5	8.8	9.4	19.5	20.1	1.9	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.8	57.3	0.0	78.4	80.1	82.0	109.1	39.6	39.6	82.1	11.8	0.0
LnGrp LOS	F	E		E	F	F	F	D	D	F	B	
Approach Vol, veh/h		803	A		565			1374			1332	A
Approach Delay, s/veh		83.4			80.3			49.2			14.2	
Approach LOS		F			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	71.0	32.0	25.0	9.7	83.3	21.0	36.0
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	17.4	61.4	27.4	25.4	10.4	68.4	26.4	26.4
Max Q Clear Time (g_c+I1), s	19.4	29.9	29.4	19.5	5.9	48.6	16.2	21.9
Green Ext Time (p_c), s	0.0	9.5	0.0	0.9	0.0	6.5	0.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

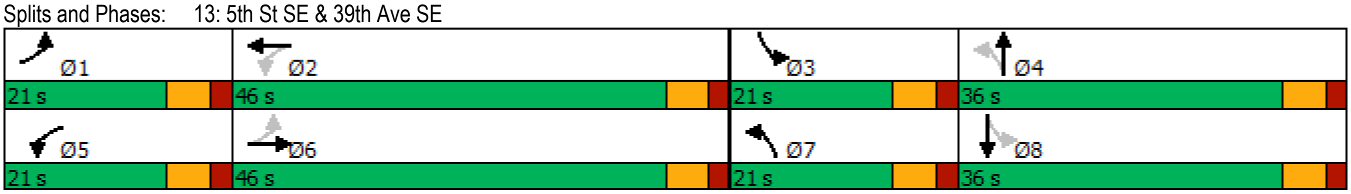
Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	214	160	113	192	5	82	286	69	6	547	100
Future Volume (vph)	148	214	160	113	192	5	82	286	69	6	547	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	150		0	175		0	225		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1339			1162			552			965	
Travel Time (s)		26.1			22.6			12.5			21.9	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0		11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0		21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%		16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 82	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 13: 5th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	214	160	113	192	5	82	286	69	6	547	100
Future Volume (veh/h)	148	214	160	113	192	5	82	286	69	6	547	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	2018	2018	2018	1885	1885	1885
Adj Flow Rate, veh/h	151	218	163	115	196	5	84	292	70	6	558	102
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	3	3	3	0	0	0	1	1	1
Cap, veh/h	379	330	235	286	514	13	233	678	163	420	596	109
Arrive On Green	0.10	0.17	0.17	0.08	0.15	0.15	0.05	0.43	0.43	0.01	0.38	0.38
Sat Flow, veh/h	1781	1980	1413	1767	3513	89	1922	1572	377	1795	1550	283
Grp Volume(v), veh/h	151	195	186	115	98	103	84	0	362	6	0	660
Grp Sat Flow(s),veh/h/ln	1781	1777	1616	1767	1763	1839	1922	0	1949	1795	0	1833
Q Serve(g_s), s	5.3	7.7	8.2	4.1	3.8	3.8	1.9	0.0	9.8	0.2	0.0	26.1
Cycle Q Clear(g_c), s	5.3	7.7	8.2	4.1	3.8	3.8	1.9	0.0	9.8	0.2	0.0	26.1
Prop In Lane	1.00		0.87	1.00		0.05	1.00		0.19	1.00		0.15
Lane Grp Cap(c), veh/h	379	296	269	286	258	269	233	0	841	420	0	705
V/C Ratio(X)	0.40	0.66	0.69	0.40	0.38	0.38	0.36	0.00	0.43	0.01	0.00	0.94
Avail Cap(c_a), veh/h	564	944	859	505	937	977	510	0	841	763	0	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	29.4	29.6	24.7	29.0	29.0	17.4	0.0	14.9	14.2	0.0	22.3
Incr Delay (d2), s/veh	0.7	2.5	3.2	0.9	0.9	0.9	0.9	0.0	0.3	0.0	0.0	19.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.3	3.3	1.7	1.6	1.7	0.8	0.0	4.1	0.1	0.0	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	31.9	32.8	25.6	30.0	29.9	18.3	0.0	15.3	14.2	0.0	41.4
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	D
Approach Vol, veh/h		532			316			446			666	
Approach Delay, s/veh		30.1			28.4			15.9			41.2	
Approach LOS		C			C			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	17.0	6.6	38.5	11.7	18.5	10.1	34.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	7.3	5.8	2.2	11.8	6.1	10.2	3.9	28.1				
Green Ext Time (p_c), s	0.2	1.1	0.0	2.1	0.2	2.4	0.1	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	144	66	253	147	94	67	1170	107	177	1395	52
Future Volume (vph)	123	144	66	253	147	94	67	1170	107	177	1395	52
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-4%			6%			0%			0%	
Storage Length (ft)	150		0	275		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		332			544			617			1348	
Travel Time (s)		9.1			10.6			12.0			26.3	
Confl. Peds. (#/hr)			2	2					6			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases												
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	33.6	33.6		30.6	30.6		10.6	32.6		10.6	28.6	
Total Split (s)	36.0	36.0		32.0	32.0		15.0	57.0		25.0	67.0	
Total Split (%)	24.0%	24.0%		21.3%	21.3%		10.0%	38.0%		16.7%	44.7%	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 150

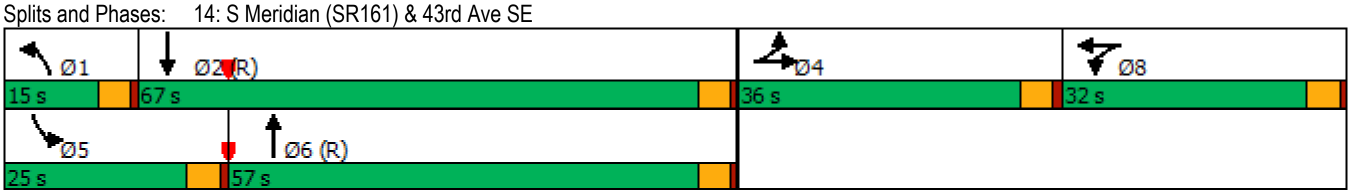
Actuated Cycle Length: 150

Offset: 90 (60%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 14: S Meridian (SR161) & 43rd Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	144	66	253	147	94	67	1170	107	177	1395	52
Future Volume (veh/h)	123	144	66	253	147	94	67	1170	107	177	1395	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1935	1935	1571	1571	1571	1730	1730	1730	1786	1786	1786
Adj Flow Rate, veh/h	123	144	66	253	147	94	67	1170	107	177	1395	52
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	1	1	1
Cap, veh/h	250	170	78	270	162	103	83	1357	124	196	1704	63
Arrive On Green	0.14	0.14	0.14	0.18	0.18	0.18	0.05	0.45	0.45	0.23	1.00	1.00
Sat Flow, veh/h	1843	1254	575	1496	894	572	1647	3043	278	1701	3336	124
Grp Volume(v), veh/h	123	0	210	253	0	241	67	631	646	177	708	739
Grp Sat Flow(s),veh/h/ln	1843	0	1828	1496	0	1466	1647	1643	1678	1701	1697	1764
Q Serve(g_s), s	9.3	0.0	16.8	25.0	0.0	24.2	6.0	51.8	52.0	15.2	0.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	16.8	25.0	0.0	24.2	6.0	51.8	52.0	15.2	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.39	1.00		0.17	1.00		0.07
Lane Grp Cap(c), veh/h	250	0	248	270	0	265	83	733	748	196	867	901
V/C Ratio(X)	0.49	0.00	0.85	0.94	0.00	0.91	0.81	0.86	0.86	0.90	0.82	0.82
Avail Cap(c_a), veh/h	386	0	383	273	0	268	114	733	748	231	867	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	60.1	0.0	63.3	60.6	0.0	60.3	70.5	37.4	37.4	56.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	9.1	37.2	0.0	32.0	21.4	12.7	12.6	15.2	3.4	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	8.5	12.2	0.0	11.3	3.0	23.0	23.6	6.6	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	0.0	72.4	97.8	0.0	92.3	91.9	50.0	50.1	72.1	3.4	3.3
LnGrp LOS	E	A	E	F	A	F	F	D	D	E	A	A
Approach Vol, veh/h		333			494			1344			1624	
Approach Delay, s/veh		68.3			95.1			52.1			10.8	
Approach LOS		E			F			D			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.2	81.2		24.9	21.9	71.5		31.7				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	10.4	62.4		31.4	20.4	52.4		27.4				
Max Q Clear Time (g_c+I1), s	8.0	2.0		18.8	17.2	54.0		27.0				
Green Ext Time (p_c), s	0.0	13.4		1.1	0.1	0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			41.5									
HCM 6th LOS			D									

2032 With Project AM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	23	219	25	75	252
Future Volume (vph)	8	23	219	25	75	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		-4%			0%
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	771		286			501
Travel Time (s)	21.0		7.8			13.7
Confl. Peds. (#/hr)	1					
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection						
Int Delay, s/veh	1.5					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	23	219	25	75	252
Future Vol, veh/h	8	23	219	25	75	252
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-4	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	2	2	3	3
Mvmt Flow	9	25	241	27	82	277

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	697	255	0	0	268	0
Stage 1	255	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.227	-
Pot Cap-1 Maneuver	410	789	-	-	1290	-
Stage 1	792	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	383	789	-	-	1290	-
Mov Cap-2 Maneuver	483	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	610	-	-	-	-	-

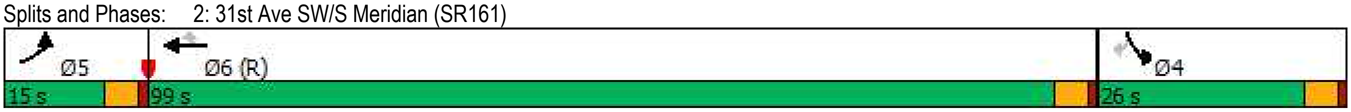
Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	678	1290	-
HCM Lane V/C Ratio	-	-	0.05	0.064	-
HCM Control Delay (s)	-	-	10.6	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	939	1396	829	201	252
Future Volume (vph)	382	939	1396	829	201	252
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Storage Length (ft)	250			0	0	175
Storage Lanes	2			1	2	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		370	339		787	
Travel Time (s)		7.2	6.6		15.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0		10.0	10.0	8.0	8.0
Minimum Split (s)	12.6		20.6	20.6	12.6	12.6
Total Split (s)	15.0		99.0	99.0	26.0	26.0
Total Split (%)	10.7%		70.7%	70.7%	18.6%	18.6%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		C-Min	C-Min	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 41 (29%), Referenced to phase 6:WBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
! Phase conflict between lane groups.	

Splits and Phases: 2: 31st Ave SW/S Meridian (SR161)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	939	1396	829	201	252
Future Volume (vph)	382	939	1396	829	201	252
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Total Lost time (s)	4.6	4.0	4.6	4.6	4.6	4.6
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3038	3132	3387	1515	3252	1500
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3038	3132	3387	1515	3252	1500
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	382	939	1396	829	201	252
RTOR Reduction (vph)	0	0	0	329	0	151
Lane Group Flow (vph)	382	939	1396	500	201	101
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Actuated Green, G (s)	33.5	140.0	77.3	77.3	15.4	15.4
Effective Green, g (s)	33.5	140.0	77.3	77.3	15.4	15.4
Actuated g/C Ratio	0.24	1.00	0.55	0.55	0.11	0.11
Clearance Time (s)	4.6		4.6	4.6	4.6	4.6
Vehicle Extension (s)	2.5		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	726	3132	1870	836	357	165
v/s Ratio Prot	c0.13	0.30	c0.41		0.06	
v/s Ratio Perm				0.33		c0.07
v/c Ratio	0.53	0.30	0.75	0.60	0.56	0.61
Uniform Delay, d1	46.3	0.0	23.9	21.0	59.1	59.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	2.8	3.2	1.6	5.6
Delay (s)	46.9	0.2	26.7	24.1	60.8	65.0
Level of Service	D	A	C	C	E	E
Approach Delay (s)		13.7	25.7		63.1	
Approach LOS		B	C		E	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	24	29	60	32	422	17	1745	38	326	742	29
Future Volume (vph)	26	24	29	60	32	422	17	1745	38	326	742	29
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	250		0	225		0	350		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		242			1349			645			449	
Travel Time (s)		6.6			26.3			12.6			8.7	
Confl. Peds. (#/hr)						1						1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	8%	8%	8%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			Free						
Detector Phase	3	8	8	7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	8.6	10.6	10.6	10.6	35.6		10.6	28.6		10.6	31.6	
Total Split (s)	15.0	25.0	25.0	27.0	37.0		15.0	68.0		20.0	73.0	
Total Split (%)	10.7%	17.9%	17.9%	19.3%	26.4%		10.7%	48.6%		14.3%	52.1%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 44 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: S Meridian (SR161) & 37th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	24	29	60	32	422	17	1745	38	326	742	29
Future Volume (veh/h)	26	24	29	60	32	422	17	1745	38	326	742	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1758	1758	1758	1772	1772	1772	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	26	24	29	60	32	0	17	1745	38	326	742	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	8	8	8
Cap, veh/h	32	125	56	76	113		35	2259	49	343	3525	
Arrive On Green	0.02	0.04	0.04	0.05	0.06	0.00	0.04	1.00	1.00	0.11	0.77	0.00
Sat Flow, veh/h	1674	3340	1490	1688	1772	1502	1674	3342	73	3118	4759	0
Grp Volume(v), veh/h	26	24	29	60	32	0	17	870	913	326	742	0
Grp Sat Flow(s),veh/h/ln	1674	1670	1490	1688	1772	1502	1674	1670	1745	1559	1536	0
Q Serve(g_s), s	2.2	1.0	2.7	4.9	2.4	0.0	1.4	0.0	0.0	14.5	6.3	0.0
Cycle Q Clear(g_c), s	2.2	1.0	2.7	4.9	2.4	0.0	1.4	0.0	0.0	14.5	6.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	32	125	56	76	113		35	1129	1179	343	3525	
V/C Ratio(X)	0.82	0.19	0.52	0.79	0.28		0.49	0.77	0.77	0.95	0.21	
Avail Cap(c_a), veh/h	124	487	217	270	410		124	1129	1179	343	3525	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.00	0.47	0.47	0.47	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.4	65.3	66.1	66.2	62.5	0.0	66.4	0.0	0.0	61.9	4.6	0.0
Incr Delay (d2), s/veh	43.2	0.7	7.3	14.6	1.3	0.0	4.9	2.5	2.4	35.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.4	1.1	2.4	1.1	0.0	0.6	0.8	0.8	7.4	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.7	66.1	73.5	80.7	63.8	0.0	71.3	2.5	2.4	97.6	4.7	0.0
LnGrp LOS	F	E	E	F	E		E	A	A	F	A	
Approach Vol, veh/h		79			92	A		1800			1068	A
Approach Delay, s/veh		83.8			74.9			3.1			33.1	
Approach LOS		F			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	111.7	7.3	13.5	20.0	99.2	10.9	9.8
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	10.4	68.4	10.4	32.4	15.4	63.4	22.4	20.4
Max Q Clear Time (g_c+I1), s	3.4	8.3	4.2	4.4	16.5	2.0	6.9	4.7
Green Ext Time (p_c), s	0.0	7.4	0.0	0.1	0.0	29.8	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

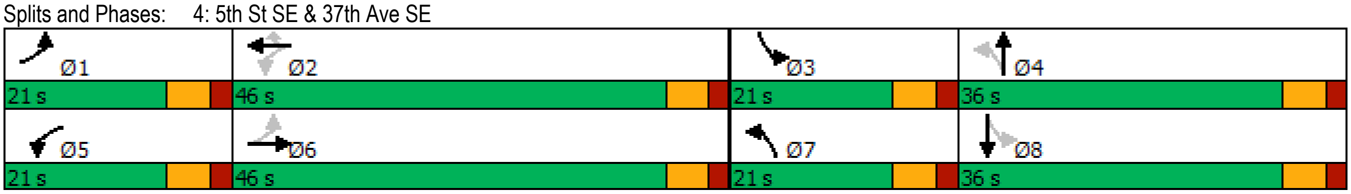
Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	332	29	14	351	158	82	220	13	132	186	54
Future Volume (vph)	38	332	29	14	351	158	82	220	13	132	186	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			0%			-5%	
Storage Length (ft)	200		0	225		150	200		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1349			1181			965			418	
Travel Time (s)		26.3			23.0			21.9			11.4	
Confl. Peds. (#/hr)	1					1			4			4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	4			8		
Detector Phase	1	6		5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0	26.0	11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0	46.0	21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%	37.1%	16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 65.9	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 4: 5th St SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	332	29	14	351	158	82	220	13	132	186	54
Future Volume (veh/h)	38	332	29	14	351	158	82	220	13	132	186	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1973	1973	1973	1870	1870	1870	2037	2037	2037
Adj Flow Rate, veh/h	43	373	33	16	394	0	92	247	0	148	209	61
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	4	4	4
Cap, veh/h	317	720	63	301	737		374	381		415	337	98
Arrive On Green	0.04	0.22	0.22	0.02	0.20	0.00	0.07	0.20	0.00	0.09	0.22	0.22
Sat Flow, veh/h	1753	3251	286	1879	3749	1672	1781	1870	0	1940	1513	442
Grp Volume(v), veh/h	43	200	206	16	394	0	92	247	0	148	0	270
Grp Sat Flow(s),veh/h/ln	1753	1749	1788	1879	1874	1672	1781	1870	0	1940	0	1954
Q Serve(g_s), s	1.0	5.2	5.2	0.3	4.9	0.0	2.0	6.3	0.0	3.0	0.0	6.4
Cycle Q Clear(g_c), s	1.0	5.2	5.2	0.3	4.9	0.0	2.0	6.3	0.0	3.0	0.0	6.4
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.00	1.00		0.23
Lane Grp Cap(c), veh/h	317	387	396	301	737		374	381		415	0	435
V/C Ratio(X)	0.14	0.52	0.52	0.05	0.53		0.25	0.65		0.36	0.00	0.62
Avail Cap(c_a), veh/h	749	1356	1387	810	2906		766	1088		805	0	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	17.7	17.7	16.1	18.6	0.0	14.6	18.8	0.0	14.4	0.0	18.1
Incr Delay (d2), s/veh	0.2	1.1	1.1	0.1	0.6	0.0	0.3	1.9	0.0	0.5	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.9	2.0	0.1	1.9	0.0	0.8	2.6	0.0	1.2	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	18.7	18.7	16.2	19.2	0.0	15.0	20.7	0.0	14.9	0.0	19.5
LnGrp LOS	B	B	B	B	B		B	C		B	A	B
Approach Vol, veh/h		449			410	A		339	A		418	
Approach Delay, s/veh		18.4			19.1			19.1			17.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	16.1	10.6	16.5	7.0	17.4	9.7	17.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	3.0	6.9	5.0	8.3	2.3	7.2	4.0	8.4
Green Ext Time (p_c), s	0.0	2.7	0.3	1.4	0.0	2.4	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

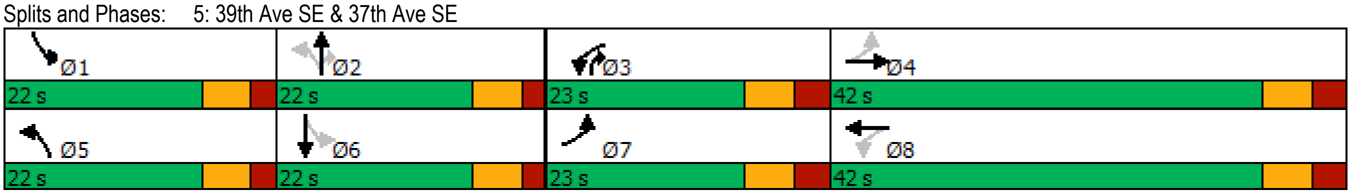
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	426	1	187	598	1	0	8	333	5	4	8
Future Volume (vph)	9	426	1	187	598	1	0	8	333	5	4	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			3%			0%	
Storage Length (ft)	225		0	200		0	200		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1181			510			1162			264	
Travel Time (s)		23.0			9.9			22.6			7.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	3%	3%	3%	14%	14%	14%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.0	16.0	12.0	11.0	34.0	
Total Split (s)	23.0	42.0		23.0	42.0		22.0	22.0	23.0	22.0	22.0	
Total Split (%)	21.1%	38.5%		21.1%	38.5%		20.2%	20.2%	21.1%	20.2%	20.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	7.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary

Area Type: Other
Cycle Length: 109
Actuated Cycle Length: 41.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: 39th Ave SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	426	1	187	598	1	0	8	333	5	4	8
Future Volume (veh/h)	9	426	1	187	598	1	0	8	333	5	4	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1629	1629	1629	2052	2052	2052	1803	1803	1803	1693	1693	1693
Adj Flow Rate, veh/h	10	468	1	205	657	1	0	9	366	5	4	9
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	3	3	3	3	3	3	14	14	14
Cap, veh/h	272	771	2	436	1352	2	437	430	529	336	157	353
Arrive On Green	0.01	0.24	0.24	0.11	0.34	0.34	0.00	0.24	0.24	0.01	0.34	0.34
Sat Flow, veh/h	1551	3168	7	1954	3993	6	1717	1803	1528	1612	463	1042
Grp Volume(v), veh/h	10	229	240	205	321	337	0	9	366	5	0	13
Grp Sat Flow(s),veh/h/ln	1551	1547	1627	1954	1949	2051	1717	1803	1528	1612	0	1505
Q Serve(g_s), s	0.3	8.4	8.5	4.8	8.4	8.4	0.0	0.2	13.3	0.1	0.0	0.4
Cycle Q Clear(g_c), s	0.3	8.4	8.5	4.8	8.4	8.4	0.0	0.2	13.3	0.1	0.0	0.4
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	272	376	396	436	660	694	437	430	529	336	0	509
V/C Ratio(X)	0.04	0.61	0.61	0.47	0.49	0.49	0.00	0.02	0.69	0.01	0.00	0.03
Avail Cap(c_a), veh/h	638	841	884	711	1059	1114	860	448	544	726	0	509
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.0	21.6	21.6	15.2	16.9	16.9	0.0	18.8	18.1	17.0	0.0	14.2
Incr Delay (d2), s/veh	0.1	3.4	3.2	0.8	1.2	1.1	0.0	0.0	3.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.2	3.3	2.0	3.6	3.8	0.0	0.1	4.7	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	25.0	24.8	16.0	18.1	18.0	0.0	18.8	21.7	17.0	0.0	14.2
LnGrp LOS	B	C	C	B	B	B	A	B	C	B	A	B
Approach Vol, veh/h		479			863			375			18	
Approach Delay, s/veh		24.8			17.6			21.6			15.0	
Approach LOS		C			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	21.4	14.0	22.7	0.0	27.8	7.8	28.8				
Change Period (Y+Rc), s	6.0	6.0	7.0	7.0	6.0	6.0	7.0	7.0				
Max Green Setting (Gmax), s	16.0	16.0	16.0	35.0	16.0	16.0	16.0	35.0				
Max Q Clear Time (g_c+I1), s	2.1	15.3	6.8	10.5	0.0	2.4	2.3	10.4				
Green Ext Time (p_c), s	0.0	0.1	0.4	5.2	0.0	0.0	0.0	7.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	598	52	79	665	14	100	24	104	1	1	15
Future Volume (vph)	107	598	52	79	665	14	100	24	104	1	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-5%			-6%			-4%	
Storage Length (ft)	150		0	200		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		510			1994			256			231	
Travel Time (s)		9.9			38.8			5.8			6.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	3%	3%	3%	13%	13%	13%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.3	30.3		11.3	30.3		10.5	25.5		10.5	25.5	
Total Split (s)	21.3	51.3		21.3	51.3		21.3	21.3		21.3	21.3	
Total Split (%)	18.5%	44.5%		18.5%	44.5%		18.5%	18.5%		18.5%	18.5%	
Yellow Time (s)	4.3	4.3		4.3	4.3		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 115.2
Actuated Cycle Length: 58.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: 10th St SE & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	598	52	79	665	14	100	24	104	1	1	15
Future Volume (veh/h)	107	598	52	79	665	14	100	24	104	1	1	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	2037	2037	2037	2091	2091	2091	1862	1862	1862
Adj Flow Rate, veh/h	118	657	57	87	731	15	110	26	114	1	1	16
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4	3	3	3	13	13	13
Cap, veh/h	390	1105	96	401	1280	26	396	53	233	240	8	125
Arrive On Green	0.08	0.34	0.34	0.07	0.33	0.33	0.07	0.16	0.16	0.00	0.08	0.08
Sat Flow, veh/h	1753	3256	282	1940	3878	80	1991	339	1485	1774	94	1499
Grp Volume(v), veh/h	118	352	362	87	365	381	110	0	140	1	0	17
Grp Sat Flow(s),veh/h/ln	1753	1749	1790	1940	1935	2022	1991	0	1824	1774	0	1592
Q Serve(g_s), s	2.3	9.0	9.1	1.5	8.4	8.4	2.6	0.0	3.8	0.0	0.0	0.5
Cycle Q Clear(g_c), s	2.3	9.0	9.1	1.5	8.4	8.4	2.6	0.0	3.8	0.0	0.0	0.5
Prop In Lane	1.00		0.16	1.00		0.04	1.00		0.81	1.00		0.94
Lane Grp Cap(c), veh/h	390	594	608	401	639	668	396	0	286	240	0	133
V/C Ratio(X)	0.30	0.59	0.59	0.22	0.57	0.57	0.28	0.00	0.49	0.00	0.00	0.13
Avail Cap(c_a), veh/h	740	1450	1485	807	1605	1677	828	0	531	753	0	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	14.8	14.8	11.1	15.0	15.0	19.9	0.0	20.9	22.7	0.0	23.0
Incr Delay (d2), s/veh	0.4	1.4	1.3	0.3	1.1	1.1	0.4	0.0	1.3	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.2	3.3	0.6	3.3	3.5	1.2	0.0	1.6	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	16.2	16.2	11.3	16.1	16.1	20.3	0.0	22.2	22.7	0.0	23.5
LnGrp LOS	B	B	B	B	B	B	C	A	C	C	A	C
Approach Vol, veh/h		832			833			250			18	
Approach Delay, s/veh		15.5			15.6			21.4			23.4	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	24.2	5.6	14.0	10.0	24.7	9.5	10.0				
Change Period (Y+Rc), s	6.3	6.3	5.5	5.5	6.3	6.3	5.5	5.5				
Max Green Setting (Gmax), s	15.0	45.0	15.8	15.8	15.0	45.0	15.8	15.8				
Max Q Clear Time (g_c+I1), s	4.3	10.4	2.0	5.8	3.5	11.1	4.6	2.5				
Green Ext Time (p_c), s	0.2	7.5	0.0	0.5	0.1	7.1	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			B									

Notes

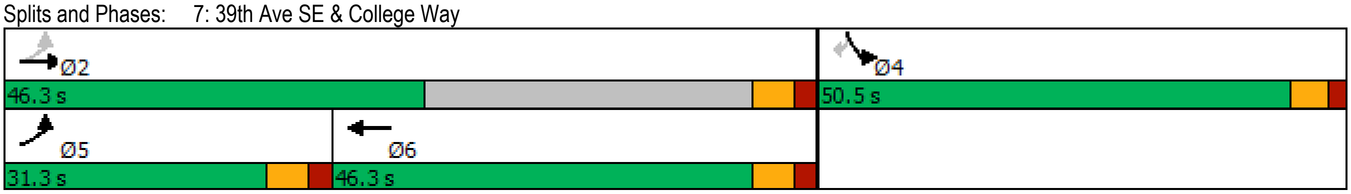
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	253	376	684	150	44	75
Future Volume (vph)	253	376	684	150	44	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	-5%		0%	
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		25	
Link Distance (ft)		1994	773		209	
Travel Time (s)		38.8	15.1		5.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	3%	3%	40%	40%
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	5.0
Minimum Split (s)	11.3	16.3	35.3		34.5	34.5
Total Split (s)	31.3	46.3	46.3		50.5	50.5
Total Split (%)	24.4%	36.1%	36.1%		39.4%	39.4%
Yellow Time (s)	4.0	4.0	4.0		3.5	3.5
All-Red Time (s)	2.3	2.3	2.3		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3		5.5	5.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary

Area Type: Other
Cycle Length: 128.1
Actuated Cycle Length: 66.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: 39th Ave SE & College Way



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	253	376	684	150	44	75
Future Volume (veh/h)	253	376	684	150	44	75
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1811	1811	2052	2052	1307	1307
Adj Flow Rate, veh/h	266	396	720	158	46	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	3	3	40	40
Cap, veh/h	505	2207	1162	255	124	110
Arrive On Green	0.14	0.64	0.37	0.37	0.10	0.10
Sat Flow, veh/h	1725	3532	3281	697	1245	1108
Grp Volume(v), veh/h	266	396	441	437	46	79
Grp Sat Flow(s),veh/h/ln	1725	1721	1949	1926	1245	1108
Q Serve(g_s), s	3.8	2.1	8.5	8.5	1.6	3.1
Cycle Q Clear(g_c), s	3.8	2.1	8.5	8.5	1.6	3.1
Prop In Lane	1.00			0.36	1.00	1.00
Lane Grp Cap(c), veh/h	505	2207	713	704	124	110
V/C Ratio(X)	0.53	0.18	0.62	0.62	0.37	0.72
Avail Cap(c_a), veh/h	1215	3023	1713	1692	1231	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	3.3	11.8	11.8	19.2	19.9
Incr Delay (d2), s/veh	0.9	0.0	0.9	0.9	2.2	10.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.3	3.0	2.9	0.5	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.5	3.3	12.7	12.7	21.4	29.9
LnGrp LOS	A	A	B	B	C	C
Approach Vol, veh/h		662	878		125	
Approach Delay, s/veh		5.4	12.7		26.8	
Approach LOS		A	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		35.5		10.0	12.6	22.9
Change Period (Y+Rc), s		* 6.3		5.5	* 6.3	* 6.3
Max Green Setting (Gmax), s		* 40		45.0	* 25	* 40
Max Q Clear Time (g_c+I1), s		4.1		5.1	5.8	10.5
Green Ext Time (p_c), s		2.7		0.5	0.7	6.2
Intersection Summary						
HCM 6th Ctrl Delay			10.9			
HCM 6th LOS			B			

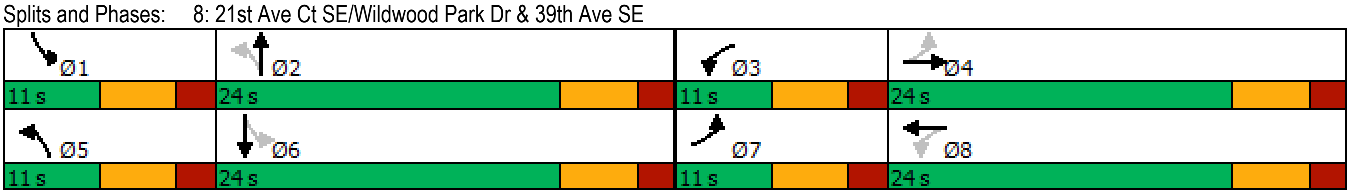
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	250	14	5	490	106	54	34	13	113	18	177
Future Volume (vph)	127	250	14	5	490	106	54	34	13	113	18	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			6%	
Storage Length (ft)	125		0	125		0	50		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		384			416			287			528	
Travel Time (s)		7.5			8.1			7.8			14.4	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 52.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 8: 21st Ave Ct SE/Wildwood Park Dr & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	250	14	5	490	106	54	34	13	113	18	177
Future Volume (veh/h)	127	250	14	5	490	106	54	34	13	113	18	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	2027	2027	2027	1870	1870	1870	1614	1614	1614
Adj Flow Rate, veh/h	140	275	15	5	538	116	59	37	14	124	20	195
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	6	6	2	2	2	2	2	2	5	5	5
Cap, veh/h	327	1029	56	413	733	157	297	230	87	437	27	264
Arrive On Green	0.08	0.31	0.31	0.01	0.23	0.23	0.05	0.18	0.18	0.09	0.21	0.21
Sat Flow, veh/h	1725	3319	180	1931	3154	677	1781	1292	489	1537	129	1255
Grp Volume(v), veh/h	140	142	148	5	328	326	59	0	51	124	0	215
Grp Sat Flow(s),veh/h/ln	1725	1721	1779	1931	1926	1905	1781	0	1780	1537	0	1384
Q Serve(g_s), s	3.4	3.6	3.6	0.1	9.0	9.1	1.5	0.0	1.4	3.7	0.0	8.3
Cycle Q Clear(g_c), s	3.4	3.6	3.6	0.1	9.0	9.1	1.5	0.0	1.4	3.7	0.0	8.3
Prop In Lane	1.00		0.10	1.00		0.36	1.00		0.27	1.00		0.91
Lane Grp Cap(c), veh/h	327	533	551	413	447	443	297	0	317	437	0	292
V/C Ratio(X)	0.43	0.27	0.27	0.01	0.73	0.74	0.20	0.00	0.16	0.28	0.00	0.74
Avail Cap(c_a), veh/h	332	541	559	569	606	599	358	0	560	439	0	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	14.8	14.9	16.6	20.3	20.3	17.9	0.0	19.9	16.9	0.0	21.1
Incr Delay (d2), s/veh	0.9	0.3	0.3	0.0	3.0	3.2	0.3	0.0	0.2	0.4	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.3	1.3	0.0	4.0	4.0	0.6	0.0	0.6	1.3	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	15.1	15.1	16.6	23.3	23.5	18.2	0.0	20.1	17.2	0.0	24.7
LnGrp LOS	B	B	B	B	C	C	B	A	C	B	A	C
Approach Vol, veh/h		430			659			110			339	
Approach Delay, s/veh		15.4			23.4			19.1			22.0	
Approach LOS		B			C			B			C	

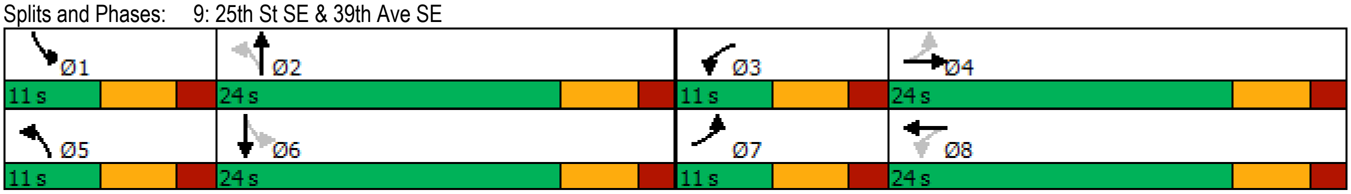
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	16.2	6.4	23.7	9.0	18.1	10.8	19.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.7	3.4	2.1	5.6	3.5	10.3	5.4	11.1
Green Ext Time (p_c), s	0.0	0.1	0.0	1.2	0.0	0.8	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	330	9	7	564	7	25	2	24	2	0	15
Future Volume (vph)	24	330	9	7	564	7	25	2	24	2	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	75		0	100		0	25		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		365			225			248			136	
Travel Time (s)		7.1			4.4			6.8			3.7	
Confl. Peds. (#/hr)			1	1			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 36.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 9: 25th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	330	9	7	564	7	25	2	24	2	0	15
Future Volume (veh/h)	24	330	9	7	564	7	25	2	24	2	0	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1870	1870	1870	1826	1826	1826	1900	1900	1900
Adj Flow Rate, veh/h	26	351	10	7	600	7	27	2	26	2	0	16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	2	2	2	5	5	5	0	0	0
Cap, veh/h	311	955	27	389	927	11	362	15	200	328	0	174
Arrive On Green	0.03	0.28	0.28	0.01	0.26	0.26	0.03	0.14	0.14	0.00	0.00	0.11
Sat Flow, veh/h	1725	3417	97	1781	3598	42	1739	112	1451	1810	0	1608
Grp Volume(v), veh/h	26	176	185	7	296	311	27	0	28	2	0	16
Grp Sat Flow(s),veh/h/ln	1725	1721	1793	1781	1777	1863	1739	0	1563	1810	0	1608
Q Serve(g_s), s	0.5	3.5	3.5	0.1	6.2	6.2	0.6	0.0	0.7	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	3.5	3.5	0.1	6.2	6.2	0.6	0.0	0.7	0.0	0.0	0.4
Prop In Lane	1.00		0.05	1.00		0.02	1.00		0.93	1.00		1.00
Lane Grp Cap(c), veh/h	311	481	501	389	458	480	362	0	215	328	0	174
V/C Ratio(X)	0.08	0.37	0.37	0.02	0.65	0.65	0.07	0.00	0.13	0.01	0.00	0.09
Avail Cap(c_a), veh/h	462	737	768	584	761	798	513	0	669	538	0	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	12.2	12.2	11.4	13.9	13.9	15.8	0.0	15.9	16.6	0.0	16.9
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.0	1.5	1.5	0.1	0.0	0.3	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.1	1.1	0.0	2.2	2.3	0.2	0.0	0.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	12.6	12.6	11.4	15.4	15.4	15.9	0.0	16.2	16.6	0.0	17.1
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		387			614			55			18	
Approach Delay, s/veh		12.5			15.4			16.0			17.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	11.8	6.4	17.7	7.4	10.5	7.3	16.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.0	2.7	2.1	5.5	2.6	2.4	2.5	8.2
Green Ext Time (p_c), s	0.0	0.1	0.0	1.6	0.0	0.0	0.0	2.5

Intersection Summary		
HCM 6th Ctrl Delay		14.4
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	0	244	1	0	0	471	852	1	0	329	225
Future Volume (vph)	156	0	244	1	0	0	471	852	1	0	329	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			8%			-4%			6%	
Storage Length (ft)	0		0	0		0	300		0	200		0
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		322			305			698			574	
Travel Time (s)		6.3			5.9			13.6			11.2	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	5%	5%	5%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	29.0	29.0	29.0	24.0	24.0		16.3	28.3		11.3	28.3	28.3
Total Split (s)	36.0	36.0	36.0	36.0	36.0		26.3	46.3		21.3	46.3	46.3
Total Split (%)	33.1%	33.1%	33.1%	33.1%	33.1%		24.2%	42.6%		19.6%	42.6%	42.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.3	2.3		2.3	2.3	2.3
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.3	6.3		6.3	6.3	6.3
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 108.6	
Actuated Cycle Length: 79.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 10: Shaw Rd E & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	0	244	1	0	0	471	852	1	0	329	225
Future Volume (veh/h)	156	0	244	1	0	0	471	852	1	0	329	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1523	1523	1523	2027	2027	2027	1644	1644	1644
Adj Flow Rate, veh/h	175	0	274	1	0	0	529	957	1	0	370	253
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	5	5	5	0	0	0	2	2	2	3	3	3
Cap, veh/h	439	0	341	223	0	0	601	1223	1	233	492	416
Arrive On Green	0.22	0.00	0.22	0.22	0.00	0.00	0.22	0.60	0.60	0.00	0.30	0.30
Sat Flow, veh/h	1526	0	1547	544	0	0	1931	2025	2	1565	1644	1390
Grp Volume(v), veh/h	175	0	274	1	0	0	529	0	958	0	370	253
Grp Sat Flow(s),veh/h/ln	1526	0	1547	544	0	0	1931	0	2027	1565	1644	1390
Q Serve(g_s), s	0.0	0.0	11.8	0.1	0.0	0.0	12.1	0.0	24.9	0.0	14.3	10.9
Cycle Q Clear(g_c), s	6.1	0.0	11.8	6.2	0.0	0.0	12.1	0.0	24.9	0.0	14.3	10.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	439	0	341	223	0	0	601	0	1224	233	492	416
V/C Ratio(X)	0.40	0.00	0.80	0.00	0.00	0.00	0.88	0.00	0.78	0.00	0.75	0.61
Avail Cap(c_a), veh/h	726	0	662	409	0	0	736	0	1224	566	937	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	25.9	26.3	0.0	0.0	13.3	0.0	10.4	0.0	22.2	21.1
Incr Delay (d2), s/veh	0.6	0.0	4.4	0.0	0.0	0.0	10.3	0.0	3.6	0.0	3.3	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	4.4	0.0	0.0	0.0	5.9	0.0	9.6	0.0	5.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	0.0	30.3	26.4	0.0	0.0	23.7	0.0	14.0	0.0	25.6	23.1
LnGrp LOS	C	A	C	C	A	A	C	A	B	A	C	C
Approach Vol, veh/h		449			1			1487			623	
Approach Delay, s/veh		27.9			26.4			17.4			24.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	0.0	48.7	21.5	21.4	27.3	21.5
Change Period (Y+Rc), s	* 6.3	* 6.3	6.0	* 6.3	* 6.3	6.0
Max Green Setting (Gmax), s	* 15	* 40	30.0	* 20	* 40	30.0
Max Q Clear Time (g_c+I1), s	0.0	26.9	13.8	14.1	16.3	8.2
Green Ext Time (p_c), s	0.0	7.6	1.7	1.0	4.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C

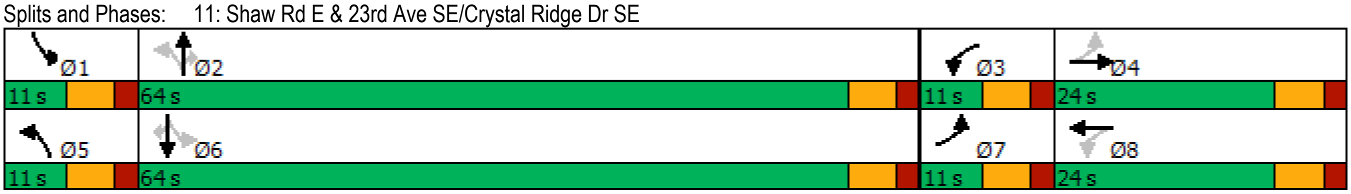
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	14	22	47	49	47	41	1049	8	15	341	51
Future Volume (vph)	158	14	22	47	49	47	41	1049	8	15	341	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-9%			3%			-9%			6%	
Storage Length (ft)	50		0	50		0	100		175	75		100
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		481			429			444			403	
Travel Time (s)		13.1			11.7			8.6			7.9	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	24.0		11.0	24.0		11.0	64.0	64.0	11.0	64.0	64.0
Total Split (%)	10.0%	21.8%		10.0%	21.8%		10.0%	58.2%	58.2%	10.0%	58.2%	58.2%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 97	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 11: Shaw Rd E & 23rd Ave SE/Crystal Ridge Dr SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	14	22	47	49	47	41	1049	8	15	341	51
Future Volume (veh/h)	158	14	22	47	49	47	41	1049	8	15	341	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2239	2239	2239	1817	1817	1817	2224	2224	2224	1629	1629	1629
Adj Flow Rate, veh/h	163	14	23	48	51	48	42	1081	8	15	352	53
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	4	4	4
Cap, veh/h	285	97	160	296	95	90	621	1216	1030	161	860	728
Arrive On Green	0.06	0.13	0.13	0.04	0.11	0.11	0.04	0.55	0.55	0.02	0.53	0.53
Sat Flow, veh/h	2132	762	1252	1731	861	810	2118	2224	1883	1551	1629	1379
Grp Volume(v), veh/h	163	0	37	48	0	99	42	1081	8	15	352	53
Grp Sat Flow(s),veh/h/ln	2132	0	2014	1731	0	1671	2118	2224	1883	1551	1629	1379
Q Serve(g_s), s	5.0	0.0	1.5	2.2	0.0	5.0	0.8	38.3	0.2	0.4	11.6	1.7
Cycle Q Clear(g_c), s	5.0	0.0	1.5	2.2	0.0	5.0	0.8	38.3	0.2	0.4	11.6	1.7
Prop In Lane	1.00		0.62	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	285	0	258	296	0	185	621	1216	1030	161	860	728
V/C Ratio(X)	0.57	0.00	0.14	0.16	0.00	0.53	0.07	0.89	0.01	0.09	0.41	0.07
Avail Cap(c_a), veh/h	285	0	406	325	0	337	663	1445	1224	221	1058	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	34.6	33.2	0.0	37.5	9.4	17.8	9.2	17.1	12.7	10.3
Incr Delay (d2), s/veh	2.7	0.0	0.3	0.3	0.0	2.4	0.0	6.4	0.0	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.7	0.9	0.0	2.2	0.3	19.3	0.1	0.1	3.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	0.0	34.8	33.4	0.0	39.9	9.5	24.2	9.2	17.3	13.0	10.4
LnGrp LOS	D	A	C	C	A	D	A	C	A	B	B	B
Approach Vol, veh/h		200			147			1131			420	
Approach Delay, s/veh		36.9			37.8			23.5			12.8	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	54.8	9.5	17.4	9.2	53.1	11.0	15.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	58.0	5.0	18.0	5.0	58.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	40.3	4.2	3.5	2.8	13.6	7.0	7.0
Green Ext Time (p_c), s	0.0	8.6	0.0	0.1	0.0	2.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	261	153	55	163	14	102	1474	83	19	767	126
Future Volume (vph)	214	261	153	55	163	14	102	1474	83	19	767	126
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	350		0	225		0	200		0	210		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		571			1339			1348			645	
Travel Time (s)		11.1			26.1			26.3			12.6	
Confl. Peds. (#/hr)									4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	9.6	27.6	27.6	10.6	16.6		10.6	29.6		10.6	29.6	29.6
Total Split (s)	30.0	30.0	30.0	30.0	30.0		21.0	65.0		15.0	59.0	59.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	21.4%		15.0%	46.4%		10.7%	42.1%	42.1%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 41 (29%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 12: S Meridian (SR161) & 39th Ave SW/39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	261	153	55	163	14	102	1474	83	19	767	126
Future Volume (veh/h)	214	261	153	55	163	14	102	1474	83	19	767	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1716	1716	1716	1758	1758	1758	1680	1680	1680	1716	1716	1716
Adj Flow Rate, veh/h	214	261	0	55	163	14	102	1474	83	19	767	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	6	6	6	3	3	3	5	5	5	6	6	6
Cap, veh/h	236	564		70	218	19	121	1940	109	37	1886	
Arrive On Green	0.14	0.17	0.00	0.04	0.07	0.07	0.15	1.00	1.00	0.04	1.00	0.00
Sat Flow, veh/h	1634	3260	1454	1674	3115	265	1600	3071	172	1634	3260	1454
Grp Volume(v), veh/h	214	261	0	55	87	90	102	763	794	19	767	0
Grp Sat Flow(s),veh/h/ln	1634	1630	1454	1674	1670	1710	1600	1596	1648	1634	1630	1454
Q Serve(g_s), s	18.0	10.1	0.0	4.6	7.1	7.3	8.7	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	18.0	10.1	0.0	4.6	7.1	7.3	8.7	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	236	564		70	117	120	121	1008	1041	37	1886	
V/C Ratio(X)	0.91	0.46		0.79	0.74	0.75	0.85	0.76	0.76	0.52	0.41	
Avail Cap(c_a), veh/h	296	591		304	303	310	187	1008	1041	121	1886	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.99	0.99	0.99	0.32	0.32	0.32	0.98	0.98	0.00
Uniform Delay (d), s/veh	58.9	52.0	0.0	66.5	63.8	63.9	58.6	0.0	0.0	66.1	0.0	0.0
Incr Delay (d2), s/veh	24.6	0.4	0.0	13.3	5.5	5.7	5.7	1.8	1.7	8.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	4.2	0.0	2.2	3.2	3.3	3.5	0.5	0.5	0.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.6	52.5	0.0	79.7	69.3	69.6	64.3	1.8	1.7	74.2	0.6	0.0
LnGrp LOS	F	D		E	E	E	E	A	A	E	A	
Approach Vol, veh/h		475	A		232			1659			786	A
Approach Delay, s/veh		66.5			71.9			5.6			2.4	
Approach LOS		E			E			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	85.6	24.8	14.4	7.7	93.0	10.4	28.8
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	16.4	54.4	25.4	25.4	10.4	60.4	25.4	25.4
Max Q Clear Time (g_c+I1), s	10.7	2.0	20.0	9.3	3.6	2.0	6.6	12.1
Green Ext Time (p_c), s	0.1	4.9	0.2	0.6	0.0	13.2	0.1	1.0

Intersection Summary			
HCM 6th Ctrl Delay			18.9
HCM 6th LOS			B

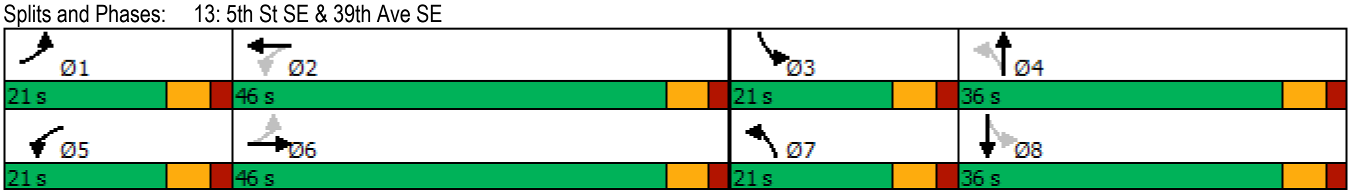
Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	245	42	65	125	7	60	240	101	2	152	35
Future Volume (vph)	53	245	42	65	125	7	60	240	101	2	152	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	150		0	175		0	225		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1339			1162			552			965	
Travel Time (s)		26.1			22.6			12.5			21.9	
Confl. Peds. (#/hr)									3	3		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0		11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0		21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%		16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 58.8	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 13: 5th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	245	42	65	125	7	60	240	101	2	152	35
Future Volume (veh/h)	53	245	42	65	125	7	60	240	101	2	152	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1826	1826	1826	2003	2003	2003	1885	1885	1885
Adj Flow Rate, veh/h	57	263	45	70	134	8	65	258	109	2	163	38
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	5	5	5	1	1	1	1	1	1
Cap, veh/h	450	596	101	375	682	40	393	352	149	237	307	71
Arrive On Green	0.05	0.20	0.20	0.06	0.20	0.20	0.06	0.26	0.26	0.00	0.21	0.21
Sat Flow, veh/h	1767	3017	509	1739	3328	197	1908	1335	564	1795	1477	344
Grp Volume(v), veh/h	57	152	156	70	69	73	65	0	367	2	0	201
Grp Sat Flow(s),veh/h/ln	1767	1763	1764	1739	1735	1790	1908	0	1899	1795	0	1821
Q Serve(g_s), s	1.3	3.8	3.9	1.6	1.7	1.7	1.3	0.0	8.9	0.0	0.0	5.0
Cycle Q Clear(g_c), s	1.3	3.8	3.9	1.6	1.7	1.7	1.3	0.0	8.9	0.0	0.0	5.0
Prop In Lane	1.00		0.29	1.00		0.11	1.00		0.30	1.00		0.19
Lane Grp Cap(c), veh/h	450	348	348	375	355	367	393	0	501	237	0	378
V/C Ratio(X)	0.13	0.44	0.45	0.19	0.20	0.20	0.17	0.00	0.73	0.01	0.00	0.53
Avail Cap(c_a), veh/h	877	1392	1393	782	1370	1414	845	0	1125	764	0	1079
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	17.8	17.9	14.6	16.7	16.7	14.4	0.0	17.0	16.2	0.0	17.9
Incr Delay (d2), s/veh	0.1	0.9	0.9	0.2	0.3	0.3	0.2	0.0	2.1	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	1.5	0.6	0.6	0.6	0.5	0.0	3.7	0.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	18.7	18.8	14.9	16.9	16.9	14.5	0.0	19.1	16.2	0.0	19.0
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		365			212			432			203	
Approach Delay, s/veh		18.1			16.3			18.4			19.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	16.4	6.1	19.4	9.1	16.0	9.0	16.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	3.3	3.7	2.0	10.9	3.6	5.9	3.3	7.0
Green Ext Time (p_c), s	0.1	0.8	0.0	2.2	0.1	1.8	0.1	1.1

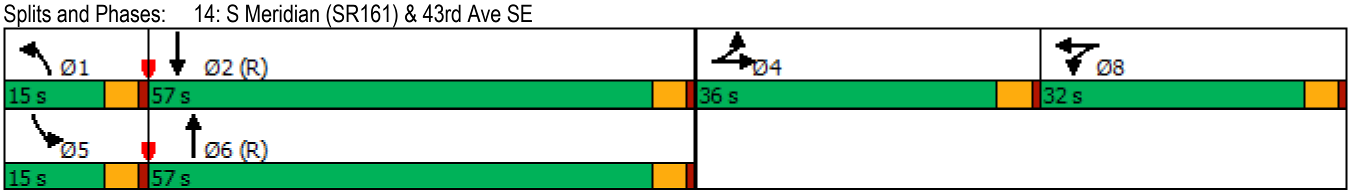
Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	60	5	108	46	71	14	1716	141	72	776	12
Future Volume (vph)	46	60	5	108	46	71	14	1716	141	72	776	12
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-4%			6%			0%			0%	
Storage Length (ft)	150		0	275		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		332			544			617			1348	
Travel Time (s)		9.1			10.6			12.0			26.3	
Confl. Peds. (#/hr)			3	3					3			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	3%	3%	3%	11%	11%	11%
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases												
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	33.6	33.6		30.6	30.6		10.6	32.6		10.6	28.6	
Total Split (s)	36.0	36.0		32.0	32.0		15.0	57.0		15.0	57.0	
Total Split (%)	25.7%	25.7%		22.9%	22.9%		10.7%	40.7%		10.7%	40.7%	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 14: S Meridian (SR161) & 43rd Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	60	5	108	46	71	14	1716	141	72	776	12
Future Volume (veh/h)	46	60	5	108	46	71	14	1716	141	72	776	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1892	1892	1892	1529	1529	1529	1758	1758	1758	1646	1646	1646
Adj Flow Rate, veh/h	46	60	5	108	46	71	14	1716	141	72	776	12
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	4	5	5	5	3	3	3	11	11	11
Cap, veh/h	107	102	8	156	58	89	30	2022	164	87	2157	33
Arrive On Green	0.06	0.06	0.06	0.11	0.11	0.11	0.02	0.65	0.65	0.11	1.00	1.00
Sat Flow, veh/h	1802	1720	143	1456	539	832	1674	3127	254	1567	3151	49
Grp Volume(v), veh/h	46	0	65	108	0	117	14	907	950	72	385	403
Grp Sat Flow(s),veh/h/ln	1802	0	1864	1456	0	1371	1674	1670	1711	1567	1563	1637
Q Serve(g_s), s	3.4	0.0	4.8	10.0	0.0	11.7	1.2	58.8	61.7	6.3	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	4.8	10.0	0.0	11.7	1.2	58.8	61.7	6.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.61	1.00		0.15	1.00		0.03
Lane Grp Cap(c), veh/h	107	0	110	156	0	147	30	1080	1107	87	1070	1120
V/C Ratio(X)	0.43	0.00	0.59	0.69	0.00	0.80	0.46	0.84	0.86	0.82	0.36	0.36
Avail Cap(c_a), veh/h	404	0	418	285	0	268	124	1080	1107	116	1070	1120
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	63.6	0.0	64.2	60.3	0.0	61.0	68.1	19.1	19.6	61.5	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.9	4.4	0.0	7.8	7.4	7.9	8.7	26.1	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	2.4	3.9	0.0	4.4	0.6	23.5	25.4	3.0	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	0.0	68.1	64.7	0.0	68.8	75.5	27.0	28.3	87.7	0.8	0.8
LnGrp LOS	E	A	E	E	A	E	E	C	C	F	A	A
Approach Vol, veh/h		111			225			1871			860	
Approach Delay, s/veh		67.2			66.8			28.0			8.1	
Approach LOS		E			E			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	100.4		12.9	12.4	95.1		19.6				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	10.4	52.4		31.4	10.4	52.4		27.4				
Max Q Clear Time (g_c+I1), s	3.2	2.0		6.8	8.3	63.7		13.7				
Green Ext Time (p_c), s	0.0	5.1		0.4	0.0	0.0		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			26.7
HCM 6th LOS			C

2032 With Project PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	14	44	402	14	44	491
Future Volume (vph)	14	44	402	14	44	491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		-4%			0%
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		25			25
Link Distance (ft)	771		286			501
Travel Time (s)	21.0		7.8			13.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	44	402	14	44	491
Future Vol, veh/h	14	44	402	14	44	491
Conflicting Peds, #/hr	0	0	0	7	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-4	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	2	2	2	2
Mvmt Flow	16	49	452	16	49	552

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1117	467	0	0	475	0
Stage 1	467	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	231	600	-	-	1087	-
Stage 1	635	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	596	-	-	1080	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	631	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.7
HCM LOS	B		

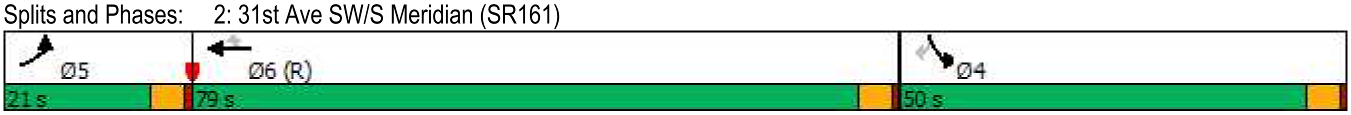
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	511	1080	-
HCM Lane V/C Ratio	-	-	0.128	0.046	-
HCM Control Delay (s)	-	-	13.1	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	294	1408	1350	448	655	309
Future Volume (vph)	294	1408	1350	448	655	309
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Storage Length (ft)	250			0	0	175
Storage Lanes	2			1	2	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		370	339		787	
Travel Time (s)		7.2	6.6		15.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Shared Lane Traffic (%)						
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Detector Phase	5		6	6	4	4
Switch Phase						
Minimum Initial (s)	8.0		10.0	10.0	8.0	8.0
Minimum Split (s)	12.6		20.6	20.6	12.6	12.6
Total Split (s)	21.0		79.0	79.0	50.0	50.0
Total Split (%)	14.0%		52.7%	52.7%	33.3%	33.3%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6		4.6	4.6	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	Min		C-Min	C-Min	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 44 (29%), Referenced to phase 6:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

! Phase conflict between lane groups.

Splits and Phases: 2: 31st Ave SW/S Meridian (SR161)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	294	1408	1350	448	655	309
Future Volume (vph)	294	1408	1350	448	655	309
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Grade (%)		4%	-4%		0%	
Total Lost time (s)	4.6	4.0	4.6	4.6	4.6	4.6
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3187	3286	3387	1515	3285	1515
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3187	3286	3387	1515	3285	1515
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	294	1408	1350	448	655	309
RTOR Reduction (vph)	0	0	0	148	0	168
Lane Group Flow (vph)	294	1408	1350	300	655	141
Heavy Vehicles (%)	2%	2%	3%	3%	1%	1%
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	Free!	6		4!	
Permitted Phases				6		4
Actuated Green, G (s)	18.3	150.0	82.9	82.9	35.0	35.0
Effective Green, g (s)	18.3	150.0	82.9	82.9	35.0	35.0
Actuated g/C Ratio	0.12	1.00	0.55	0.55	0.23	0.23
Clearance Time (s)	4.6		4.6	4.6	4.6	4.6
Vehicle Extension (s)	2.5		2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	388	3286	1871	837	766	353
v/s Ratio Prot	c0.09	0.43	c0.40		c0.20	
v/s Ratio Perm				0.20		0.09
v/c Ratio	0.76	0.43	0.72	0.36	0.86	0.40
Uniform Delay, d1	63.7	0.0	25.0	18.7	55.1	48.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9	0.4	2.4	1.2	9.1	0.5
Delay (s)	71.6	0.4	27.4	19.9	64.2	49.2
Level of Service	E	A	C	B	E	D
Approach Delay (s)		12.7	25.5		59.4	
Approach LOS		B	C		E	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	152	113	199	183	437	93	1170	68	420	1467	68
Future Volume (vph)	71	152	113	199	183	437	93	1170	68	420	1467	68
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	250		0	225		0	350		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		242			1349			645			449	
Travel Time (s)		6.6			26.3			12.6			8.7	
Confl. Peds. (#/hr)						2			2			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			Free						
Detector Phase	3	8	8	7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	4.0	6.0	6.0	6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	8.6	10.6	10.6	10.6	35.6		10.6	28.6		10.6	31.6	
Total Split (s)	15.0	25.0	25.0	27.0	37.0		23.0	72.0		26.0	75.0	
Total Split (%)	10.0%	16.7%	16.7%	18.0%	24.7%		15.3%	48.0%		17.3%	50.0%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 28 (19%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Splits and Phases: 3: S Meridian (SR161) & 37th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	152	113	199	183	437	93	1170	68	420	1467	68
Future Volume (veh/h)	71	152	113	199	183	437	93	1170	68	420	1467	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1786	1786	1786	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	71	152	113	199	183	0	93	1170	68	420	1467	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	4	4	4	2	2	2
Cap, veh/h	88	311	139	221	302		112	1641	95	460	2848	
Arrive On Green	0.05	0.09	0.09	0.13	0.17	0.00	0.13	1.00	1.00	0.14	0.59	0.00
Sat Flow, veh/h	1701	3393	1514	1701	1786	1514	1661	3182	185	3274	4997	0
Grp Volume(v), veh/h	71	152	113	199	183	0	93	609	629	420	1467	0
Grp Sat Flow(s),veh/h/ln	1701	1697	1514	1701	1786	1514	1661	1657	1710	1637	1612	0
Q Serve(g_s), s	6.2	6.4	11.0	17.3	14.2	0.0	8.2	0.0	0.0	19.0	26.8	0.0
Cycle Q Clear(g_c), s	6.2	6.4	11.0	17.3	14.2	0.0	8.2	0.0	0.0	19.0	26.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	88	311	139	221	302		112	854	882	460	2848	
V/C Ratio(X)	0.80	0.49	0.82	0.90	0.61		0.83	0.71	0.71	0.91	0.52	
Avail Cap(c_a), veh/h	118	461	206	254	386		204	854	882	467	2848	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.71	0.71	0.00	0.49	0.49	0.49	1.00	1.00	0.00
Uniform Delay (d), s/veh	70.3	64.8	66.9	64.3	57.7	0.0	64.1	0.0	0.0	63.6	18.2	0.0
Incr Delay (d2), s/veh	26.3	1.2	14.3	23.2	1.5	0.0	7.7	2.5	2.4	22.2	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.9	4.8	8.9	6.6	0.0	3.5	0.6	0.6	9.3	10.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.7	66.0	81.2	87.5	59.2	0.0	71.8	2.5	2.4	85.8	18.9	0.0
LnGrp LOS	F	E	F	F	E		E	A	A	F	B	
Approach Vol, veh/h		336			382	A		1331			1887	A
Approach Delay, s/veh		77.6			73.9			7.3			33.8	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	92.9	12.4	30.0	25.7	82.0	24.0	18.3
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	18.4	70.4	10.4	32.4	21.4	67.4	22.4	20.4
Max Q Clear Time (g_c+I1), s	10.2	28.8	8.2	16.2	21.0	2.0	19.3	13.0
Green Ext Time (p_c), s	0.1	17.7	0.0	0.9	0.1	14.6	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

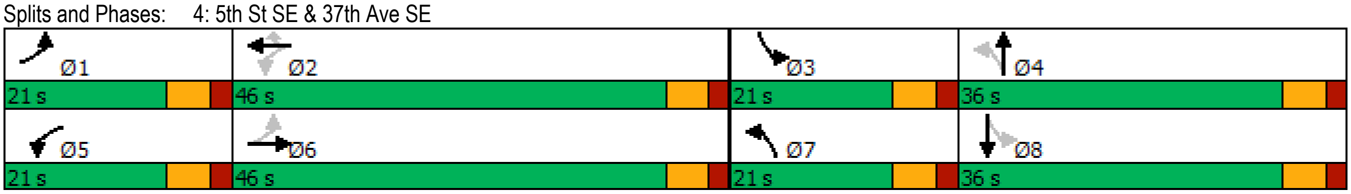
Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	402	94	39	556	208	123	293	24	280	466	79
Future Volume (vph)	98	402	94	39	556	208	123	293	24	280	466	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			0%			-5%	
Storage Length (ft)	200		0	225		150	200		0	250		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		1349			1181			965			418	
Travel Time (s)		26.3			23.0			21.9			11.4	
Confl. Peds. (#/hr)	3		1	1		3	1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	4			8		
Detector Phase	1	6		5	2	2	7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0	26.0	11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0	46.0	21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%	37.1%	16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 124	
Actuated Cycle Length: 96.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 4: 5th St SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	402	94	39	556	208	123	293	24	280	466	79
Future Volume (veh/h)	98	402	94	39	556	208	123	293	24	280	466	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	2003	2003	2003	1885	1885	1885	2082	2082	2082
Adj Flow Rate, veh/h	103	423	99	41	585	0	129	308	0	295	491	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	1	1	1	1	1	1	1	1	1
Cap, veh/h	278	722	167	279	850		277	498		505	563	95
Arrive On Green	0.06	0.25	0.25	0.04	0.22	0.00	0.07	0.26	0.00	0.14	0.32	0.32
Sat Flow, veh/h	1810	2905	674	1908	3806	1697	1795	1885	0	1983	1735	293
Grp Volume(v), veh/h	103	261	261	41	585	0	129	308	0	295	0	574
Grp Sat Flow(s),veh/h/ln	1810	1805	1774	1908	1903	1697	1795	1885	0	1983	0	2028
Q Serve(g_s), s	3.3	9.7	9.9	1.2	10.8	0.0	3.9	11.0	0.0	7.9	0.0	20.4
Cycle Q Clear(g_c), s	3.3	9.7	9.9	1.2	10.8	0.0	3.9	11.0	0.0	7.9	0.0	20.4
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.00	1.00		0.14
Lane Grp Cap(c), veh/h	278	448	441	279	850		277	498		505	0	658
V/C Ratio(X)	0.37	0.58	0.59	0.15	0.69		0.47	0.62		0.58	0.00	0.87
Avail Cap(c_a), veh/h	519	946	930	581	1995		496	741		627	0	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	25.2	25.3	21.7	27.2	0.0	19.9	24.7	0.0	16.9	0.0	24.3
Incr Delay (d2), s/veh	0.8	1.2	1.3	0.2	1.0	0.0	1.2	1.3	0.0	1.1	0.0	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.1	4.1	0.5	4.7	0.0	1.6	4.9	0.0	3.6	0.0	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	26.4	26.5	22.0	28.2	0.0	21.1	26.0	0.0	18.0	0.0	33.4
LnGrp LOS	C	C	C	C	C		C	C		B	A	C
Approach Vol, veh/h		625			626	A		437	A		869	
Approach Delay, s/veh		25.8			27.8			24.5			28.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	23.0	16.3	26.1	8.9	25.0	11.7	30.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	5.3	12.8	9.9	13.0	3.2	11.9	5.9	22.4
Green Ext Time (p_c), s	0.1	4.1	0.4	1.6	0.0	3.2	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

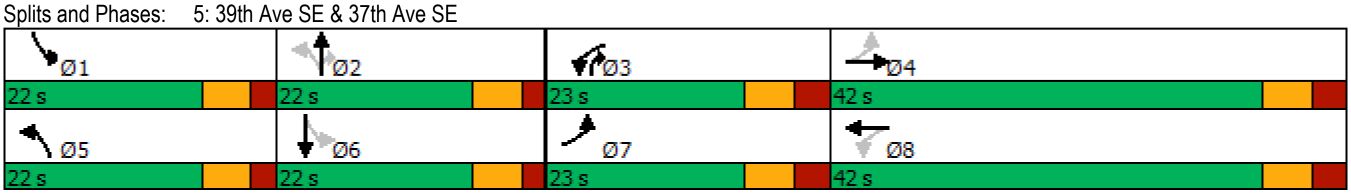
Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	705	7	325	751	6	1	8	299	5	11	22
Future Volume (vph)	9	705	7	325	751	6	1	8	299	5	11	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			3%			0%	
Storage Length (ft)	225		0	200		0	200		0	0		150
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1181			510			1162			264	
Travel Time (s)		23.0			9.9			22.6			7.2	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.0	16.0	12.0	11.0	34.0	
Total Split (s)	23.0	42.0		23.0	42.0		22.0	22.0	23.0	22.0	22.0	
Total Split (%)	21.1%	38.5%		21.1%	38.5%		20.2%	20.2%	21.1%	20.2%	20.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	7.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 109	
Actuated Cycle Length: 62.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 39th Ave SE & 37th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	705	7	325	751	6	1	8	299	5	11	22
Future Volume (veh/h)	9	705	7	325	751	6	1	8	299	5	11	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1673	1673	2067	2067	2067	1817	1817	1817	1900	1900	1900
Adj Flow Rate, veh/h	10	750	7	346	799	6	1	9	318	5	12	23
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	0	0	0
Cap, veh/h	302	1045	10	462	1807	14	343	360	522	311	118	227
Arrive On Green	0.01	0.32	0.32	0.14	0.45	0.45	0.00	0.20	0.20	0.01	0.20	0.20
Sat Flow, veh/h	1593	3227	30	1968	3994	30	1731	1817	1540	1810	583	1117
Grp Volume(v), veh/h	10	369	388	346	393	412	1	9	318	5	0	35
Grp Sat Flow(s),veh/h/ln	1593	1589	1668	1968	1963	2061	1731	1817	1540	1810	0	1699
Q Serve(g_s), s	0.3	16.1	16.1	8.6	10.8	10.8	0.0	0.3	13.5	0.2	0.0	1.3
Cycle Q Clear(g_c), s	0.3	16.1	16.1	8.6	10.8	10.8	0.0	0.3	13.5	0.2	0.0	1.3
Prop In Lane	1.00		0.02	1.00		0.01	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	302	515	540	462	888	932	343	360	522	311	0	346
V/C Ratio(X)	0.03	0.72	0.72	0.75	0.44	0.44	0.00	0.02	0.61	0.02	0.00	0.10
Avail Cap(c_a), veh/h	606	707	742	585	888	932	693	370	530	667	0	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.4	23.4	23.4	15.9	14.7	14.8	25.2	25.4	21.7	24.9	0.0	25.5
Incr Delay (d2), s/veh	0.0	4.2	4.0	4.0	0.7	0.7	0.0	0.0	2.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.2	6.5	3.9	4.5	4.7	0.0	0.1	4.8	0.1	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	27.6	27.4	20.0	15.5	15.5	25.2	25.4	23.6	25.0	0.0	25.6
LnGrp LOS	B	C	C	B	B	B	C	C	C	C	A	C
Approach Vol, veh/h		767			1151			328			40	
Approach Delay, s/veh		27.4			16.8			23.7			25.5	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	21.6	18.1	32.5	6.1	22.0	8.0	42.6
Change Period (Y+Rc), s	6.0	6.0	7.0	7.0	6.0	6.0	7.0	7.0
Max Green Setting (Gmax), s	16.0	16.0	16.0	35.0	16.0	16.0	16.0	35.0
Max Q Clear Time (g_c+I1), s	2.2	15.5	10.6	18.1	2.0	3.3	2.3	12.8
Green Ext Time (p_c), s	0.0	0.1	0.5	7.4	0.0	0.1	0.0	9.2

Intersection Summary			
HCM 6th Ctrl Delay			21.5
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	815	160	163	847	5	99	7	79	16	32	134
Future Volume (vph)	39	815	160	163	847	5	99	7	79	16	32	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-5%			-6%			-4%	
Storage Length (ft)	150		0	200		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			25	
Link Distance (ft)		510			1994			256			231	
Travel Time (s)		9.9			38.8			5.8			6.3	
Confl. Peds. (#/hr)	1		2	2		1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.3	30.3		11.3	30.3		10.5	25.5		10.5	25.5	
Total Split (s)	21.3	51.3		21.3	51.3		21.3	21.3		21.3	21.3	
Total Split (%)	18.5%	44.5%		18.5%	44.5%		18.5%	18.5%		18.5%	18.5%	
Yellow Time (s)	4.3	4.3		4.3	4.3		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other

Cycle Length: 115.2

Actuated Cycle Length: 90.1

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 6: 10th St SE & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	815	160	163	847	5	99	7	79	16	32	134
Future Volume (veh/h)	39	815	160	163	847	5	99	7	79	16	32	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	2067	2067	2067	2061	2061	2061	2057	2057	2057
Adj Flow Rate, veh/h	43	906	178	181	941	6	110	8	88	18	36	149
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	0	0	0
Cap, veh/h	335	1242	244	342	1826	12	269	26	291	322	46	191
Arrive On Green	0.04	0.42	0.42	0.08	0.46	0.46	0.07	0.18	0.18	0.02	0.13	0.13
Sat Flow, veh/h	1795	2983	586	1968	4000	26	1963	147	1622	1959	350	1447
Grp Volume(v), veh/h	43	544	540	181	462	485	110	0	96	18	0	185
Grp Sat Flow(s),veh/h/ln	1795	1791	1778	1968	1963	2062	1963	0	1769	1959	0	1797
Q Serve(g_s), s	1.0	19.7	19.7	4.0	13.0	13.0	3.7	0.0	3.7	0.6	0.0	7.7
Cycle Q Clear(g_c), s	1.0	19.7	19.7	4.0	13.0	13.0	3.7	0.0	3.7	0.6	0.0	7.7
Prop In Lane	1.00		0.33	1.00		0.01	1.00		0.92	1.00		0.81
Lane Grp Cap(c), veh/h	335	746	740	342	896	941	269	0	317	322	0	237
V/C Ratio(X)	0.13	0.73	0.73	0.53	0.52	0.52	0.41	0.00	0.30	0.06	0.00	0.78
Avail Cap(c_a), veh/h	613	1040	1032	567	1140	1197	535	0	361	681	0	366
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.5	19.0	19.0	14.5	15.0	15.0	26.6	0.0	27.6	28.1	0.0	32.6
Incr Delay (d2), s/veh	0.2	2.2	2.2	1.3	0.7	0.6	1.0	0.0	0.5	0.1	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.8	7.8	1.7	5.4	5.6	1.7	0.0	1.5	0.3	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	21.1	21.2	15.8	15.6	15.6	27.6	0.0	28.1	28.2	0.0	38.3
LnGrp LOS	B	C	C	B	B	B	C	A	C	C	A	D
Approach Vol, veh/h		1127			1128			206			203	
Approach Delay, s/veh		20.8			15.6			27.8			37.4	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	41.7	7.1	19.4	12.4	38.6	10.8	15.7
Change Period (Y+Rc), s	6.3	6.3	5.5	5.5	6.3	6.3	5.5	5.5
Max Green Setting (Gmax), s	15.0	45.0	15.8	15.8	15.0	45.0	15.8	15.8
Max Q Clear Time (g_c+I1), s	3.0	15.0	2.6	5.7	6.0	21.7	5.7	9.7
Green Ext Time (p_c), s	0.0	9.8	0.0	0.3	0.3	10.5	0.2	0.5

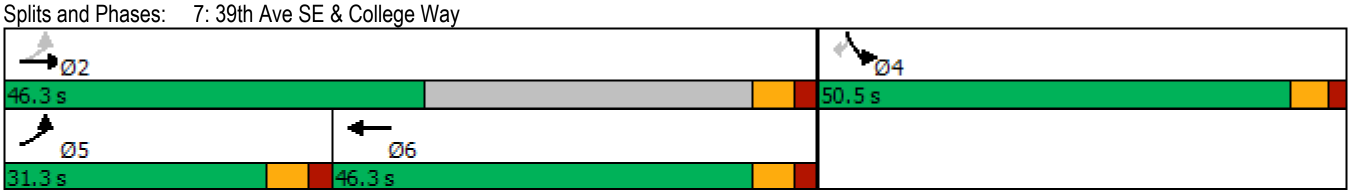
Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	147	750	777	88	88	148
Future Volume (vph)	147	750	777	88	88	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	-5%		0%	
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	25				25	
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		25	
Link Distance (ft)		1994	702		209	
Travel Time (s)		38.8	13.7		5.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	5%	5%
Shared Lane Traffic (%)						
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	5.0
Minimum Split (s)	11.3	16.3	35.3		34.5	34.5
Total Split (s)	31.3	46.3	46.3		50.5	50.5
Total Split (%)	24.4%	36.1%	36.1%		39.4%	39.4%
Yellow Time (s)	4.0	4.0	4.0		3.5	3.5
All-Red Time (s)	2.3	2.3	2.3		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3		5.5	5.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	Min	Min		None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 128.1	
Actuated Cycle Length: 65.8	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 7: 39th Ave SE & College Way



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	750	777	88	88	148
Future Volume (veh/h)	147	750	777	88	88	148
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	2082	2082	1826	1826
Adj Flow Rate, veh/h	162	824	854	97	97	163
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	1	5	5
Cap, veh/h	420	2140	1345	153	276	246
Arrive On Green	0.09	0.60	0.38	0.38	0.16	0.16
Sat Flow, veh/h	1795	3676	3684	407	1739	1547
Grp Volume(v), veh/h	162	824	472	479	97	163
Grp Sat Flow(s),veh/h/ln	1795	1791	1978	2008	1739	1547
Q Serve(g_s), s	2.4	5.8	9.5	9.5	2.4	4.8
Cycle Q Clear(g_c), s	2.4	5.8	9.5	9.5	2.4	4.8
Prop In Lane	1.00			0.20	1.00	1.00
Lane Grp Cap(c), veh/h	420	2140	743	755	276	246
V/C Ratio(X)	0.39	0.39	0.63	0.63	0.35	0.66
Avail Cap(c_a), veh/h	1183	2959	1634	1659	1616	1438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	5.1	12.4	12.4	18.1	19.1
Incr Delay (d2), s/veh	0.6	0.1	0.9	0.9	0.9	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.3	3.5	3.5	1.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.9	5.2	13.3	13.3	19.1	22.8
LnGrp LOS	A	A	B	B	B	C
Approach Vol, veh/h		986	951		260	
Approach Delay, s/veh		5.8	13.3		21.4	
Approach LOS		A	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		35.2		13.2	10.7	24.5
Change Period (Y+Rc), s		* 6.3		5.5	* 6.3	* 6.3
Max Green Setting (Gmax), s		* 40		45.0	* 25	* 40
Max Q Clear Time (g_c+I1), s		7.8		6.8	4.4	11.5
Green Ext Time (p_c), s		6.4		1.1	0.4	6.7

Intersection Summary				
HCM 6th Ctrl Delay			10.9	
HCM 6th LOS			B	

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	581	54	12	651	31	41	7	5	51	32	115
Future Volume (vph)	130	581	54	12	651	31	41	7	5	51	32	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-4%			0%			6%	
Storage Length (ft)	125		0	125		0	50		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		384			416			287			528	
Travel Time (s)		7.5			8.1			7.8			14.4	
Confl. Peds. (#/hr)			1	1					1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other

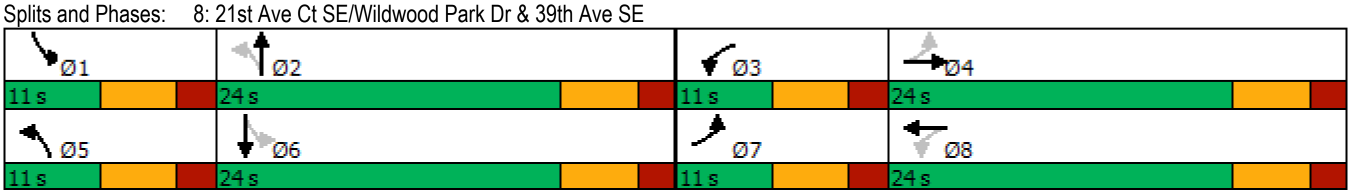
Cycle Length: 70

Actuated Cycle Length: 54.4

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 8: 21st Ave Ct SE/Wildwood Park Dr & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	581	54	12	651	31	41	7	5	51	32	115
Future Volume (veh/h)	130	581	54	12	651	31	41	7	5	51	32	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	2042	2042	2042	1900	1900	1900	1658	1658	1658
Adj Flow Rate, veh/h	140	625	58	13	700	33	44	8	5	55	34	124
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	2	2	2
Cap, veh/h	337	1051	97	294	950	45	318	194	121	426	58	210
Arrive On Green	0.08	0.32	0.32	0.02	0.25	0.25	0.04	0.18	0.18	0.05	0.18	0.18
Sat Flow, veh/h	1795	3313	307	1945	3772	178	1810	1093	683	1579	312	1139
Grp Volume(v), veh/h	140	337	346	13	360	373	44	0	13	55	0	158
Grp Sat Flow(s),veh/h/ln	1795	1791	1829	1945	1940	2010	1810	0	1776	1579	0	1451
Q Serve(g_s), s	3.1	8.7	8.7	0.3	9.4	9.4	1.1	0.0	0.3	1.5	0.0	5.5
Cycle Q Clear(g_c), s	3.1	8.7	8.7	0.3	9.4	9.4	1.1	0.0	0.3	1.5	0.0	5.5
Prop In Lane	1.00		0.17	1.00		0.09	1.00		0.38	1.00		0.78
Lane Grp Cap(c), veh/h	337	568	580	294	489	506	318	0	315	426	0	268
V/C Ratio(X)	0.42	0.59	0.60	0.04	0.74	0.74	0.14	0.00	0.04	0.13	0.00	0.59
Avail Cap(c_a), veh/h	354	587	600	439	636	659	402	0	582	488	0	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	15.8	15.8	15.0	18.9	18.9	17.3	0.0	18.7	16.9	0.0	20.5
Incr Delay (d2), s/veh	0.8	1.5	1.5	0.1	3.2	3.1	0.2	0.0	0.1	0.1	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.3	3.4	0.1	4.1	4.2	0.4	0.0	0.1	0.5	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	17.3	17.3	15.1	22.1	22.0	17.5	0.0	18.8	17.0	0.0	22.5
LnGrp LOS	B	B	B	B	C	C	B	A	B	B	A	C
Approach Vol, veh/h		823			746			57			213	
Approach Delay, s/veh		16.9			21.9			17.8			21.1	
Approach LOS		B			C			B			C	

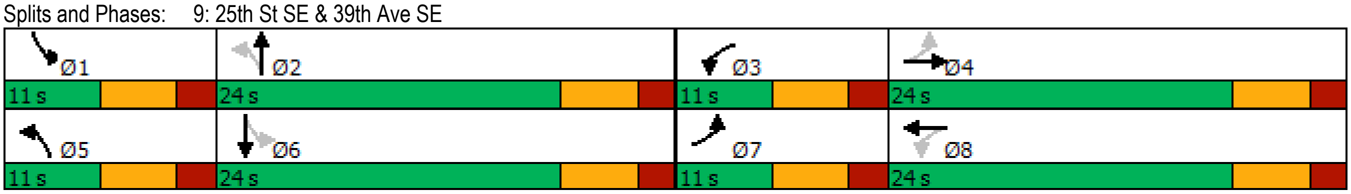
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	15.8	6.9	23.4	8.4	16.1	10.5	19.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.5	2.3	2.3	10.7	3.1	7.5	5.1	11.4
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.6	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	595	31	29	641	1	19	0	15	8	0	27
Future Volume (vph)	13	595	31	29	641	1	19	0	15	8	0	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	75		0	100		0	25		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			75			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		365			225			248			136	
Travel Time (s)		7.1			4.4			6.8			3.7	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (s)	11.0	24.0		11.0	24.0		11.0	24.0		11.0	24.0	
Total Split (%)	15.7%	34.3%		15.7%	34.3%		15.7%	34.3%		15.7%	34.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 34.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 9: 25th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	595	31	29	641	1	19	0	15	8	0	27
Future Volume (veh/h)	13	595	31	29	641	1	19	0	15	8	0	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	640	33	31	689	1	20	0	16	9	0	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	0	0	0
Cap, veh/h	295	949	49	315	1071	2	345	0	202	347	0	181
Arrive On Green	0.02	0.27	0.27	0.04	0.29	0.29	0.02	0.00	0.13	0.01	0.00	0.11
Sat Flow, veh/h	1795	3465	179	1795	3670	5	1810	0	1610	1810	0	1610
Grp Volume(v), veh/h	14	331	342	31	336	354	20	0	16	9	0	29
Grp Sat Flow(s),veh/h/ln	1795	1791	1853	1795	1791	1884	1810	0	1610	1810	0	1610
Q Serve(g_s), s	0.2	7.1	7.1	0.5	7.1	7.1	0.4	0.0	0.4	0.2	0.0	0.7
Cycle Q Clear(g_c), s	0.2	7.1	7.1	0.5	7.1	7.1	0.4	0.0	0.4	0.2	0.0	0.7
Prop In Lane	1.00		0.10	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	490	507	315	523	550	345	0	202	347	0	181
V/C Ratio(X)	0.05	0.67	0.68	0.10	0.64	0.64	0.06	0.00	0.08	0.03	0.00	0.16
Avail Cap(c_a), veh/h	470	743	769	457	743	782	509	0	668	534	0	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	14.0	14.0	11.1	13.4	13.4	16.3	0.0	16.8	16.7	0.0	17.4
Incr Delay (d2), s/veh	0.1	1.6	1.6	0.1	1.3	1.3	0.1	0.0	0.2	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.6	0.2	2.4	2.6	0.2	0.0	0.1	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	15.7	15.6	11.3	14.7	14.7	16.4	0.0	16.9	16.7	0.0	17.8
LnGrp LOS	B	B	B	B	B	B	B	A	B	B	A	B
Approach Vol, veh/h		687			721			36			38	
Approach Delay, s/veh		15.5			14.5			16.6			17.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	11.4	7.6	17.9	7.1	10.9	6.8	18.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	18.0	5.0	18.0	5.0	18.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.2	2.4	2.5	9.1	2.4	2.7	2.2	9.1
Green Ext Time (p_c), s	0.0	0.0	0.0	2.7	0.0	0.1	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	244	0	449	1	2	0	363	433	4	0	576	368
Future Volume (vph)	244	0	449	1	2	0	363	433	4	0	576	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			8%			-4%			6%	
Storage Length (ft)	0		0	0		0	300		0	200		0
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		507			360			460			462	
Travel Time (s)		9.9			7.0			9.0			9.0	
Confl. Peds. (#/hr)			2	2					2	2		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	29.0	29.0	29.0	24.0	24.0		16.3	28.3		11.3	28.3	28.3
Total Split (s)	36.0	36.0	36.0	36.0	36.0		26.3	46.3		21.3	46.3	46.3
Total Split (%)	33.1%	33.1%	33.1%	33.1%	33.1%		24.2%	42.6%		19.6%	42.6%	42.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.3	2.3		2.3	2.3	2.3
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0		6.3	6.3		6.3	6.3	6.3
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 108.6	
Actuated Cycle Length: 97.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 10: Shaw Rd E & 39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	0	449	1	2	0	363	433	4	0	576	368
Future Volume (veh/h)	244	0	449	1	2	0	363	433	4	0	576	368
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1523	1523	1523	2027	2027	2027	1673	1673	1673
Adj Flow Rate, veh/h	252	0	463	1	2	0	374	446	4	0	594	379
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	2	2	2	1	1	1
Cap, veh/h	254	0	455	45	57	0	408	1204	11	384	625	528
Arrive On Green	0.28	0.00	0.28	0.28	0.28	0.00	0.17	0.60	0.60	0.00	0.37	0.37
Sat Flow, veh/h	656	0	1604	0	203	0	1931	2006	18	1593	1673	1414
Grp Volume(v), veh/h	252	0	463	3	0	0	374	0	450	0	594	379
Grp Sat Flow(s),veh/h/ln	656	0	1604	203	0	0	1931	0	2024	1593	1673	1414
Q Serve(g_s), s	0.0	0.0	30.0	0.0	0.0	0.0	15.3	0.0	12.1	0.0	36.5	24.3
Cycle Q Clear(g_c), s	30.0	0.0	30.0	30.0	0.0	0.0	15.3	0.0	12.1	0.0	36.5	24.3
Prop In Lane	1.00		1.00	0.33		0.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	254	0	455	103	0	0	408	0	1214	384	625	528
V/C Ratio(X)	0.99	0.00	1.02	0.03	0.00	0.00	0.92	0.00	0.37	0.00	0.95	0.72
Avail Cap(c_a), veh/h	254	0	455	103	0	0	451	0	1214	608	633	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	0.0	37.9	30.4	0.0	0.0	30.5	0.0	10.9	0.0	32.2	28.4
Incr Delay (d2), s/veh	54.0	0.0	46.6	0.1	0.0	0.0	22.1	0.0	0.3	0.0	24.3	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	0.0	17.3	0.1	0.0	0.0	11.8	0.0	5.1	0.0	18.3	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	0.0	84.4	30.5	0.0	0.0	52.7	0.0	11.1	0.0	56.5	33.3
LnGrp LOS	F	A	F	C	A	A	D	A	B	A	E	C
Approach Vol, veh/h		715			3			824			973	
Approach Delay, s/veh		88.4			30.5			30.0			47.5	
Approach LOS		F			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	69.7		36.0	24.0	45.8		36.0
Change Period (Y+Rc), s	* 6.3	* 6.3		6.0	* 6.3	* 6.3		6.0
Max Green Setting (Gmax), s	* 15	* 40		30.0	* 20	* 40		30.0
Max Q Clear Time (g_c+I1), s	0.0	14.1		32.0	17.3	38.5		32.0
Green Ext Time (p_c), s	0.0	4.1		0.0	0.3	1.0		0.0

Intersection Summary			
HCM 6th Ctrl Delay			53.4
HCM 6th LOS			D

Notes

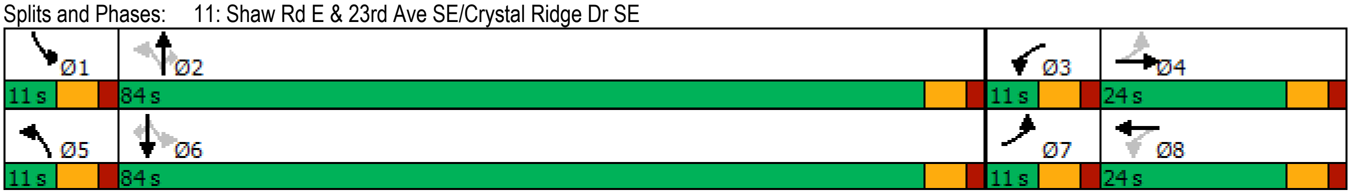
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	58	49	35	44	20	55	536	31	14	1039	179
Future Volume (vph)	117	58	49	35	44	20	55	536	31	14	1039	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-9%			3%			-9%			6%	
Storage Length (ft)	50		0	50		0	100		175	75		100
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			No			No			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		481			429			444			403	
Travel Time (s)		13.1			11.7			8.6			7.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.0	24.0		11.0	24.0		11.0	24.0	24.0	11.0	24.0	24.0
Total Split (s)	11.0	24.0		11.0	24.0		11.0	84.0	84.0	11.0	84.0	84.0
Total Split (%)	8.5%	18.5%		8.5%	18.5%		8.5%	64.6%	64.6%	8.5%	64.6%	64.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 122
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Shaw Rd E & 23rd Ave SE/Crystal Ridge Dr SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	58	49	35	44	20	55	536	31	14	1039	179
Future Volume (veh/h)	117	58	49	35	44	20	55	536	31	14	1039	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2254	2239	2239	1847	1847	1847	2224	2224	2224	1673	1673	1673
Adj Flow Rate, veh/h	127	63	53	38	48	22	60	583	34	15	1129	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	1	1	0	0	0	2	2	2	1	1	1
Cap, veh/h	219	105	89	162	99	45	135	1473	1248	476	1076	912
Arrive On Green	0.04	0.09	0.09	0.03	0.08	0.08	0.04	0.66	0.66	0.02	0.64	0.64
Sat Flow, veh/h	2147	1124	945	1759	1199	549	2118	2224	1885	1593	1673	1418
Grp Volume(v), veh/h	127	0	116	38	0	70	60	583	34	15	1129	195
Grp Sat Flow(s),veh/h/ln	2147	0	2069	1759	0	1748	2118	2224	1885	1593	1673	1418
Q Serve(g_s), s	5.0	0.0	6.5	2.4	0.0	4.6	1.1	14.6	0.8	0.4	78.0	6.9
Cycle Q Clear(g_c), s	5.0	0.0	6.5	2.4	0.0	4.6	1.1	14.6	0.8	0.4	78.0	6.9
Prop In Lane	1.00		0.46	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	0	194	162	0	144	135	1473	1248	476	1076	912
V/C Ratio(X)	0.58	0.00	0.60	0.23	0.00	0.49	0.44	0.40	0.03	0.03	1.05	0.21
Avail Cap(c_a), veh/h	219	0	307	182	0	259	147	1473	1248	516	1076	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	0.0	52.8	49.0	0.0	53.2	31.5	9.4	7.0	7.7	21.7	9.0
Incr Delay (d2), s/veh	3.8	0.0	2.9	0.7	0.0	2.5	2.3	0.2	0.0	0.0	41.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	3.6	1.1	0.0	2.2	1.2	6.6	0.3	0.1	39.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	0.0	55.7	49.7	0.0	55.7	33.8	9.6	7.1	7.8	63.1	9.1
LnGrp LOS	D	A	E	D	A	E	C	A	A	A	F	A
Approach Vol, veh/h		243			108			677			1339	
Approach Delay, s/veh		55.2			53.6			11.6			54.6	
Approach LOS		E			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	86.4	9.6	17.4	10.3	84.0	11.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	78.0	5.0	18.0	5.0	78.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.4	16.6	4.4	8.5	3.1	80.0	7.0	6.6
Green Ext Time (p_c), s	0.0	4.4	0.0	0.4	0.0	0.0	0.0	0.2

Intersection Summary		
HCM 6th Ctrl Delay		42.3
HCM 6th LOS		D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	490	247	169	357	52	190	1110	81	45	1287	403
Future Volume (vph)	320	490	247	169	357	52	190	1110	81	45	1287	403
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	350		0	225		0	200		0	210		0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			No			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		571			1339			1348			645	
Travel Time (s)		11.1			26.1			26.3			12.6	
Confl. Peds. (#/hr)			2						2			9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	6.0	6.0	6.0	5.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	9.6	27.6	27.6	10.6	16.6		10.6	29.6		10.6	29.6	29.6
Total Split (s)	32.0	31.0	31.0	31.0	30.0		22.0	73.0		15.0	66.0	66.0
Total Split (%)	21.3%	20.7%	20.7%	20.7%	20.0%		14.7%	48.7%		10.0%	44.0%	44.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 40 (27%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	

Splits and Phases: 12: S Meridian (SR161) & 39th Ave SW/39th Ave SE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	490	247	169	357	52	190	1110	81	45	1287	403
Future Volume (veh/h)	320	490	247	169	357	52	190	1110	81	45	1287	403
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1786	1786	1786	1694	1694	1694	1772	1772	1772
Adj Flow Rate, veh/h	320	490	0	169	357	52	190	1110	81	45	1287	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	1	1	1	4	4	4	2	2	2
Cap, veh/h	308	700		191	410	59	187	1590	116	57	1484	
Arrive On Green	0.18	0.21	0.00	0.11	0.14	0.14	0.08	0.35	0.35	0.07	0.88	0.00
Sat Flow, veh/h	1688	3367	1502	1701	2975	430	1613	3041	222	1688	3367	1502
Grp Volume(v), veh/h	320	490	0	169	202	207	190	587	604	45	1287	0
Grp Sat Flow(s),veh/h/ln	1688	1683	1502	1701	1697	1709	1613	1609	1653	1688	1683	1502
Q Serve(g_s), s	27.4	20.2	0.0	14.7	17.5	17.8	17.4	47.1	47.1	3.9	28.8	0.0
Cycle Q Clear(g_c), s	27.4	20.2	0.0	14.7	17.5	17.8	17.4	47.1	47.1	3.9	28.8	0.0
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	308	700		191	234	235	187	842	865	57	1484	
V/C Ratio(X)	1.04	0.70		0.88	0.87	0.88	1.02	0.70	0.70	0.79	0.87	
Avail Cap(c_a), veh/h	308	700		299	287	289	187	842	865	117	1484	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.92	0.92	0.92	0.26	0.26	0.26	0.77	0.77	0.00
Uniform Delay (d), s/veh	61.3	55.1	0.0	65.6	63.3	63.4	69.2	38.5	38.5	69.4	6.7	0.0
Incr Delay (d2), s/veh	61.5	2.9	0.0	13.8	17.2	19.0	37.5	1.3	1.2	12.7	5.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	8.9	0.0	7.1	8.7	9.0	9.3	19.7	20.3	1.9	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.8	58.0	0.0	79.4	80.5	82.4	106.6	39.8	39.8	82.1	12.2	0.0
LnGrp LOS	F	E		E	F	F	F	D	D	F	B	
Approach Vol, veh/h		810	A		578			1381			1332	A
Approach Delay, s/veh		83.6			80.9			49.0			14.6	
Approach LOS		F			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	70.7	32.0	25.3	9.7	83.1	21.5	35.8
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	17.4	61.4	27.4	25.4	10.4	68.4	26.4	26.4
Max Q Clear Time (g_c+I1), s	19.4	30.8	29.4	19.8	5.9	49.1	16.7	22.2
Green Ext Time (p_c), s	0.0	9.4	0.0	0.9	0.0	6.5	0.2	1.0

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

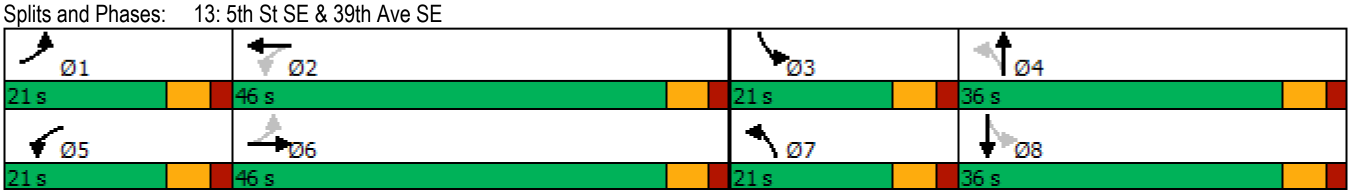
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	228	160	120	205	5	82	286	75	6	547	100
Future Volume (vph)	148	228	160	120	205	5	82	286	75	6	547	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	150		0	175		0	225		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1339			1162			552			965	
Travel Time (s)		26.1			22.6			12.5			21.9	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	26.0		11.0	26.0		11.0	25.0		11.0	25.0	
Total Split (s)	21.0	46.0		21.0	46.0		21.0	36.0		21.0	36.0	
Total Split (%)	16.9%	37.1%		16.9%	37.1%		16.9%	29.0%		16.9%	29.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 124
Actuated Cycle Length: 82.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 13: 5th St SE & 39th Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	228	160	120	205	5	82	286	75	6	547	100
Future Volume (veh/h)	148	228	160	120	205	5	82	286	75	6	547	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	2018	2018	2018	1885	1885	1885
Adj Flow Rate, veh/h	151	233	163	122	209	5	84	292	77	6	558	102
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	3	3	3	0	0	0	1	1	1
Cap, veh/h	381	347	233	291	545	13	228	660	174	409	592	108
Arrive On Green	0.09	0.17	0.17	0.08	0.15	0.15	0.05	0.43	0.43	0.01	0.38	0.38
Sat Flow, veh/h	1781	2035	1366	1767	3519	84	1922	1538	406	1795	1550	283
Grp Volume(v), veh/h	151	202	194	122	104	110	84	0	369	6	0	660
Grp Sat Flow(s),veh/h/ln	1781	1777	1624	1767	1763	1840	1922	0	1944	1795	0	1833
Q Serve(g_s), s	5.3	8.1	8.6	4.3	4.1	4.1	2.0	0.0	10.2	0.2	0.0	26.6
Cycle Q Clear(g_c), s	5.3	8.1	8.6	4.3	4.1	4.1	2.0	0.0	10.2	0.2	0.0	26.6
Prop In Lane	1.00		0.84	1.00		0.05	1.00		0.21	1.00		0.15
Lane Grp Cap(c), veh/h	381	303	277	291	273	285	228	0	834	409	0	701
V/C Ratio(X)	0.40	0.67	0.70	0.42	0.38	0.38	0.37	0.00	0.44	0.01	0.00	0.94
Avail Cap(c_a), veh/h	562	930	850	498	922	963	500	0	834	747	0	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	29.7	29.9	24.5	29.0	29.0	17.8	0.0	15.4	14.6	0.0	22.8
Incr Delay (d2), s/veh	0.7	2.5	3.2	1.0	0.9	0.8	1.0	0.0	0.4	0.0	0.0	20.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.5	3.4	1.8	1.7	1.8	0.9	0.0	4.3	0.1	0.0	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	32.2	33.1	25.5	29.9	29.9	18.8	0.0	15.8	14.6	0.0	43.1
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	D
Approach Vol, veh/h		547			336			453			666	
Approach Delay, s/veh		30.3			28.3			16.3			42.9	
Approach LOS		C			C			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	17.8	6.6	38.8	12.0	19.0	10.2	35.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	15.0	40.0	15.0	30.0	15.0	40.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	7.3	6.1	2.2	12.2	6.3	10.6	4.0	28.6
Green Ext Time (p_c), s	0.2	1.2	0.0	2.1	0.2	2.4	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	144	66	260	147	94	67	1177	113	177	1401	52
Future Volume (vph)	123	144	66	260	147	94	67	1177	113	177	1401	52
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-4%			6%			0%			0%	
Storage Length (ft)	150		0	275		0	250		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		332			544			617			1348	
Travel Time (s)		9.1			10.6			12.0			26.3	
Confl. Peds. (#/hr)			2	2					6			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases												
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	33.6	33.6		30.6	30.6		10.6	32.6		10.6	28.6	
Total Split (s)	36.0	36.0		32.0	32.0		15.0	57.0		25.0	67.0	
Total Split (%)	24.0%	24.0%		21.3%	21.3%		10.0%	38.0%		16.7%	44.7%	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 150

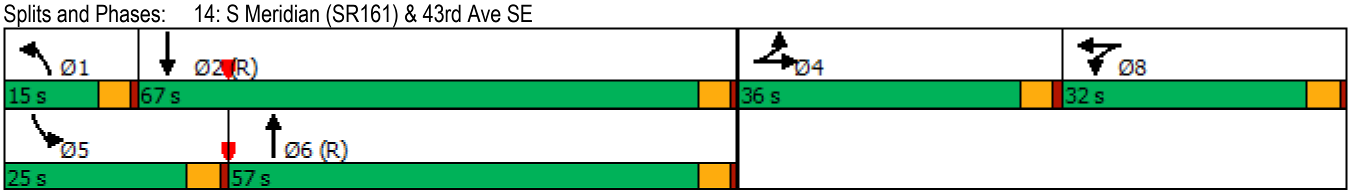
Actuated Cycle Length: 150

Offset: 90 (60%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 14: S Meridian (SR161) & 43rd Ave SE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	144	66	260	147	94	67	1177	113	177	1401	52
Future Volume (veh/h)	123	144	66	260	147	94	67	1177	113	177	1401	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1935	1935	1571	1571	1571	1730	1730	1730	1786	1786	1786
Adj Flow Rate, veh/h	123	144	66	260	147	94	67	1177	113	177	1401	52
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	1	1	1
Cap, veh/h	250	170	78	273	163	104	83	1344	129	196	1698	63
Arrive On Green	0.14	0.14	0.14	0.18	0.18	0.18	0.05	0.44	0.44	0.23	1.00	1.00
Sat Flow, veh/h	1843	1254	575	1496	894	572	1647	3028	290	1701	3337	124
Grp Volume(v), veh/h	123	0	210	260	0	241	67	638	652	177	711	742
Grp Sat Flow(s),veh/h/ln	1843	0	1828	1496	0	1466	1647	1643	1675	1701	1697	1764
Q Serve(g_s), s	9.3	0.0	16.8	25.8	0.0	24.1	6.0	52.9	53.2	15.2	0.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	16.8	25.8	0.0	24.1	6.0	52.9	53.2	15.2	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.39	1.00		0.17	1.00		0.07
Lane Grp Cap(c), veh/h	250	0	248	273	0	268	83	730	744	196	863	897
V/C Ratio(X)	0.49	0.00	0.85	0.95	0.00	0.90	0.81	0.87	0.88	0.90	0.82	0.83
Avail Cap(c_a), veh/h	386	0	383	273	0	268	114	730	744	231	863	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.37	0.37	0.37
Uniform Delay (d), s/veh	60.1	0.0	63.3	60.6	0.0	60.0	70.5	37.9	38.0	56.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	9.1	41.1	0.0	30.2	21.4	13.8	13.8	14.9	3.5	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	8.5	12.9	0.0	11.2	3.0	23.7	24.3	6.6	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	0.0	72.4	101.8	0.0	90.2	91.9	51.7	51.8	71.8	3.5	3.4
LnGrp LOS	E	A	E	F	A	F	F	D	D	E	A	A
Approach Vol, veh/h		333			501			1357			1630	
Approach Delay, s/veh		68.3			96.2			53.7			10.8	
Approach LOS		E			F			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.2	80.9		24.9	21.9	71.2		32.0				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	10.4	62.4		31.4	20.4	52.4		27.4				
Max Q Clear Time (g_c+I1), s	8.0	2.0		18.8	17.2	55.2		27.8				
Green Ext Time (p_c), s	0.0	13.6		1.1	0.1	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			42.3
HCM 6th LOS			D

Appendix C

Trip Generation Calculations

Pierce College Puyallup Campus Master Plan
Trip Generation Summary

DAILY

Land Use	Units[1]	ITE LUC[2]	Trip Rate[2]	Directional Distribution[2] In	Directional Distribution[2] Out	Trips Generated In	Trips Generated Out	Trips Generated Total
Proposed Use: Junior/ Community College (Expansion)	72,000 GFA	540	20.25	50%	50%	729.0	729.0	1,458.0
					NET NEW DAILY TRIP GENERATION =	**729.0**	**729.0**	**1,458.0**

AM PEAK HOUR

Land Use	Units[1]	ITE LUC[2]	Trip Rate[2]	Directional Distribution[2] In	Directional Distribution[2] Out	Trips Generated In	Trips Generated Out	Trips Generated Total
Proposed Use: Junior/ Community College (Expansion)	72,000 GFA	540	2.07	77%	23%	114.7	34.3	149.0
					NET NEW AM PEAK HOUR TRIP GENERATION =	**114.7**	**34.3**	**149.0**

PM PEAK HOUR

Land Use	Units[1]	ITE LUC[2]	Trip Rate[2]	Directional Distribution[2] In	Directional Distribution[2] Out	Trips Generated In	Trips Generated Out	Trips Generated Total
Proposed Use: Junior/ Community College (Expansion)	72,000 GFA	540	1.86	50%	50%	66.9	67.0	133.9
					NET NEW PM PEAK HOUR TRIP GENERATION =	**66.9**	**67.0**	**133.9**

Notes:

1. GFA = Gross Floor Area.
2. Land Use Code, trip rates and directional distributions based on ITE *Trip Generation Manual,* 10th Edition (2017).

9.6 Parking Analysis

MEMORANDUM

DATE: January 27, 2022

TO: Andy Hartung, AIA, McGranahan Architects

FROM: Michael J Read, P.E., Principal, TENW

SUBJECT: Pierce College Puyallup Campus Master Plan - Parking Analysis
TENW Project No. 2020-158

This memorandum summarizes the results of a recent 2015 campus parking utilization study conducted at the Pierce College Puyallup campus by Transportation Engineering Northwest, LLC (TENW) in October 2015, with estimated demand and parking code analysis as part of proposed 2021 Campus Master Plan for the College. The following elements are documented in this memorandum:

- Survey methodology and types of data collected,
- Existing parking supply and demand at the campus,
- Proposed campus expansion and increased parking supply, and
- Evaluation of increased demand to proposed supply.

Survey Methodology

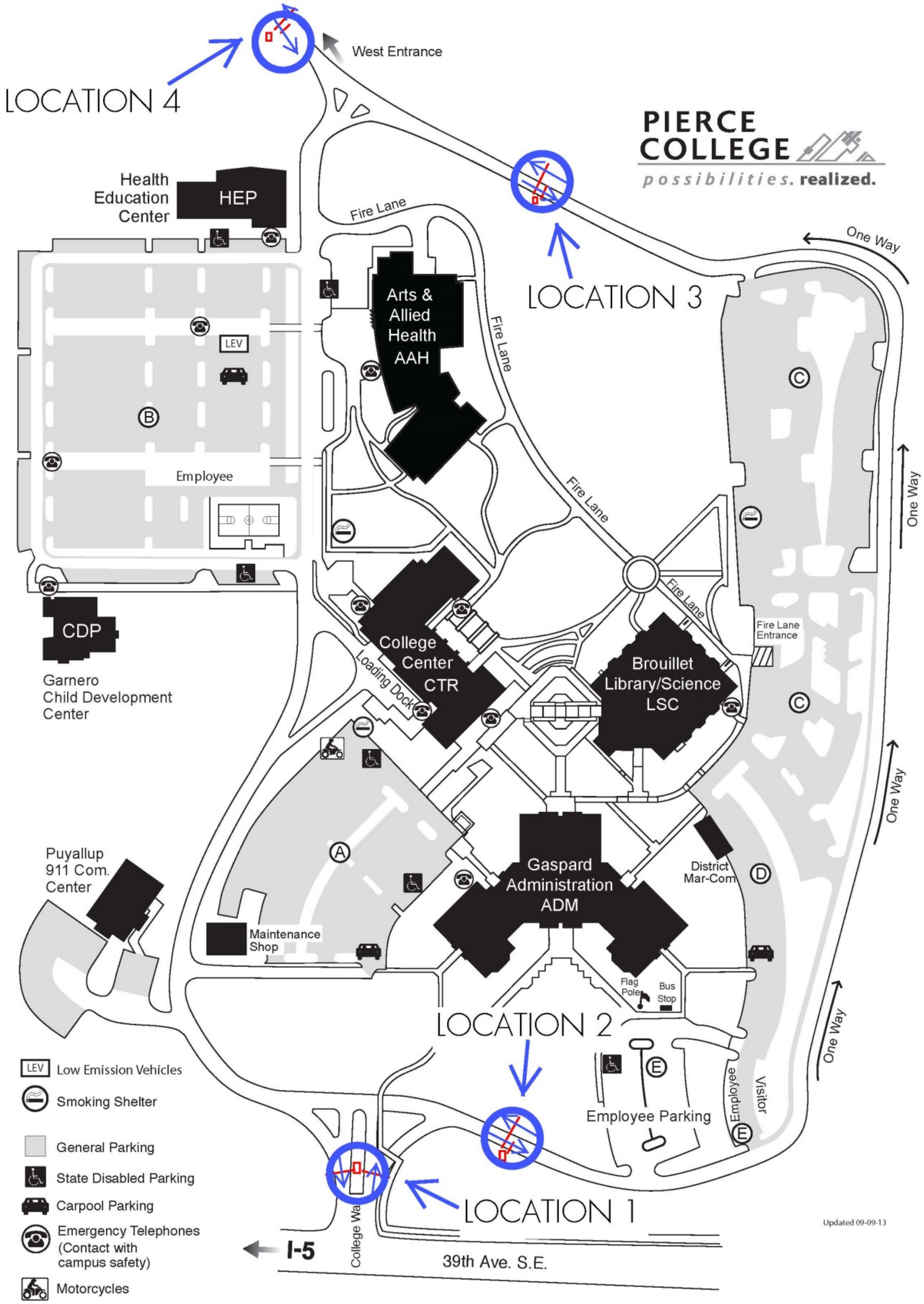
The main purpose of the Pierce College Parking and Trip Generation Study was to provide a detailed understanding of utilization of existing parking supply available to the campus, to determine what demand profiles are currently exhibited, and to gather other utilization characteristics necessary to support and identify future parking and access needs in the context of master planning efforts by the College. In addition to peak parking demand counts, vehicular trip generation over a 7-day period was collected to determine peak campus trip generation rates during peak arrival and dismissal periods and to determine the overall distribution or access/egress patterns of existing students, employees, and guests to the campus.

To accomplish this data need, automated machine counters were placed at four separate locations throughout campus to capture all entering/exiting vehicles as well as internal distribution of traffic (see Figure 1 for locations of 7-day machine count locations). In addition, direct counts of parking occupancy levels by Pierce College security personnel and TENW staff were made during peak class periods to determine the utilization and adequacy of existing on-site parking supply.

Observation Periods

Several weeks after the beginning of Fall Quarter in 2015, TENW began the parking and trip generation surveys (the Fall quarter is the highest demand of any class period). Between Sunday, October 4th and Saturday, October 10th, hourly directional counts were conducted.

Figure 1 – Machine Count Locations on Pierce College Campus



Campus Parking "Zone" Designations

Existing parking zones currently utilized by Pierce College (zones A through E shown on Figure 1) were used as the basis for parking zone designations. Parking "outside" these zones was also noted during data collection efforts. In the Fall of 2015, there were 1,331 stalls provided on-site at the Puyallup campus of Pierce College; 1,133 general, 31 ADA, 17 carpool, 104 employee, 14 visitor, and 32 miscellaneous stalls. In addition to these stalls within parking lots, parallel parking along the one-way ring roadway along the eastern edge of campus (spanning from the southern edge of Zone D north to the northwestern corner of Zone C. These parallel stalls are included within Zone C general parking supply.

Figure 2 overviews the existing configuration of parking throughout the Pierce College Puyallup campus and the location of designated parallel parking. Additional "overflow" parking that currently occurs on campus is also demonstrated on Figure 2 that occurs between 10:00 a.m. and 1:00 p.m. when scheduled classes on campus peak during typical weekdays.

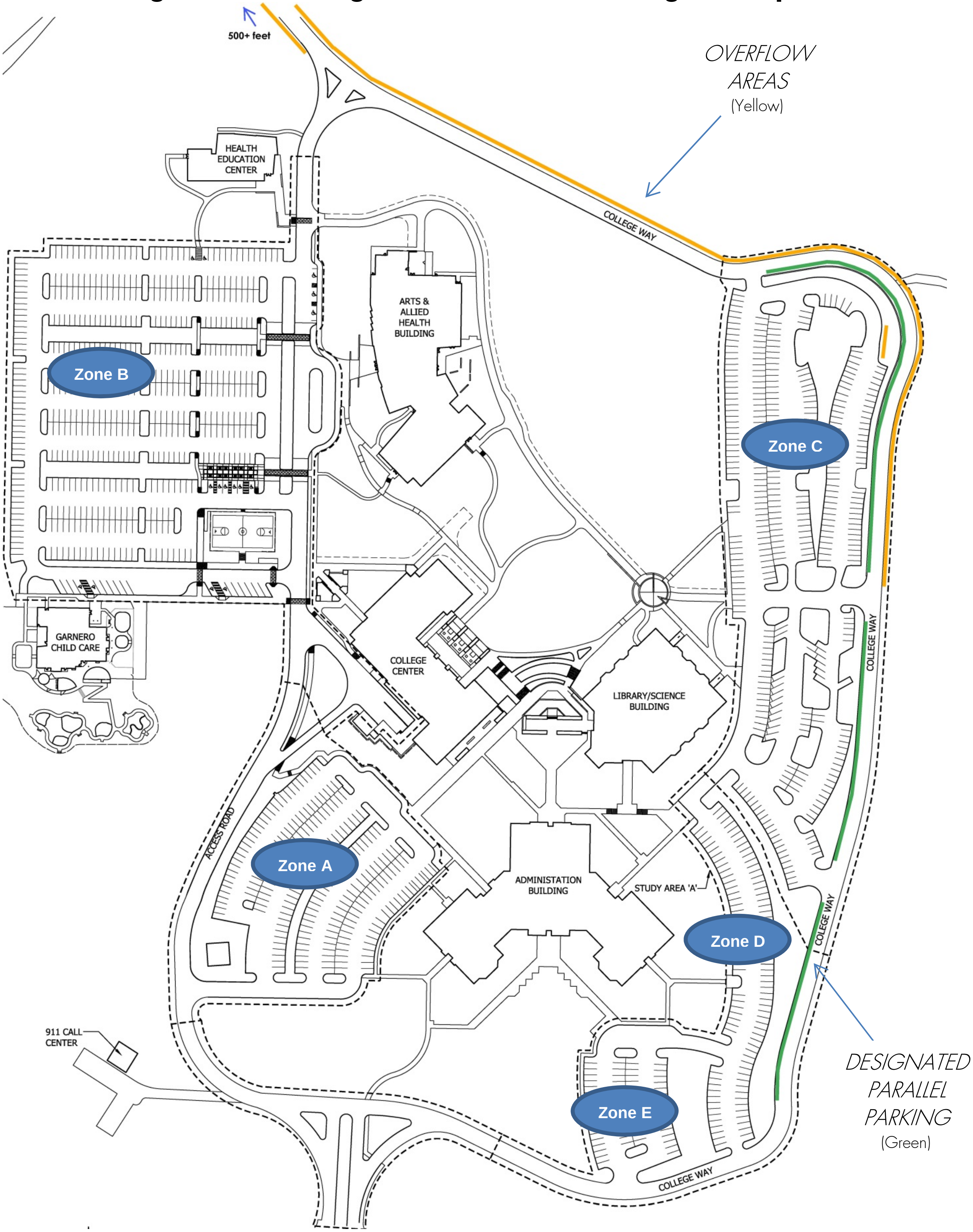
Table 3 summarizes parking counts collected by Pierce College security personnel during the week of October 5th, 2015. As shown, during the 11:00 a.m. counts each day, between 20 and 90 stalls were found to be parked in the "overflow" locations along the eastern frontage road and beyond the northwestern gate that serves the campus. Peak parking on campus occurred on Wednesday, October 7th, with 1,437 stalls after 11:00 a.m.; a peak utilization rate of 108 percent campus-wide with 106 parked vehicles outside of designated stalls. Based on peak average observations, a parking demand ratio of 5.6 stalls per 1,000 square-feet of gross floor area was determined based on total gross floor area.

Table 3
Pierce College Supply & Utilization Results
Fall Quarter 2015

Parking Lot	Total Stalls	Average Peak Observed Demand	Percent Utilization
Average Weekday 11:00 AM			
Zone A	198	199	101%
Zone B	514	508	99%
Zone C	436	472	108%
Zone D	78	78	100%
Zone E	105	106	101%
Totals	1,331	1,363	103%
Average Weekday 2:00 PM			
Zone A	198	188	95%
Zone B	514	417	81%
Zone C	436	352	81%
Zone D	78	66	85%
Zone E	105	107	102%
Totals	1,331	1,130	85%

Source: TENW summary of data collected by Pierce College security staff with supplemental TENW observations, October 2015, Tuesday through Thursday.

Figure 2 – Parking Zones at Pierce College Campus



Master Plan Evaluation

As part of the 2021 Master Plan for Pierce College, new buildings with up to approximately 71,688 square-feet (SF) in gross floor area has been identified and include new classroom space (54,400 SF), storage (8,000 SF) removal of an existing portable building (-2,772 SF), maintenance shop expansion (1,600 SF), and supporting new buildings as part of the athletic field development (10,460). In total, approximately 315,440 SF of building area at the Pierce College Campus would be provided (including buildings with in the athletic field development).

As part of the Master Plan, 600 new stalls are planned to be constructed to serve the existing campus and would provide a total on-site supply of approximately 1,931 parking spaces on campus. Based upon the observed peak parking generation rates from 2015, peak parking demand is estimated at 1,708 stalls to serve the 304,980 SF of the main campus. With a total supply proposed of 1,931 stalls, no parking deficits are expected to occur on the main campus.

An additional 78 stalls would also be constructed to serve the new athletic field development in the northwest quadrant of the site. Given this proposed facility is part of the College program and only school-related games, training, etc. would be provided, the observed parking generation rate of 5.4 stalls per 1,000 SF was applied to this new program, and would estimate a peak parking demand of 57 stalls. As shown, adequate parking supply would be provided at this new program area. It should be noted, that this is a conservative approach, as the published parking generation per ITE for Junior/Community College (Land Use Code 540) is 3.71 stalls per 1,000 SF, in *Parking Generation, 5th Edition*, 2019.

Implementation of carpool incentives (preferential parking with increased student cost/fee for parking), implement class scheduling techniques to "smooth" out peak periods of campus use by students or, increased student/class size through now on-line learning portals are all effective tools that the College could consider to reduce overall peak demand, and potentially reduce the capital investment of increased parking supply.

Parking Code Evaluation

Per Puyallup Municipal Code, 20.55.010 Number of parking spaces required, the colleges is required to provide a minimum of one space for each 50 square feet of classroom space, plus one space for each 300 square feet of office space. For the existing 300 seat auditorium, the City would also require an additional 1 stall per every 5 seats. A parking code analysis is provided in Attachment A. As shown, City code would require a minimum of 1,993 stalls.

However, based on peak observed parking demand, adequate on-site supply would be provided based on application of peak observed parking demand during the highest Fall quarter period at Pierce College. For the athletic fields, one space for every five seat is required if seating is proposed for attendees. The parking code evaluation for the athletic field facilities will be determined once programming has been determined.

If you have any questions, please feel free to contact me at (206) 361-7333, ext. 101 or mikeread@tenw.com.

Attachment A

Parking Code Analysis per City Standards

BUILDING NAME	CLASSROOM SPACE SQ. FT	CLASSROOM SPACE PARKING SPACES REQUIRED	OFFICE SPACE SQ. FT	OFFICE SPACE PARKING SPACES REQUIRED	AUDITORIUM SEATS	AUDITORIUM PARKING SPACES REQUIRED
Arts & Allied Health Building	16,496	330	2,035	7	300	60
Center Building	12,053	241	2,972	10		
Garnero Child Development Center Building	2,744	55	244	1		
Gaspard Administration Building	10,544	211	7,993	27		
Health Education Center	949	19	256	1		
Library Science Building	33,262	665	2,311	8		
Pierce College Portable Faculty Offices	2,772	55		0		
NEW: STEM Building	14,700	294	2,775	9		0
SUBTOTALS*	93,520	1871	18,586	62	300	60
TOTAL PARKING REQUIRED UNDER CODE						1,993

*Total parking spaces associated with classroom, office, and auditorium uses were rounded up to the next whole number

**PMC 20.55.010(27)(c) Colleges, universities, vocational schools and adult extension schools shall provide one space for each 50 square feet of classroom space, plus one space for each 300 square feet of office space, plus auditorium parking as required in subsection (29) of this section, if auditorium facilities are provided
***PMC 20.55.010(29) Theaters and auditoriums: one space for each five seats. A “seat” means 18 lineal inches of bench seating or seven square feet of seating floor area where there are no permanent seats

9.7 PMC 20.55.010(27) Parking Calculations Analysis

BUILDING NAME	CLASSROOM SPACE		OFFICE SPACE		AUDITORIUM	
	SQ. FT	PARKING SPACES REQUIRED	SQ. FT	PARKING SPACES REQUIRED	SEATS	PARKING SPACES REQUIRED
Arts & Allied Health Building	16,496	330	2,035	7	300	60
Center Building	12,053	241	2,972	10		
Garnero Child Development Center Building	2,744	55	244	1		
Gaspard Administration Building	10,544	211	7,993	27		
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***PMC 20.55.010(29) Theaters and auditoriums: one space for each five seats. A “seat” means 18 lineal inches of bench seating or seven square feet of seating floor area where there are no permanent seats

9.8 Bicycle Parking Study

PROJECT MEMO

TO:	Andy Hartung McGranahan Architects	**DATE:**	December 11, 2021
FROM:	Reese Carlson & Wayne Carlson AHBL, Inc.	**PROJECT NO.:**	2190297.30
		PROJECT NAME:	Pierce College
SUBJECT:	Bicycle Parking		

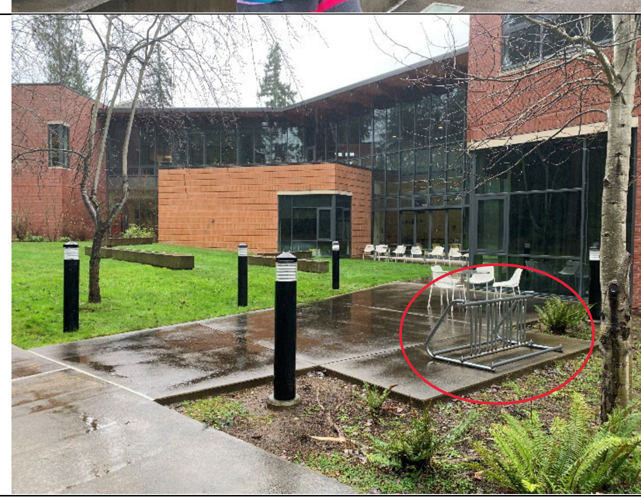
PMC 20.55.016(2) stipulates that "[A]ll commercial, industrial, institutional, and recreational uses which require 25 or more parking spaces pursuant to this title shall provide a designated bicycle parking area to accommodate a minimum of five bicycle spaces. Such bicycle parking areas shall provide a secure facility (e.g., rack, posts) to which to lock bicycles and shall be located so as to be reasonably convenient to the on-site use and not interfere with pedestrian and automobile traffic. Prior to issuing permits for facilities requiring 100 or more parking spaces pursuant to this title and/or uses with high expected bicycle traffic (e.g., schools) the city may require reasonable additional bicycle parking capacity over and above the minimum five spaces.

On Saturday, December 11, 2021, we conducted an on-site inventory of the bicycle parking spaces on Pierce College's Puyallup Campus. In total we found seven bicycle racks that provide parking for a total of 98 bicycles.

Figure 1 is an inventory that includes the capacity, location, and a photo for each bicycle rack located on campus. Figure 2 of this memorandum depicts the location of each bicycle rack on the campus map.

Figure 1: Bicycle Rack Inventory

BICYCLE RACK NO.	COUNT	ADJACENT TO	
Bicycle Rack #1	20	Administration Building (Front)	

BICYCLE RACK NO.	COUNT	ADJACENT TO	
Bicycle Rack #2	14	Health Education Center (Front)	
Bicycle Rack #3	14	Arts & Allied Health Building (Front)	
Bicycle Rack #4	8	Arts & Allied Health Building (Rear)	

BICYCLE RACK NO.	COUNT	ADJACENT TO	
Bicycle Rack #5	14	College Center Building (Rear)	
Bicycle Rack #6	14	College Center Building (Front)	
Bicycle Rack #7	14	Library Sciences Building (Rear)	
TOTAL SPACES	**98**		

Figure 2: Bicycle Rack Locations

c: Helen Stanton, AHBL

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9.9 Sewer System and North Basin Sanitary Sewer Pump Station Report

Sewer System and North Basin Sanitary Sewer Pump Station Report

PREPARED FOR:

McGranahan Architects
Contact: Mr. Andy Hartung
2111 Pacific Avenue, Suite 100
Tacoma, WA 98402

PROJECT:

Pierce College - Puyallup
Master Plan
Puyallup, WA
2190297.10

PREPARED BY:

Andrew Coito-Poile
Project Engineer

REVIEWED BY:

William J. Fierst, PE
Principal

DATE:

April 2021

Sewer System and North Basin Sanitary Sewer Pump Station Report

PREPARED FOR:

McGranahan Architects
Contact: Mr. Andy Hartung
2111 Pacific Avenue, Suite 100
Tacoma, WA 98402

PROJECT:

Pierce College - Puyallup
Master Plan
Puyallup, WA
2190297.10

PREPARED BY:

Andrew Coito-Poile
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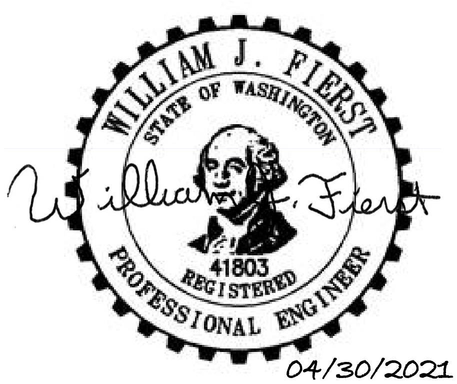
REVIEWED BY:

William J. Fierst, PE
Principal

DATE:

April 2021



I hereby state that this Sanitary Sewer Pump Station Report for the Pierce College – Puyallup Master Plan project has been prepared by me or under my supervision, and meets the standard of care and expertise that is usual and customary in this community for professional engineers. I understand that City of Puyallup does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me.

Table of Contents

Appendices

1.0 Introduction

This report addresses describes the existing private sanitary sewer the capacity of the two existing sanitary sewer pump stations that serve Pierce College Puyallup Campus (PCPC). This report accompanies the PCPC Master Plan that describes future growth of the campus through 2031. PCPC is bounded by 39th Avenue Southeast to the south, Wildwood park Drive to the north and east,, and Bradley Lake and commercial properties to the west in Puyallup, Washington.

PCFS consists of approximately ten existing buildings including one portable. Several additional buildings and building additions are planned in the near future. There will be six new buildings, and three building additions planned in the next ten years. The campus currently has approximately 2,559 full time equivalent (FTE) including staff and students, and in year 2031, the Washington State Board for Technical and Community Colleges expects the campus to have 2,978 FTEs. The FTE's were proportioned for the campus by building square footage tributary to each sewer basin. A brief description of each campus sewer basin follows in Section 2.0.

2.0 Sewer Basins

The PCPC campus consist of three sanitary sewer basins including two pump station basins; the north basin and the south basin, as well as one gravity sewer basin. All three basin combine at a manhole located at the southwest corner of the campus by the 911 Emergency Building. From there all sewer flows continue to the southwest for approximately 245 feet where flows enter a manhole. Sewer flows then continue south for approximately 170 feet before entering a manhole in the right of way along 39th Street approximately 325 feet west of the PCPC main entrance. The sewer conveyance system continues to the south side of the right of way before entering an 18-inch public sewer main. See Exhibit A-8, 39th Street Sewer Outfall As-Builts for more information.

2.1 North Basin

The north basin is the largest sanitary sewer basin on campus. It serves four existing buildings including the Child Development Center (CDP), the College Center Building (CTR), the Arts and Allied Health Building (AAH), and the Health Education Center (HEP). All four buildings are connected to gravity sewer services that convey sewage to a pump station that is located south of the HEP, west of AAH, and adjacent to the main drive access loop - College Way.

The north basin will have five new buildings and one addition over the next ten years. The new buildings that will be constructed in the north basin include the STEM Building, a storage building, a classroom building, a student resident hall, a gym, and an addition to the CDP. All new buildings will be tributary to the existing north basin will convey sewage to the pump station via gravity sewer piping.

The north basin pump station outfalls via a 4-inch force main to an existing manhole located at the south side of the campus adjacent to main drive access loop - College Way and north of the 911 Emergency Building. Gravity sewer then continue to the south where they ultimately leave the campus at 39th Avenue Southeast. See section 3.0 of this report for further analysis of the north basin pump station capacity.

2.2 South Basin

The south basin serves two existing buildings including the Library Sciences Building (LSC), and a portable. The two buildings are connected to gravity sewer services that convey sewage to a pump station that is located south of the LSC and adjacent to the main entry to the building.

The south basin pump station outfalls via a 4-inch force main to an existing manhole located at the north side of the Administration Building (ADM). At the pump station outfall, the south basin combines with sewer flows from the ADM and continues west via gravity sewer piping to a manhole located north of the 911 emergency building where it joins with flows from the north basin force main outfall. Gravity flows then continue to the south where they ultimately leave the campus at 39th Avenue Southeast.

The south basin is projected to decrease in FTE's over the next ten years. Therefore, further calculations have not been provided to show it will have sufficient capacity for future growth. See Exhibit A-1 for further information detailing the south basin's decrease in FTE's between the years 2021 and 2031 from 640 to 553 respectively.

2.3 Gravity Basin

The gravity basin entirely serves three existing buildings including the Maintenance Building, the 911 Emergency Building, and the Administration Building (ADM). However, the south basin outfalls to the gravity basin and ultimately the north basin does as well.

The gravity basin begins at an existing manhole located at the north side of the ADM. The gravity piping combines flows form ADM with sewer force main outfall from the south basin and continues west to a manhole located north of the 911 emergency building where it joins with flows from the north basin. Gravity flows then continue to the south where they ultimately leave the campus at 39th Avenue Southeast.

The gravity basin and the south basin that it also serves are both projected to decrease in FTE's over the next ten years. Therefore, further calculations have not been provided to show it will have sufficient capacity for future growth. See Exhibit A-1 for further information detailing the south basin's decrease in FTE's between 2021 and 2031.

3.0 North Pump Station

The existing pump station consists of a 6-foot diameter wetwell, with two 6-inch impeller non-clog explosion proof pumps with 4-inch discharge. Per the as-builts two 30 horsepower Myers submersible pumps Model 4RCX were selected for the existing pump station growth. See Exhibit A-7 for existing pump station as-builts. The 4-inch force main conveys sewage approximately 1,231 feet in length over an elevation gain of approximately 50 feet. See Exhibit A-4 and A-7 for more information. The pump station was constructed in the early 2000's.

A test was performed in the field to pump's flow rate and to help determine where the pump is operating on the pump curve. See Exhibit A-2 for the pump discharge test. The pump test occurred on January 20, 2021. The existing pump ran for 4.08 minutes, pumping 846 gallons of sewage. The pump's flow rate was calculated to be 207 gallons per minute (gpm) at an estimated head of 129 feet. Based on the velocity head loss calculations found in Exhibit A-5, the pump station is operating at 5.74 feet per second (fps). Therefore, the pump is within the optimal operating range of 2-8 fps.

The future 2031 projected flow tributary to the pump station was developed using sewage flow per FTE as defined in Table G2-2 of the Washington Department of Ecology's *Criteria for Sewage Works Design* (CSWD). A flow of 15 gallons per day was selected for a community college discharge facility with a peak factor of 3.57 per Table C1-1 of the CSWD. Table G2-2 also notes a 15-hour operation day, however 16 hours was used based on the College's standard operating hours. The 2031 FTE projection for the north basin is 2,081 FTE's which equates to 31,215 gallons per day of sewage and a peak design flow rate of 116.16 gpm. See Exhibit A-3, Basin Analysis for more information.

Per the attached calculations, the existing Myers Model 4RCX that operates at 207 gpm will meet the peak demand of 116.16 gpm required for the College's projected FTE growth through the year 2031. See Exhibit A-6, Wet Well Storage Calculations for more information.

3.1 Wetwell Capacity

The north pump station wetwell capacity was calculated to ensure that the pump will operate at or below the recommended number of starts per hour in the existing and future conditions. As noted in section 3.0, The future 2031 projected flow tributary to the pump station was developed using sewage flow per FTE as defined in Table G2-2 of the CSWD. The daily volume of sewage for 2031 divided by the wet well volume of 854 gallons determined the average flow rate for the north basin. See Exhibit A-6, Wet Well Calculations for wet well volume calculation. Wet Well The pump cycle time was then calculated as the time for the wet well to fill plus the time to empty the wet well while the pump is operating. See Exhibit A-6, Wet Well Storage Calculations for more information.

Per the attached calculations, the existing Myers Model 4RCX pump and 6-foot diameter wet well will have 1.92 starts per hour at the calculated average flow rate in the year 2031. The optimal operating range for a sanitary sewer pump is less than 12 starts per hour, therefore the existing pump is adequately sized for the College's future 2031 FTE growth.

4.0 Conclusion

The existing north basin pump station has adequate capacity for the College's FTE growth through the year 2031. Additionally, the existing south basin pump station has adequate capacity for the College's FTE growth through the year 2031.

This analysis is based on data and records either supplied to or obtained by AHBL. These documents are referenced within the text of the analysis. The analysis has been prepared using procedures and practices within the standard accepted practices of the industry.

AHBL, Inc.

Andrew Coito-Poile
Project Engineer

ACP/lsk

April 2021

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Appendix A

Exhibits

Pierce College Puyallup Master Plan - Campus FTE's
Prjoect: 2190297.10
Date: April 2021

Information from Master Plan

Year	Total FTE's	Total Building Area (SF)	FTE/SF	Total North Basin Building Area (SF)	Total Proportioned FTE (North Basin)
2018	2559	253111	0.0101	146855	1485
2031	2978	452817	0.0066	316444	2081

North Basin (Tributary to Lift Station adjacent to CDP Building) - Existing

Bldg	**Area (SF)**	**Floors**	**Total Area (SF)**	**Proportioned FTE 2018**	**Proportioned FTE 2031**
CDP	7735	1	7735	78	51
HEP	8320	2	16640	168	109
AAH	30800	2	61600	623	405
CTC	30,440	2	60880	616	400
North Basin (Tributary to Lift Station adjacent to CDP Building) - Future					
CDP	3120	1	3120	N/A	21
GYM	15147	1	15147	N/A	100
Storage	2585	1	2585	N/A	17
Classroom North	22960	3	68880	N/A	453
STEM	26619	3	79857	N/A	525
Total			316444	1485	2081

South Campus (Tributary to Lift Station adjacent to LSC Building) - Existing

Bldg	**Area (SF)**	**Floors**	**Total Area (SF)**	**Proportioned FTE 2018**	**Proportioned FTE 2031**
LSC	30282	2	60564	612	398
Portable	2772	1	2772	28	to be demolished
South Campus (Tributary to Lift Station adjacent to LSC Building) - Future					
Classroom South	11789	2	23578	N/A	155
Total			86914	640	553

South Campus (Gravity Sewer) - Existing

Bldg	**Area (SF)**	**Floors**	**Total Area (SF)**	**Proportioned FTE 2015**	**Proportioned FTE 2031**
Maint.	1600	1	1600	16	11
911	1100	1	1100	11	7
ADM	42920	1	42920	434	282
South Campus (Gravity Sewer) - Future					
Maint.	1144	1	1144	N/A	8
ADM Addition	6611	1	6611	N/A	43
Total			53375	434	344

Grand Total			456733	2559	2978.00

Pierce College Puyallup Pump Station Pump Discharge Test (1)

	Time (min.)	Height of sewage pumped (ft.)	Volume of Sewage Pumped (CF)	Volume of Sewage Pumped (gal.)	Pump Rate (gal./min.)
Pump Turned "On"	0	0	0.00	0.00	0.00
Pump Turned "Off"	4.08	4	113.04	845.65	207.27
Total	4.08	4	113.04	845.65	

207.27 Ave. Pumprate (gal./min.)

(1) Test Performed on 1/20/21 @ approximately 11:00am.

(2) The pump station wetwell has inside dimensions 72" diameter manhole. The wetwell area is 28.26 SF.

Pierce College Puyallup Pump Station
Exhibit A-3: North Basin Analysis

2190297.10
4/29/2021

Anticipated Wastewater Flows to the Proposed Wastewater Pump Station
Based on FTE, Criteria for Sewage Works Design

	Students + Faculty (FTE)	Flow per FTE (gpd/FTE)	Flow (gpd)	(gpm)	Peak Factor	Design Flow (gpm)	(cfs)
Pierce College							
2018 FTEs	1,485	15	22,275	23.20	3.68	85.45	0.190
FTE Growth	596	15	8,940	9.31			
2031 FTE Projections	**2,081**		**31,215**	**32.52**	**3.57**	**116.2**	**0.259**

* Flow per FTE per Table G2-2.WSDOE's Criteria for Sewage Works.
Flow rates include normal infiltration.
* Peak Factor per Figure C1-1. WSDOE's Criteria for Sewage Works.
Ratio of Peak Hourly Flow to Design Average Flow.

Pierce College Fort Steilacoom Pump Station
Exhibit A-4: Minor Head Loss Calculations

2190297.10
3/18/2021

Total Static Head (TSH)

Pump On Elevation	503.25	ft
Pump Off Elevation	499.75	ft
High Point Elevation	549.00	ft
Added Static from Low Point in System	0.00	ft
Calculated High Point Incl. Added Static	549.00	ft
TSH(off) =	49.25	ft
TSH (on) =	45.75	ft

Note: Friction loss calculations assume no gravity flow in the pump off condition.

Friction Losses in Pipe (Hazen and Williams Formula)

$f = 0.2083 * (100/C)^{1.85} * (q^{1.85}/d^{4.8655})$

Length of force main to gravity outfall located near the campus 911 Communications Call Center.

f= friction head in feet of fluid per 100 feet of pipe
C = constant accounting for surface roughness
q = flow in gallons per minute
d = inside diameter of pipe

Force Main Length = 1231 LF
(includes piping in wetwell and vaults)
C = 140 OLD HDPE PIPE

Fiction Loss = 76.05 ft

Minor Losses

$H_L = C_L * V^2/2g$
H_L = Minor Head Loss
C_L = Loss Coefficient
V = Velocity
g = acceleration of gravity

Fitting	*C_L	Number	C_L (Total)
gate valve (fully open)	0.2	2	0.4
swing check valve	2.5	1	2.5
45 degree elbow	0.4	4	1.6
90 degree elbow/tee	0.9	2	1.8
**22.5 degree elbow	0.1	0	0
**11.25 degree elbow	0.05	1	0.05
Ball/Plug Valve	0.05	0	0

Length:	1231	ft
Diameter:	3.84	in
Velocity:	5.74	ft/s
Minor Losses =	**3.25**	**ft**

*Note: C_L values from Fundamentals of Hydraulic Engineering (Prashun, 1987) and Fundamentals of Fluid Mechanics (Munsun et.al. 1994)
**Note: C_L values are interpolated from the given tables

Total Head

Total Head Loss = 128.55 ft
(at Pump Off)

Pierce College Puyallup Pump Station
Exhibit A-5: Velocity Head Loss Calculations

2190297.10
4/29/2021

Pump Rate	207	GPM
Pump Rate	0.461	CFS
Pipe Condtion	OLD	(Enter "NEW" or "OLD")
C=	140	(Value Used for this project)
Pipe Inside Diameter	3.84	inches

Full Build Out Conditions

Pumping Condition	Pipe size (in)	Cross Sectional Area (sf)	**Velocity (ft/s)**	Pipe Length (ft)	C	*f*	friction head loss in pipe (ft)	TSH (ft)	Volume in pipe (cf)	Minor Losses (ft)	TOTAL HEAD LOSS (ft)
Off	3.84	0.0804	**5.74**	1231	140	3.0891	76.05	49.25	98.95	3.25	128.55
On	3.84	0.0804	**5.74**	1231	140	3.0891	76.05	45.75	98.95	3.25	125.05

Flow (gpm)	Flow (cfs)	Cross Sectional Area (sf)	Velocity (ft/s)	Pipe Length (ft)	C	*f*	friction head loss in pipe	TSH (off) (ft)	TSH (on) (ft)	Minor Losses (ft)	OFF CONDITION TOTAL HEAD LOSS (ft)	ON CONDITION TOTAL HEAD LOSS (ft)
0	0.000	0.0804	0.00	1231	140	0.0000	0.00	49.25	45.75	0.00	49.25	45.75
15	0.033	0.0804	0.42	1231	140	0.0240	0.59	49.25	45.75	0.02	49.86	46.36
30	0.067	0.0804	0.83	1231	140	0.0867	2.13	49.25	45.75	0.07	51.45	47.95
45	0.100	0.0804	1.25	1231	140	0.1835	4.52	49.25	45.75	0.15	53.92	50.42
60	0.134	0.0804	1.67	1231	140	0.3125	7.69	49.25	45.75	0.27	57.22	53.72
75	0.167	0.0804	2.08	1231	140	0.4722	11.63	49.25	45.75	0.43	61.30	57.80
90	0.201	0.0804	2.50	1231	140	0.6617	16.29	49.25	45.75	0.62	66.16	62.66
105	0.234	0.0804	2.91	1231	140	0.8800	21.67	49.25	45.75	0.84	71.75	68.25
120	0.268	0.0804	3.33	1231	140	1.1266	27.74	49.25	45.75	1.09	78.08	74.58
135	0.301	0.0804	3.75	1231	140	1.4009	34.49	49.25	45.75	1.38	85.12	81.62
150	0.335	0.0804	4.16	1231	140	1.7024	41.91	49.25	45.75	1.71	92.87	89.37
165	0.368	0.0804	4.58	1231	140	2.0306	49.99	49.25	45.75	2.07	101.31	97.81
180	0.402	0.0804	5.00	1231	140	2.3853	58.73	49.25	45.75	2.46	110.44	106.94
195	0.435	0.0804	5.41	1231	140	2.7660	68.10	49.25	45.75	2.89	120.24	116.74
207	0.462	0.0804	5.74	1231	140	3.0891	76.05	49.25	45.75	3.25	128.56	125.06
225	0.502	0.0804	6.24	1231	140	3.6043	88.74	49.25	45.75	3.84	141.83	138.33
240	0.535	0.0804	6.66	1231	140	4.0614	99.99	49.25	45.75	4.37	153.62	150.12

Note: This table used to develop system curve.

Project Pierce College Puyallup | Project No. 2190297.10
Subject M.P. Pump Station | Phone
With/To Existing Condition (2018) | Fax #
Address | # Faxed Pages
Date 4/30/2021 | By ACP

☐ Page ___ of ___
☐ Calculations
☐ Fax
☐ Memorandum
☐ Meeting Minutes
☐ Telephone Memo

AHBL

Civil Engineers
Structural Engineers
Landscape Architects
Community Planners
Land Surveyors

Daily Volume = 22,275 gal./day (from Exhibit A-3, 2018 FTE'S)

Wet Well Volume

$Area = \pi R^2 = 3.14 \cdot (72''/12)^2 = 28.26$ SF
Pump Off = 503.79
Pump On = 499.75

$Volume = (503.79 - 499.75) \cdot 28.26\,SF = 114.17\,ft^3 \cdot 7.481\,gal/ft^3$
$= 854.11$ gal

Avg Pump Starts (for 2018 Condition)

$$\text{Avg flow} = \frac{\text{Daily flow}}{\text{Operation Time}} = \frac{22{,}275\ \text{gal/day}}{16\ \text{hr} \cdot 60\ \text{min/hr}}$$
$= 23.20$ gal./min.

Pump Rate = 207.27 gpm

Cycle Time = (time to fill on to off) + (time to empty on to off w/ continuous flow)

$= (854.11\ \text{gal.}/23.20\ \text{gal./min.}) + (854.11\ \text{gal}/(207.27\ \text{gal./min} - 23.20\ \text{gal./min}))$
$= 36.81$ min $+ 4.64$ min
$= 41.45$ min

Average Starts Per day $= 16\text{hr}/(41.45 \cdot \frac{1\text{hr}}{60\text{ min}}) = 23.16$ starts

Average Start Per hour = 23.16 starts/16 hr = 1.45 starts/hr

If this does not meet with your understanding, please contact us in writing within seven days. THANK YOU.

Project Pierce College Puyallup
Subject M.P. Pump Station
With/To Future Condition (2031)
Address
Date

Project No.
Phone
Fax #
Faxed Pages
By

☐ Page ____ of ____
☐ Calculations
☐ Fax
☐ Memorandum
☐ Meeting Minutes
☐ Telephone Memo

AHBL

Civil Engineers
Structural Engineers
Landscape Architects
Community Planners
Land Surveyors

Daily Volume = 31,215 gal./day (from Exhibit A-3, 2031 FTE's)

Wet Well Volume = 854.11 (see Page 1, Exhibit A-3)
↳ total pumping volume in pump station

Avg Pump Starts (for 2031 Condition)

$$\text{Avg flow} = \frac{\text{Daily flow}}{\text{operation time}} = \frac{31{,}215 \text{ gal/day}}{16 \text{ hr} \cdot 60 \text{ min/hr}}$$

$$= 32.52 \text{ gal./min.}$$

Pump Rate = 207.27 gpm

Cycle Time = (time to fill on to off) + (time to empty on to off w/ continuous flow)

$$= (854.11 \text{ gal}/32.52 \text{ gal./min.}) + (854.11 \text{ gal}/(207.27 \text{ gal./min} - 32.52 \text{ gal/min}))$$

$$= 26.26 \text{ min} + 4.89 \text{ min}$$

$$= 31.15 \text{ min}$$

$$\text{Average Starts Per Day} = 16/\left(31.15 \cdot \frac{1 \text{ hr}}{60 \text{ min}}\right) = 30.82 \text{ starts}$$

$$\text{Average Starts Per Day} = 30.82 \text{ starts}/16 \text{ hr} = \underline{\underline{1.92 \text{ starts/hr}}}$$

If this does not meet with your understanding, please contact us in writing within seven days. THANK YOU.

Pierce College Puyallup Pump Station
Exhibit A-6: Wet Well Storage

2190297.10
4/15/2021

	2015 FLOW RATES		2031 FLOW PROJECTIONS QTY	UNIT
VOLUME OF SEWER PER DAY	22,275	GAL	31,215	GAL
ASSUMED FLOW PERIOD DURING DAY	16.00	HR	16.00	HR
AVERAGE SEWER FLOW = (Q_S)	**23.20**	**GPM**	**32.52**	**GPM**
V=FROM PUMP ON TO PUMP OFF	854	GAL	854	GAL
Q_R= PUMP RATE*	207.00	GPM	207.00	GPM
PEAKING FACTOR	3.68		3.57	
Q_P= PEAK FLOW	85.45	GPM	116.16	GPM
Q_S= AVERAGE FLOW	23.20	GPM	32.52	GPM
CYCLE TIME (AVERAGE FLOW)	41.45	MIN	31.16	MIN
CYCLE TIME (PEAK FLOW)	17.02	MIN	16.75	MIN
PUMP STARTS (AVERAGE FLOW TOTAL)	**23.16**	PER DAY	**30.81**	PER DAY
PUMP STARTS (PEAK FLOW TOTAL)	**56.40**	PER DAY	**57.30**	PER DAY
TIME TO PUMP DOWN (AVERAGE FLOW TOTAL)	4.65	MIN	4.89	MIN
TIME TO PUMP DOWN (PEAK FLOW TOTAL)	7.03	MIN	9.40	MIN
TIME TO FILL (AVERAGE FLOW TOTAL)	36.81	MIN	26.26	MIN
TIME TO FILL (PEAK FLOW TOTAL)	9.99	MIN	7.35	MIN

Measured existing pump rate.

Existing pump station has adequate capacity for FTE growth through 2031.

*FLOW RATE BASED ON FIELD MEASUREMENTS ON 1/20/2021

Myers®
ENGINEERED PRODUCTS

4RC and 4RCX

4" NON-CLOG WASTEWATER PUMPS

Standard (4RC) and Explosion-Proof (4RCX) Construction

3450 RPM

1150 & 1750 RPM

FM APPROVED
(4RCX only)

Myers
ENGINEERED PRODUCTS

TECHNICAL INFORMATION

THE RIGHT CHOICE

The 4RC and 4RCX (explosion-proof) submersible wastewater pumps are the right choice when difficult to pump fibrous or stringy solids are to be expected. The 4RC/4RCX series provides smooth, vibration-free operation when operating at heads higher than peak efficiency. The pump is for use in municipal lift stations, treatment plants and industrial waste water applications.

Myers offers a complete line of wastewater pumps, lift-out rail assemblies, controls and accessories to meet your needs. Call your Myers distributor or the Myers sales office at 419-289-1144 for more details.

Passes stringy trash, fibrous wastes, slurries, and other difficult to pump solids that standard enclosed or semi-open impellers cannot.

- Recessed impeller design has completely open passage in volute.
- Pumping action is by vortex; solids can't get caught in impeller volute.
- Operates without vibration or cavitation over entire performance curve. Operates near shutoff without harming pump.

Durable motor will deliver many years of reliable service.

- Recessed impeller greatly increases bearing life by reducing radial load.
- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- Heat sensor thermostats imbedded in windings protect motor from overheat conditions.
- Seal leak probes warn of moisture entry; helps prevent costly motor burnout.

AVAILABLE WITH OPTIONAL FM APPROVAL FOR USE IN CLASS 1, GROUPS C AND D HAZARDOUS LOCATIONS (4RCX ONLY).

Product Capabilities

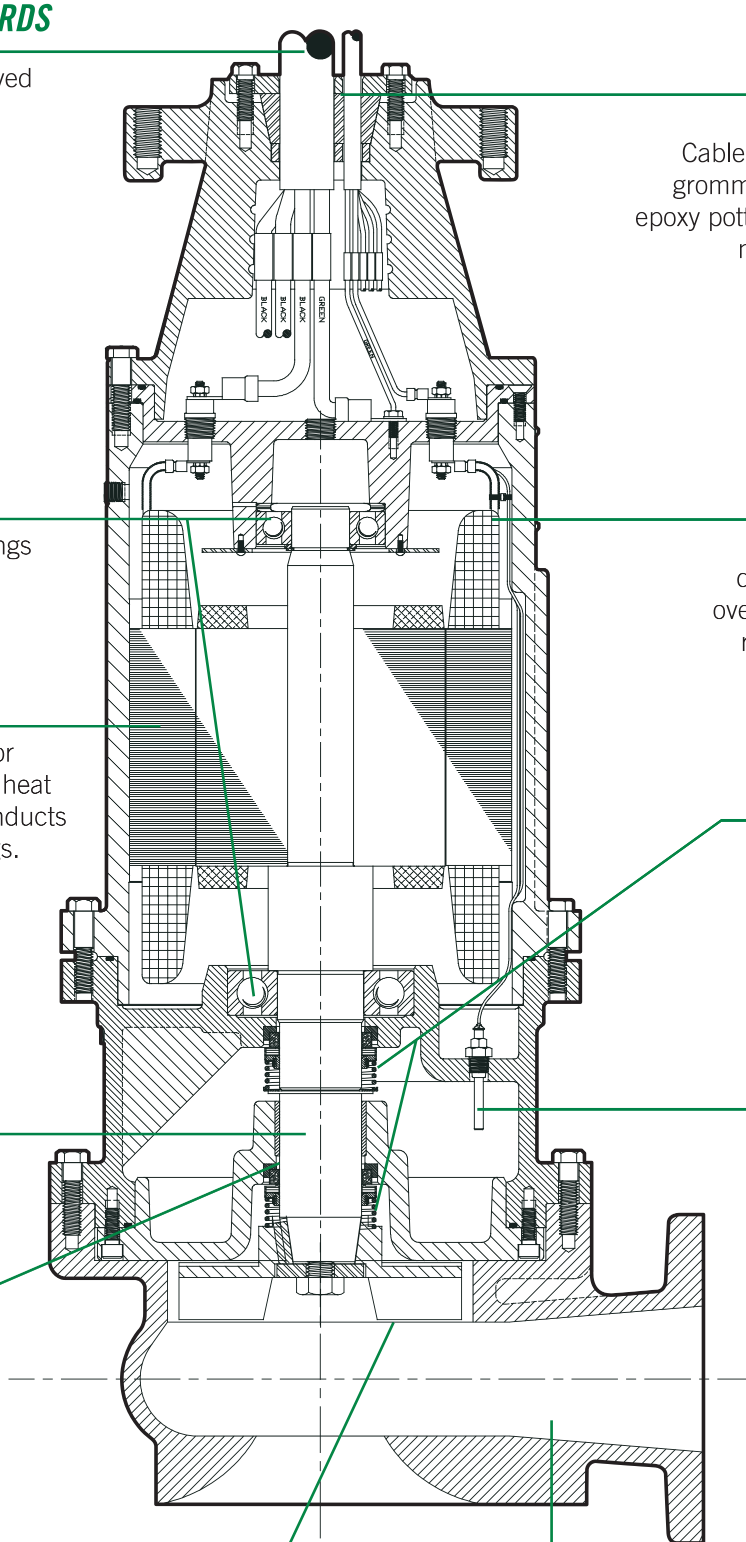
Capacities To	1250 gpm	78.8 lps
Heads To	265 ft.	80.8 m
Solids Handling	3 in.	76 mm
Liquids Handling	Raw unscreened sewage, fibrous wastewater, effluent, storm water	
Intermittent Liquid Temp.	up to 140°F	up to 60°C
Winding Insulation Temp. (Class H)	356°F	180°C
Motor Electrical Data	1150 rpm 3–15 HP, 200/230/460/575V, 3 phase, 60 Hz 1750 rpm 10–40 HP, 200/230/460/575V, 3 phase, 60 Hz 3450 rpm 20–60 HP, 230/460/575 volts, 3 phase, 60 Hz	
Third Party Approvals	FM, Class 1, Div. 1, Groups C & D (4RCX only)	
Acceptable pH Range	6–9	
Specific Gravity	.9–1.1	
Viscosity	28 – 35 SSU	
Discharge, Horizontal	4 in.	101.6 mm
Flanged Centerline	125 lb. ANSI	

NOTE: Consult factory for applications outside of these recommendations.

Construction Materials

Motor Housing, Seal Housing, Cord Cap and Volute Case	Cast iron, Class 30, ASTM A48
Recessed, Impeller	Ductile iron, Class 65, ASTM A536
Power and Control Cord	35 ft. SOOW
Mechanical Seals	Double tandem, type 21
Standard	Carbon and ceramic
Optional	Lower tungsten carbide, silicon carbide
Pump, Motor Shaft	416 SST
Fasteners	300 series SST

ADVANTAGES BY DESIGN



POWER & CONTROL CORDS

SOOW, FM and CSA approved oil-resistant cable.

CABLE ENTRY SYSTEM

Provides triple seal protection. Cable jacket sealed by compression grommet. Individual wires sealed by epoxy potting. Terminal board separates motor chamber from cord cap.

BALL BEARINGS

Upper and lower ball bearings support shaft and rotor and take axial and radial loads.

HEAT SENSOR

Protects motor from burnout due to excessive heat from any overload condition. Automatically resets when motor has cooled.

MOTOR STATOR

Heat shrunk into housing for perfect alignment and best heat transfer. Oil-filled motor conducts heat and lubricates bearings.

SHAFT SEALS

Double tandem mechanical shaft seals protect motor. Oil-filled seal chamber provides continuous lubrication.

SEAL LEAK PROBES

Detect water in seal housing. Activate warning light in control panel.

HEAVY 416 SST SHAFT

Corrosion resistant.

SLEEVE BEARING

Takes radial shock load; provides flame path.

RECESSED IMPELLER

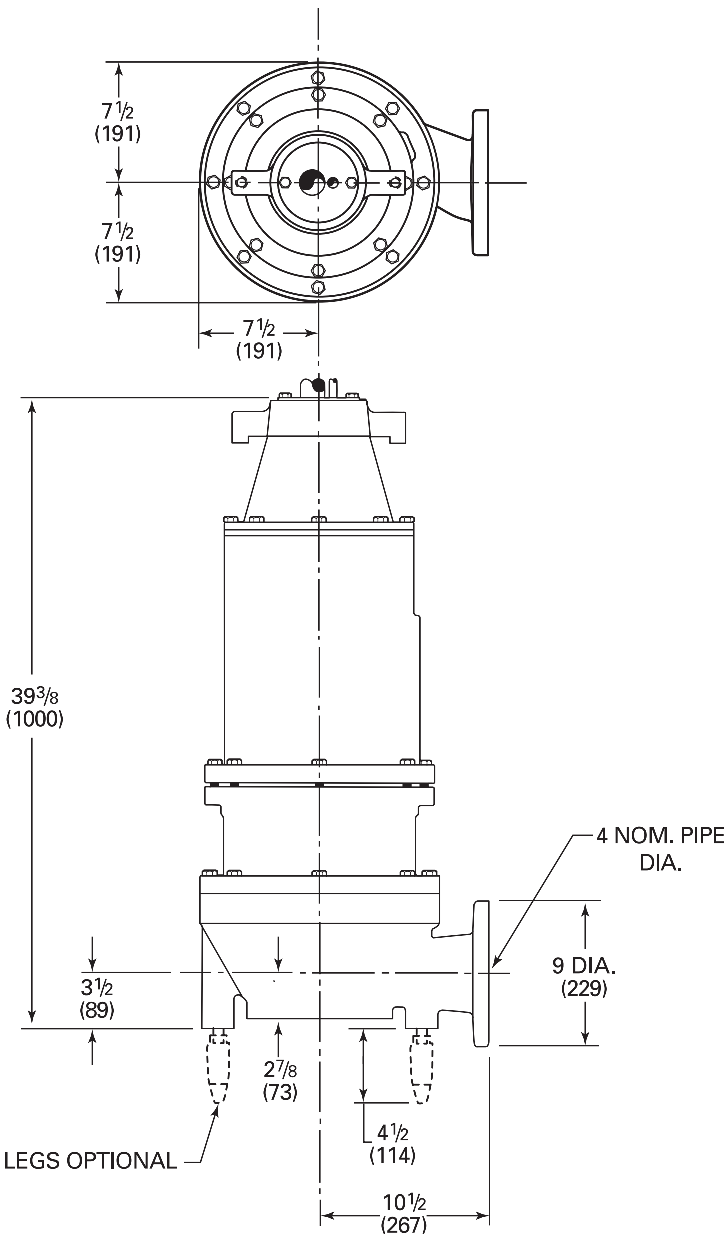
Handles stringy trash and slurries without clogging or binding. Pump-out vanes help keep trash from seal; reduces pressure at seal faces.

VOLUTE CASE

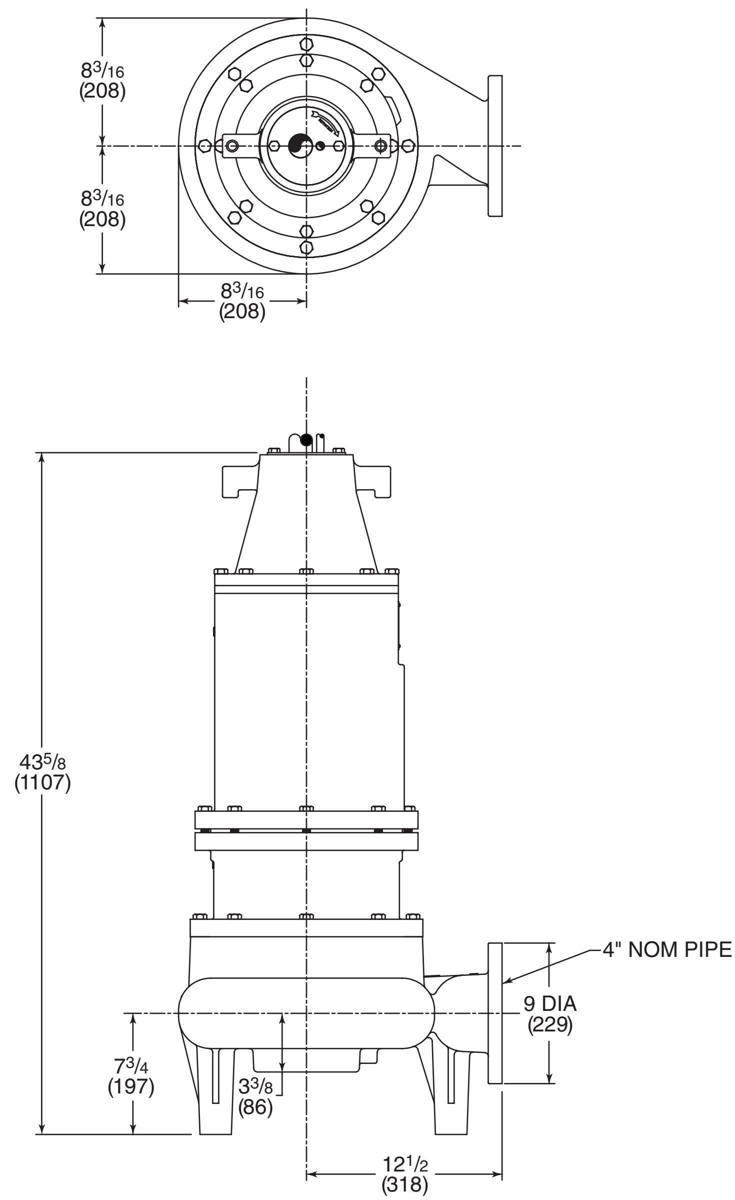
Handles 3" solids. Completely open from inlet to discharge. 4" ANSI 125 lb. flange.

PUMP DIMENSIONS

3450 RPM



1150 & 1750 RPM



Dimensions in inches
( ) Dimensions in mm

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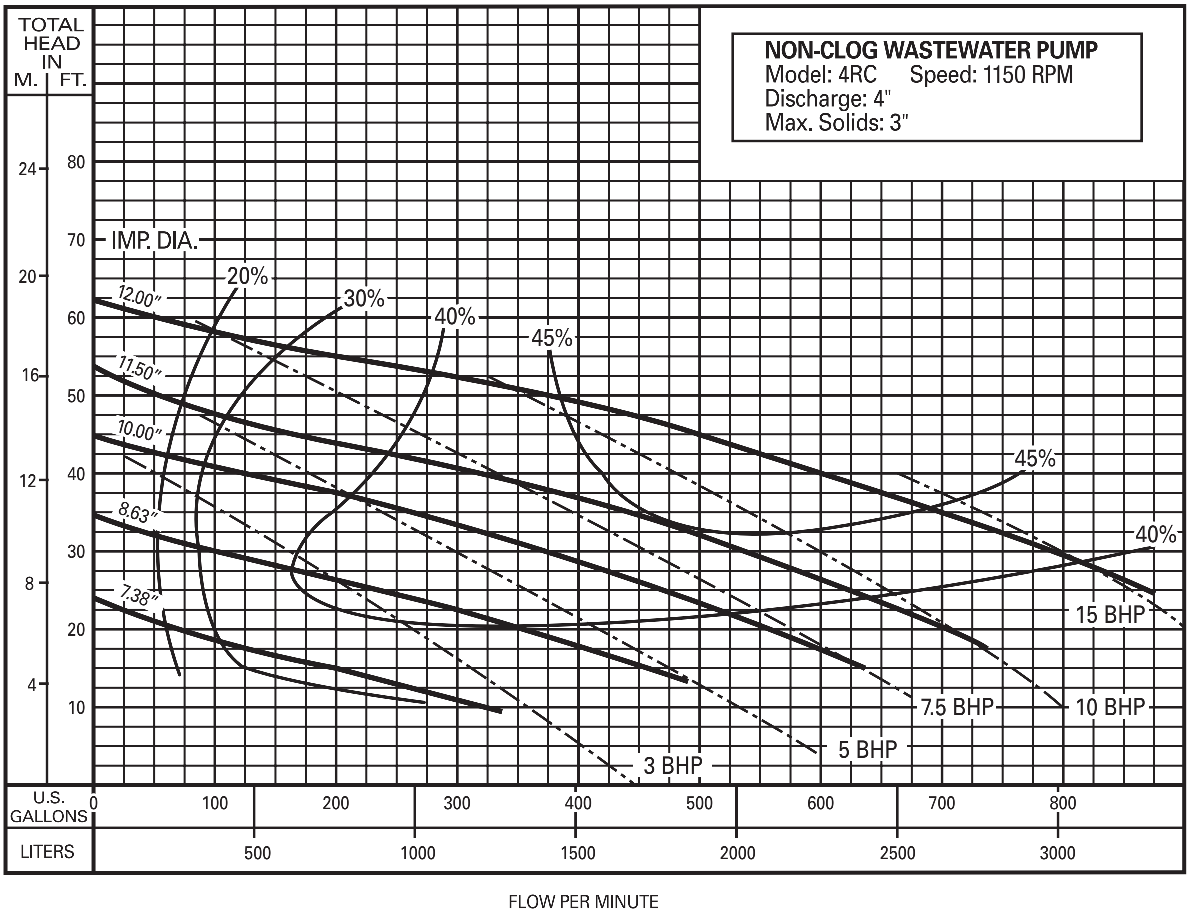

Available Models		Motor Electrical Data												
Standard	Explosion Proof	HP	Volts	Phase	Hertz	Start Amps	Run Amps	Service Factor Amps	Run KW	Service Factor KW	Start KVA	Run KVA	NEC Code Letter	Service Factor
4RC30M6-03	4RCX30M6-03	3	200	3	60	106	13.3	15.6	3.4	4.1	36.7	4.6	K	1.2
4RC30M6-23	4RCX30M6-23	3	230	3	60	92	11.6	13.6	3.4	4.1	36.7	4.6	K	1.2
4RC30M6-43	4RCX30M6-43	3	460	3	60	46	5.8	6.8	3.4	4.1	36.7	4.6	K	1.2
4RC30M6-53	4RCX30M6-53	3	575	3	60	36.8	4.6	5.4	3.4	4.1	36.7	4.6	K	1.2
4RC50M6-03	4RCX50M6-03	5	200	3	60	106	19.3	23	4.8	5.8	36.7	6.7	J	1.2
4RC50M6-23	4RCX50M6-23	5	230	3	60	92	16.8	20	4.8	5.8	36.7	6.7	J	1.2
4RC50M6-43	4RCX50M6-43	5	460	3	60	46	8.4	10	4.8	5.8	36.7	6.7	J	1.2
4RC50M6-53	4RCX50M6-53	5	575	3	60	37	6.7	8	4.8	5.8	36.7	6.7	J	1.2
4RC75M6-03	4RCX75M6-03	7.5	200	3	60	197	27	32.2	6.8	8.4	68.5	9.4	H	1.2
4RC75M6-23	4RCX75M6-23	7.5	230	3	60	172	23.6	28	6.8	8.4	68.5	9.4	H	1.2
4RC75M6-43	4RCX75M6-43	7.5	460	3	60	86	11.8	14	6.8	8.4	68.5	9.4	H	1.2
4RC75M6-53	4RCX75M6-53	7.5	575	3	60	69	9.4	11.2	6.8	8.4	68.5	9.4	H	1.2
4RC100M6-03	4RCX100M6-03	10	200	3	60	197	34.3	41.4	8.8	10.9	68.5	12.0	H	1.2
4RC100M6-23	4RCX100M6-23	10	230	3	60	172	30	36	8.8	10.9	68.5	12.0	H	1.2
4RC100M6-43	4RCX100M6-43	10	460	3	60	86	15	18	8.8	10.9	68.5	12.0	H	1.2
4RC100M6-53	4RCX100M6-53	10	575	3	60	69	12	14.4	8.8	10.9	68.5	12.0	H	1.2
4RC150M6-03	4RCX150M6-03	15	200	3	60	276	48	59.8	13.0	15.7	95.6	17.5	H	1.2
4RC150M6-23	4RCX150M6-23	15	230	3	60	240	44	52	13.0	15.7	95.6	17.5	H	1.2
4RC150M6-43	4RCX150M6-43	15	460	3	60	120	22	26	13.0	15.7	95.6	17.5	H	1.2
4RC150M6-53	4RCX150M6-53	15	575	3	60	96	17.6	20.8	13.0	15.7	95.6	17.5	H	1.2

Motor Efficiencies and Power Factor

		Motor Efficiency %				Power Factor %			
HP	Phase	Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
3	3	69	66	60	51	72	74	63	55
5	3	82	81	77	68	74	72	66	56
7.5	3	84	83	79	71	75	73	66.5	56.5
10	3	87	86	82	75	76	74	67	57
15	3	88	88	86.5	82.5	76	74.5	68	57.5

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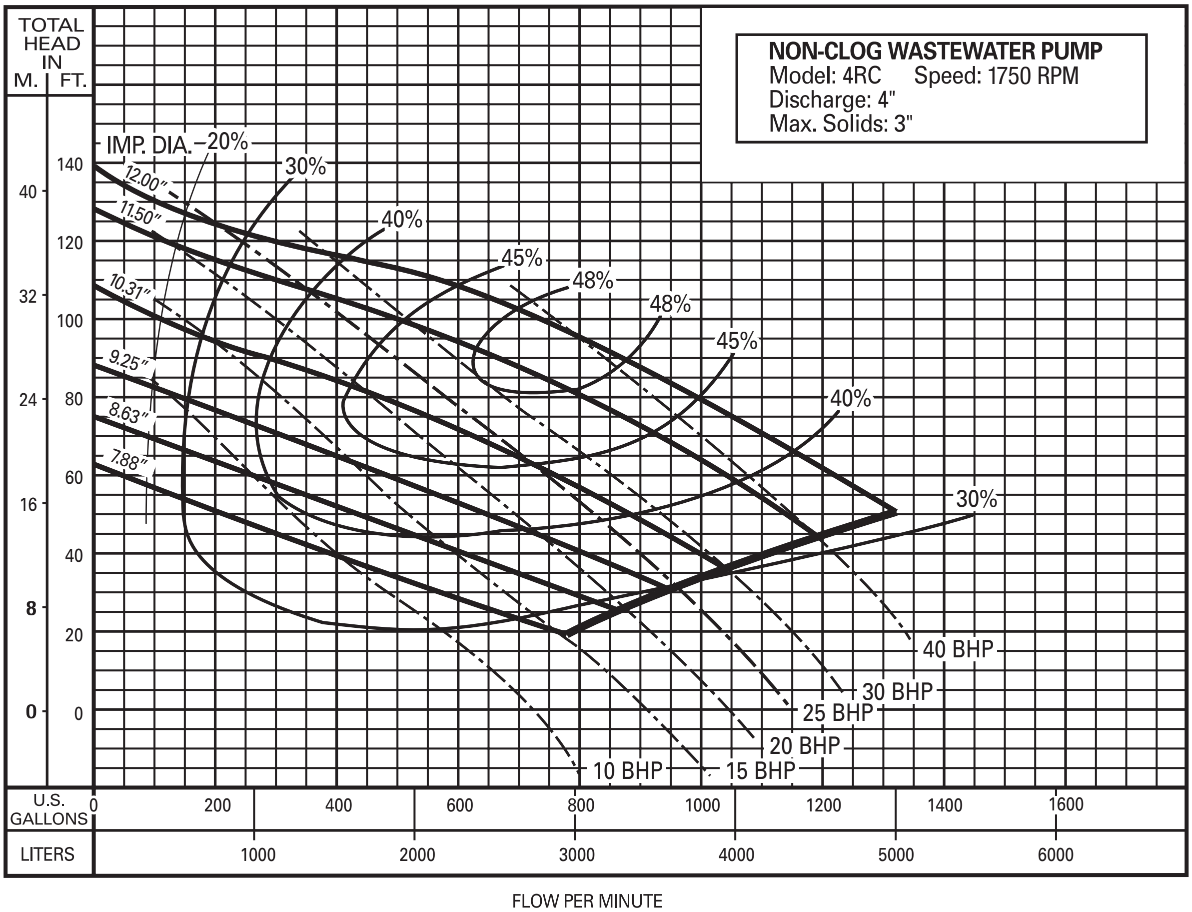
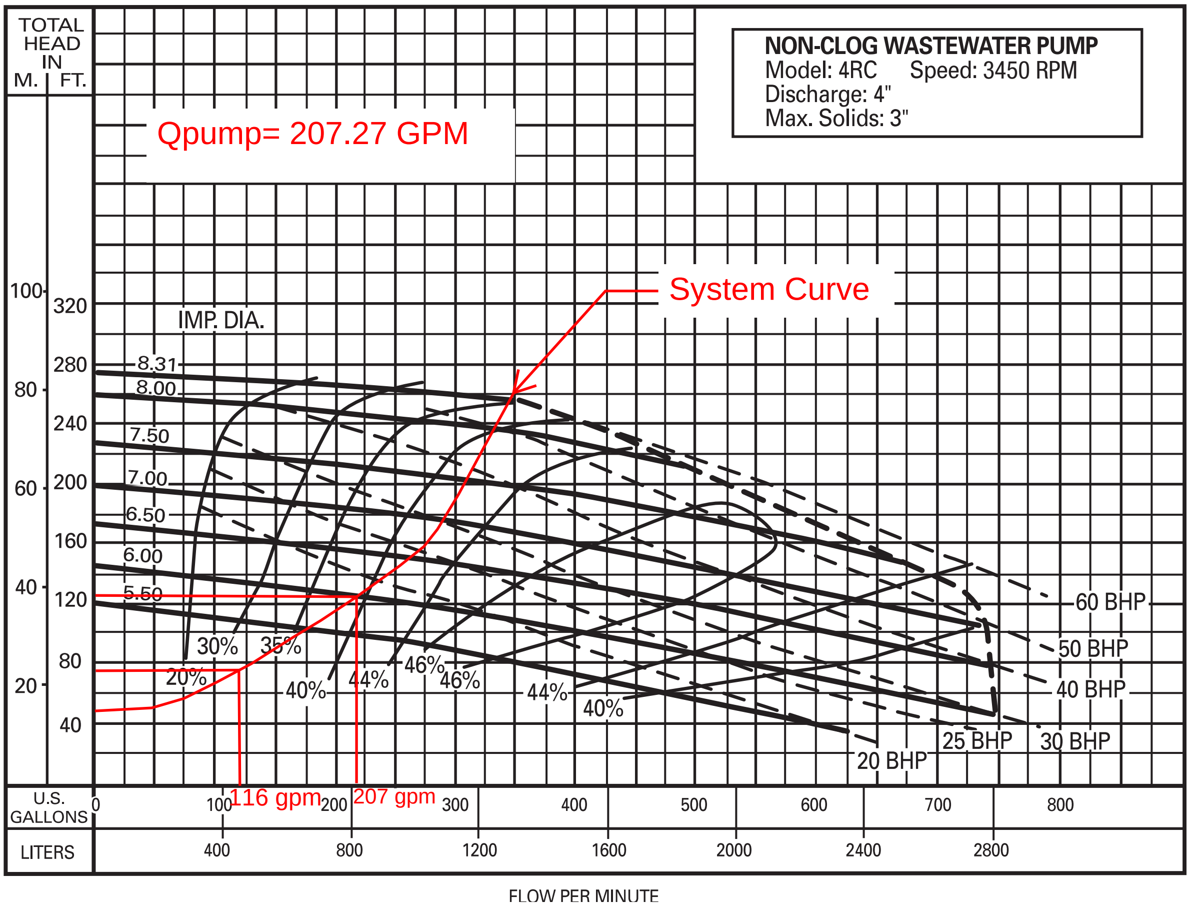
1750 RPM PERFORMANCE CURVE



Available Models		Motor Electrical Data												
Standard	Explosion Proof	HP	Volts	Phase	Hertz	Start Amps	Run Amps	Service Factor Amps	Run KW	Service Factor KW	Start KVA	Run KVA	NEC Code Letter	Service Factor
4RC100M4-03	4RCX100M4-03	10	200	3	60	334	35.9	40.6	9.5	11.4	116	12.4	N	1.2
4RC100M4-23	4RCX100M4-23	10	230	3	60	290	31.2	35.3	9.5	11.4	116	12.4	N	1.2
4RC100M4-43	4RCX100M4-43	10	460	3	60	145	15.6	17.7	9.5	11.4	116	12.4	N	1.2
4RC100M4-53	4RCX100M4-53	10	575	3	60	116	12.5	14.1	9.5	11.4	116	12.4	N	1.2
4RC150M4-03	4RCX150M4-03	15	200	3	60	334	50.6	61	15.0	18.6	115.5	17.5	E	1.2
4RC150M4-23	4RCX150M4-23	15	230	3	60	290	44	53	15.0	18.6	115.5	17.5	E	1.2
4RC150M4-43	4RCX150M4-43	15	460	3	60	145	22	26.5	15.0	18.6	115.5	17.5	E	1.2
4RC150M4-53	4RCX150M4-53	15	575	3	60	116	17.6	21.2	15.0	18.6	115.5	17.5	E	1.2
4RC200M4-03	4RCX200M4-03	20	200	3	60	334	62.5	75	21.2	26.1	115.5	23.9	G	1.2
4RC200M4-23	4RCX200M4-23	20	230	3	60	290	60	72	21.2	26.1	115.5	23.9	G	1.2
4RC200M4-43	4RCX200M4-43	20	460	3	60	145	30	36	21.2	26.1	115.5	23.9	G	1.2
4RC200M4-53	4RCX200M4-53	20	575	3	60	116	24	28.8	21.2	26.1	115.5	23.9	G	1.2
4RC250M4-03	4RCX250M4-03	25	200	3	60	575	78.3	92.2	26.9	33.3	180.1	30.3	G	1.2
4RC250M4-23	4RCX250M4-23	25	230	3	60	452	76	92	26.9	33.3	180.1	30.3	G	1.2
4RC250M4-43	4RCX250M4-43	25	460	3	60	226	38	46	26.9	33.3	180.1	30.3	G	1.2
4RC250M4-53	4RCX250M4-53	25	575	3	60	181	30.4	36.8	26.9	33.3	180.1	30.3	G	1.2
4RC300M4-03	4RCX300M4-03	30	200	3	60	575	92.2	110.7	33.3	41.3	180.1	37.4	G	1.2
4RC300M4-23	4RCX300M4-23	30	230	3	60	452	94	114	33.3	41.3	180.1	37.4	G	1.2
4RC300M4-43	4RCX300M4-43	30	460	3	60	226	47	57	33.3	41.3	180.1	37.4	G	1.2
4RC300M4-53	4RCX300M4-53	30	575	3	60	181	37.6	45.6	33.3	41.3	180.1	37.4	G	1.2
4RC400M4-43	4RCX400M4-43	40	460	3	60	290	61	74	43.2	53.0	231.1	48.6	G	1.2

Motor Efficiencies and Power Factor									
		Motor Efficiency %				Power Factor %			
HP	Phase	Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
10	3	81	79	74	65	79	77	72	64
15	3	85	84	79	69	88	86	78	68
20	3	88	87.5	81	72.5	91	89	79	69
25	3	87	86	81	73	91	89	80	70
30	3	87	86	83	79	91	89	82	73
40	3	86	86	88	87.5	90	89	86	80

3450 RPM PERFORMANCE CURVE



Available Models		Motor Electrical Data												
Standard	Explosion-Proof	HP	Volts	Phase	Hz	Start Amps	Run Amps	Service Factor Amps	Run KW	Service Factor KW	Start KVA	Run KVA	NEC Code Letter	Service Factor
4RC200M2-23	4RCX200M2-23	20	230	3	60	406	68	80	24.0	27.5	162	27.1	G	1.2
4RC200M2-43	4RCX200M2-43	20	460	3	60	203	34	40	24.0	27.5	162	27.1	z	1.2
4RC200M2-53	4RCX200M2-53	20	575	3	60	162	27.2	32	24.0	27.5	162	27.1	G	1.2
4RC250M2-23	4RCX250M2-23	25	230	3	60	406	83	96	28.6	32.5	162	33.1	G	1.2
4RC250M2-43	4RCX250M2-43	25	460	3	60	203	41.5	48	28.6	32.5	162	33.1	G	1.2
4RC250M2-53	4RCX250M2-53	25	575	3	60	162	33.2	38.4	28.6	32.5	162	33.1	G	1.2
4RC300M2-23	4RCX300M2-23	30	230	3	60	406	95	115	33.4	38.6	162	37.8	G	1.2
4RC300M2-43	4RCX300M2-43	30	460	3	60	203	47.5	57.5	33.4	38.6	162	37.8	G	1.2
4RC300M2-53	4RCX300M2-53	30	575	3	60	162	38	46	33.4	38.6	162	37.8	G	1.2
4RC400M2-43	4RCX400M2-43	40	460	3	60	275	59	70	42.0	49.5	217	47.0	G	1.2
4RC400M2-53	4RCX400M2-53	40	575	3	60	220	47.2	56	42.0	49.5	217	47.0	G	1.2
4RC500M2-43	4RCX500M2-43	50	460	3	60	275	74	89	51.0	61.0	217	58.9	D	1.2
4RC500M2-53	4RCX500M2-53	50	575	3	60	220	59.2	71.2	51.0	61.0	217	58.9	D	1.2
4RC600M2-43	4RCX600M2-43	60	460	3	60	275	89	89	61.0	61.0	217	70.8	C	1.0
4RC600M2-53	4RCX600M2-53	60	575	3	60	220	71.2	71.2	61.0	61.0	217	70.8	C	1.0

Motor Efficiencies and Power Factor

		Motor Efficiency %				Power Factor %			
HP	Phase	Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
20	3	65	63	58	50	83.5	83	82	80
25	3	67	66	61	54	85	85	84.5	82
30	3	71	70	66	60	86	86.5	86	84
40	3	75.5	75	72	66	86.6	87.7	87.5	86
50	3	75	75.4	74.3	69.5	84.6	86.8	87.8	87.5
60	3	75	75	75.5	72	84.6	84.6	87.5	87.7

Myers® ENGINEERED PRODUCTS

SPECIFICATIONS

PUMP MODEL — Pump shall be Myers Model Numbers 4RC/4RCX Non-Clog Submersible Pump with recessed type impeller. All openings in pump shall be large enough to pass a 3" diameter sphere. Discharge flange shall be four (4) inch standard. The pump and motor assembly shall be FM listed for Class 1, Groups C and D explosion-proof service (4RCX only).

OPERATING CONDITIONS — Pump shall have a capacity of _________ GPM at a total head of _________feet and shall use a _________ HP motor operating at _________ RPM.

MOTOR — Pump motor shall be of the sealed submersible type rated ________ HP at _________ RPM, 60 Hertz. Motor shall be for three phase 200 volts _______, 230 volts _______, 460 volts _______ or 575 volts _______. Motor shall be NEMA B type.

Stator winding shall be of the open type with Class H insulation good for 180°C (356°F) maximum operating temperature. Winding housing shall be filled with a clean high dielectric oil that lubricates bearings and seals and transfers heat from windings and rotor to outer shell. Air-filled motors that do not have the superior heat dissipating capabilities of oil-filled motors shall not be considered equal.

Motor shall have two heavy duty ball bearings to support pump shaft and take radial and thrust loads and a sleeve guide bushing directly above the lower seal to take radial load and act as flame path for seal chamber. Ball bearings shall be designed for 50,000 hours B-10 life. Stator shall be heat shrunk into motor housing.

A heat sensor thermostat shall be attached to and imbedded in the winding and be connected in series with the motor starter contactor coil to stop motor if temperature of winding is more than 302°F. Thermostat to reset automatically when motor cools to safe operating temperature. Three heat sensors to be used on 3 phase motors. The common pump motor shaft shall be of 416 stainless steel.

SEALS — Motor shall be protected by two mechanical seals mounted in tandem with a seal chamber between the seals. Seal chamber shall be oil filled to lubricate seal face and to transmit heat from shaft to outer shell.

Seal face shall be carbon and ceramic and lapped to a flatness of one light band. Lower seal faces shall be _________ carbide (optional).

A double electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control box. This signal shall not stop the motor but shall act as a warning only, indicating service is required.

IMPELLER — The impeller shall be ductile iron and of the recessed type. Pump-out vanes shall be used on back shroud. Impeller shall be dynamically balanced. Impeller shall be driven by stainless steel key and impeller held in position with lock screw and washer.

Impeller and motor shall have top lift-out of case so that the assembly can be removed without disturbing any piping.

PUMP CASE — The volute case shall be cast iron and have a flanged center line discharge. Discharge flange shall be 4" standard with bold holes straddling center line. The pump case shall have a minimum of 3" diameter openings to allow for free passage of a 3" diameter spherical solid.

PUMP AND MOTOR CASTING — All castings shall be of high tensile cast iron and shall be treated with phosphate and chromate rinse. All fasteners shall be 302 stainless steel.

BEARING END CAP — Upper motor bearing cap shall be a separate casting for easy mounting and replacement.

POWER CABLES — Power cord and control cord shall be triple sealed. The power and control conductor shall be single strand sealed with epoxy potting compound and then clamped in place with rubber seal bushing to seal outer jacket against leakage and to provide for strain pull. A third sealing area shall be provided by a terminal board to separate the cable entry chamber from the motor chamber. Cords shall withstand a pull of 300 pounds.

Insulation of power and control cords shall be type SO or SOOW. Both control and power cords shall have a green carrier ground conductor that attaches to motor frame.

Myers® ENGINEERED PRODUCTS

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269 Trillium Drive
Kitchener, Ontario
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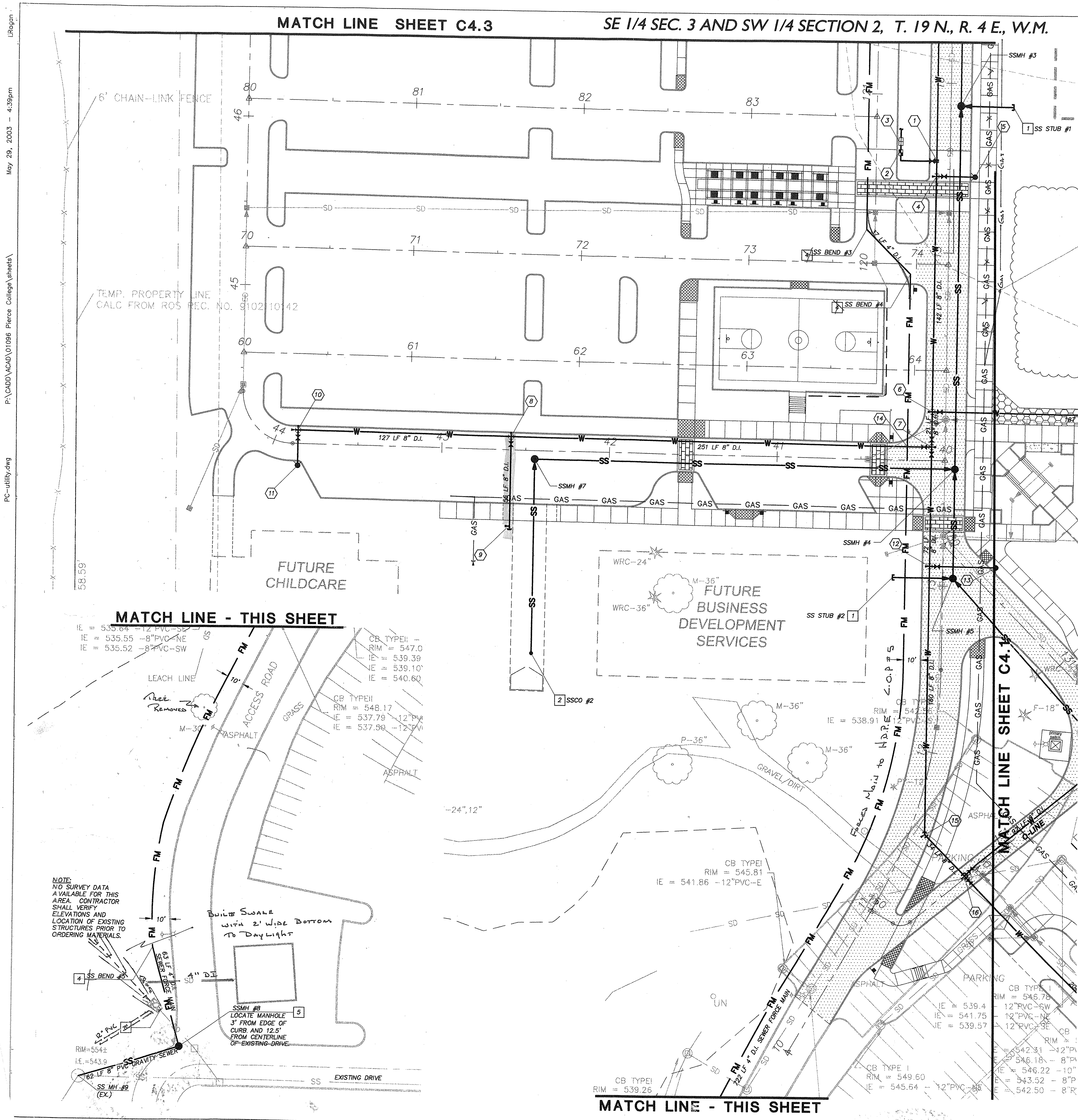
Tel: (519) 748-5470
Fax: (519) 748-2553

www.femyers.com

K3885 02/09

SE 1/4 SEC. 3 AND SW 1/4 SECTION 2, T. 19 N., R. 4 E., W.M.



STRUCTURE DATA					
STRUCTURE	STATION	OFFSET	RIM	I.E. IN	I.E. OUT
SSMH #3	A 15+87.00	6.0' RT	521.54	510.50 - S & E	510.40 - N
SS STUB #1	A 15+87.00	37.5' RT	-	-	511.14 - W
SSMH #4	A 13+70.93	6.0' RT	528.87	522.87 - S & W	522.77 - N
SSMH #5	A 13+04.90	6.0' RT	532.22	525.66 - SE & W	525.56 - N
SS STUB #2	A 13+04.90	30.0' LT	-	-	526.38 - E
SSMH #7	D 42+44.50	5.0' LT	532.93	523.97 - S	523.87 - E
SSCO #2	D 42+44.50	122.0' RT	533.7	-	525.00 - N
5 SSMH #8	SEE PLAN		553.0±	549.0±	548.66 - SW
SSMH #9 (EX.)	SEE PLAN		554.0±	544.5	543.9 - SW

PIPE DATA				
FROM	TO	LENGTH	SIZE	SLOPE
SSMH #3	SSMH #2	216	8" PVC	0.0200
SS STUB #1	SSMH #3	32	6" PVC	0.02
SSMH #4	SSMH #3	216	8" PVC	0.0568
SSMH #5	SSMH #4	66	8" PVC	0.0408
SS STUB #2	SSMH #5	36	6" PVC	0.02
SSMH #7	SSMH #4	251	8" PVC	0.004
SSCO #2	SSMH #7	117	8" PVC	0.0088
SSMH #8	SSMH #9	63	8" PVC	0.066±

SCALE IN FEET

HORIZ. 30 15 0 30 60

GENERAL NOTES:

1. SEE GENERAL AND STANDARD NOTES SHEET C5.12 & C5.13 FOR MATERIAL SPECIFICATIONS AND ADDITIONAL REQUIREMENTS.
2. SEE SHEET C0.2 FOR HORIZONTAL CONTROL.
3. ALL GATE VALVES SHALL BE PER CITY STANDARD NO. 307, SEE SHEET C5.8 FOR DETAIL.
4. ALL THRUST BLOCKING SHALL BE PER CITY STANDARD NO 308, SEE SHEET C5.9 FOR DETAIL.
5. ALL SANITARY SEWER MANHOLES SHALL BE PER CITY STANDARD NO.401, SEE SHEET C5.10 FOR DETAIL.
6. SEE SHEET C4.5 FOR SEWER FORCE MAIN PROFILE.
7. GAS MAIN ALIGNMENT SHOWN SCHEMATICALLY. COORDINATE WITH PSE ON GAS MAIN DESIGN AND CONSTRUCTION.

SANITARY SEWER FORCE MAIN BEND TABLE			
SS BEND #	TYPE	STATION	OFFSET
SS BEND #3	45°	A 15+13.21	49.0' LT
SS BEND #4	45°	A 14+86.71	22.4' LT
SS BEND #5	11 1/4°	SEE PLAN	

SANITARY SEWER NOTES:

1 CONSTRUCT SIDE SEWER PER CITY STANDARD NO. 405.1, SEE SHEET C5.10 FOR DETAIL.

2 CONSTRUCT SEWER MAIN CLEAN OUT (FOR DEAD END LINE) PER CITY STANDARD NO. 404, SEE SHEET C5.10 FOR DETAIL.

4 ~~CONSTRUCT BEND (MJxMJ) IN 4" D.I.~~ SANITARY ~~SEWER~~ FORCE MAIN ~~WITH THRUST BLOCKING~~, ~~PER DETAILS 308.1 & 308.3 ON SHEET C5.9.~~ SEE SANITARY SEWER FORCE MAIN ~~BEND TABLE THIS SHEET FOR BEND LOCATIONS.~~ Forced Main to HDPE C.O.P. #5

5 CONSTRUCT NEW SANITARY SEWER MANHOLE 3-FT OFF CURB. SET RIM ELEVATION TO MATCH EXISTING PAVEMENT. RESTORE PAVEMENT AND CURB. ELEVATION DATA IS APPROXIMATE. CONTRACTOR SHALL VERIFY ELEVATIONS AND SET FORCE MAIN ELEVATION TO PROVIDE 42-IN MINIMUM COVER. OUTLET IE. FOR 8-IN GRAVITY SEWER LINE SHALL BE SET TO MATCH CROWN WITH FORCE MAIN. CHANNEL MANHOLE PER WSDOT STANDARD SPECIFICATIONS. MANHOLE SHALL BE COATED WITH TNEMIC 120 VINYL ESTER AUANTUM POLYMORPHIC RESIN OR APPROVED EQUAL ~~WHICH~~ IS RESISTANT TO SULFURIC ACID AND HYDROGEN SULFIDE.

6 BACKFILL TO LEVEL WITH BOTTOM OF CURB AND COMPACT APPROXIMATELY 5-FT BEYOND EDGE OF CURB TO PROVIDE COVER FOR FORCE MAIN. EXTEND EXISTING 8-INCH DUCTILE IRON STORM PIPE BEYOND TOE OF FILL. PLACE 12-INCH THICK MEDIUM RIP RAP TO 1-FT ABOVE TOP OF PIPE, 5-FT BEYOND END OF PIPE, AND 5-FT WIDTH.

WATER CONSTRUCTION NOTES:

1 A 15+55.00 (8' LT)
2-INCH WATER SERVICE CONNECTION PER CITY STANDARD NO. 302, SEE SHEET C5.8 FOR DETAIL.
1-DOUBLE STRAP SADDLE
1-2" GATE VALVE
25-LF +/- 2" SERVICE LINE

2 A 15+59.00 (21.5' LT)
1-2" WATER SERVICE METER AND METER BOX PER CITY STANDARD NO. 302. SEE SHEET C5.8 FOR DETAIL.

3 A 15+66.00 (21.5' LT)
2" DCVA PER CITY STANDARD NO. 309, SEE SHEET C5.9 FOR DETAILS.
SEE LANDSCAPE PLANS FOR CONTINUATION OF IRRIGATION SYSTEM.

4 A 15+46.00 (8.0' LT)
1-8" X 6" X 8" TEE (MJxFLxMJ)
1-6" GATE VALVE (FLxMJ)
THRUST BLOCKING

5 A 15+46.00 (15.0' RT)
FIRE HYDRANT ASSEMBLY, PER CITY STANDARD NO. 304, SEE SHEET C58 FOR DETAIL.

6 A 14+50.50 (8.0' LT)
1-8"X 8"X 8" TEE (MJxFLxMJ)
1-8" GATE VALVES (FLxMJ)
THRUST BLOCKING

7 A 13+83.93 (8.0' LT)
1-8"X 8"X 8" TEE (FLxFLxFL)
3-8" GATE VALVES (FLxMJ)
THRUST BLOCKING

8 D 42+58.83 (8.0' RT)
1-8"X 8"X 8" TEE (MJxFLxMJ)
1-8" GATE VALVE (FLxMJ)
THRUST BLOCKING

9 D 42+58.83 (48' LT)
2-INCH BLOW OFF ASSEMBLY, PER CITY STANDARD NO. 305, SEE SHEET C5.8 FOR DETAIL.
1-8" BLIND FLANGE
1-2" BLOW OFF ASSEMBLY W/DOUBLE STRAP SADDLE, METER BOX, 2" GATE VALVE
THRUST BLOCKING
VALVE MARKER POST, CITY STANDARD NO. 306, SEE SHEET C5.8 FOR DETAIL.

10 D 43+85.78 (8.0' RT)
1-8" X 6" X 8" TEE (MJxFLxFL)
1-6" GATE VALVE (FLxMJ)
1-8" BLIND FLANGE
THRUST BLOCKING

11 D 43+85.78 (23.0' LT)
FIRE HYDRANT ASSEMBLY, PER CITY STANDARD NO. 304, SEE SHEET C5.8 FOR DETAIL.

12 A 13+12.00 (8.0' LT)
1-8" X 6" X 8" TEE (MJxFLxMJ)
1-6" GATE VALVE (FLxMJ)
THRUST BLOCKING

13 A 13+12.00 (32.0' RT)
FIRE HYDRANT ASSEMBLY, PER CITY STANDARD NO. 304, SEE SHEET C5.8 FOR DETAIL.

14 A 11+71.11 (2.9' RT)
SEWER FORCE MAIN CROSSING
MAINTAIN 18" MIN. SEPARATION

15 A 11+52.83 (8.9' RT)
1-8" 45° BEND (MJxMJ)
THRUST BLOCKING

16 O 150+68.09 (1.07' LT)
1-8" X 8" X 8" TEE (FLxFLxMJ)
2-8" GATE VALVES (FLxMJ)
THRUST BLOCKING

Fire Hydrant/FDC location APPROVED

BY Mark D Fal
CITY OF PUYALLUP
ENGINEERING DEPARTMENT

DATE 6-02-03

NOTE:
THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

FIELD CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.

APPROVED

BY Greg Stitt PE
CITY OF PUYALLUP
ENGINEERING DEPARTMENT

DATE 6/02/03

NOTE:
This approval is void after 1 year from approval date.

The City will not be responsible for errors and/or omissions of these plans.

Field conditions may dictate changes to these plans as determined by the city engineer.

opsis architecture LLP
1202 nw 17th ...
portland, orego...

T. PATRICK ALLEN
STATE OF WASHINGTON
28874
REGISTERED PROFESSIONAL ENGINEER
5/30/03

EXPIRES: 11/21/03

Pierce College Puyallup

1202 nw 17th avenue
portland, oregon 97209
v: 503.525.9511
f: 503.525.0440

College Center Building

Pierce College
Puyallup, Washington

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MASINI SANFORD GABRIELSE SCHOENFELDT
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724 Columbia St. NW
Suite 140
Olympia, WA 98501
TEL (360) 709-0301
FAX (360) 709-0668

C.O.P #5 Forced Main

REVISIONS: To H.D.P.E.

Gas Line Revision

REVISION NUMBER	IN PROGRESS	NO CHANGES THIS SHEET	REVISION EDITION CLOSING DATE

date May 2003
designed by MJJ
drawn by LER/JMB
checked by TPA
approved by TPA

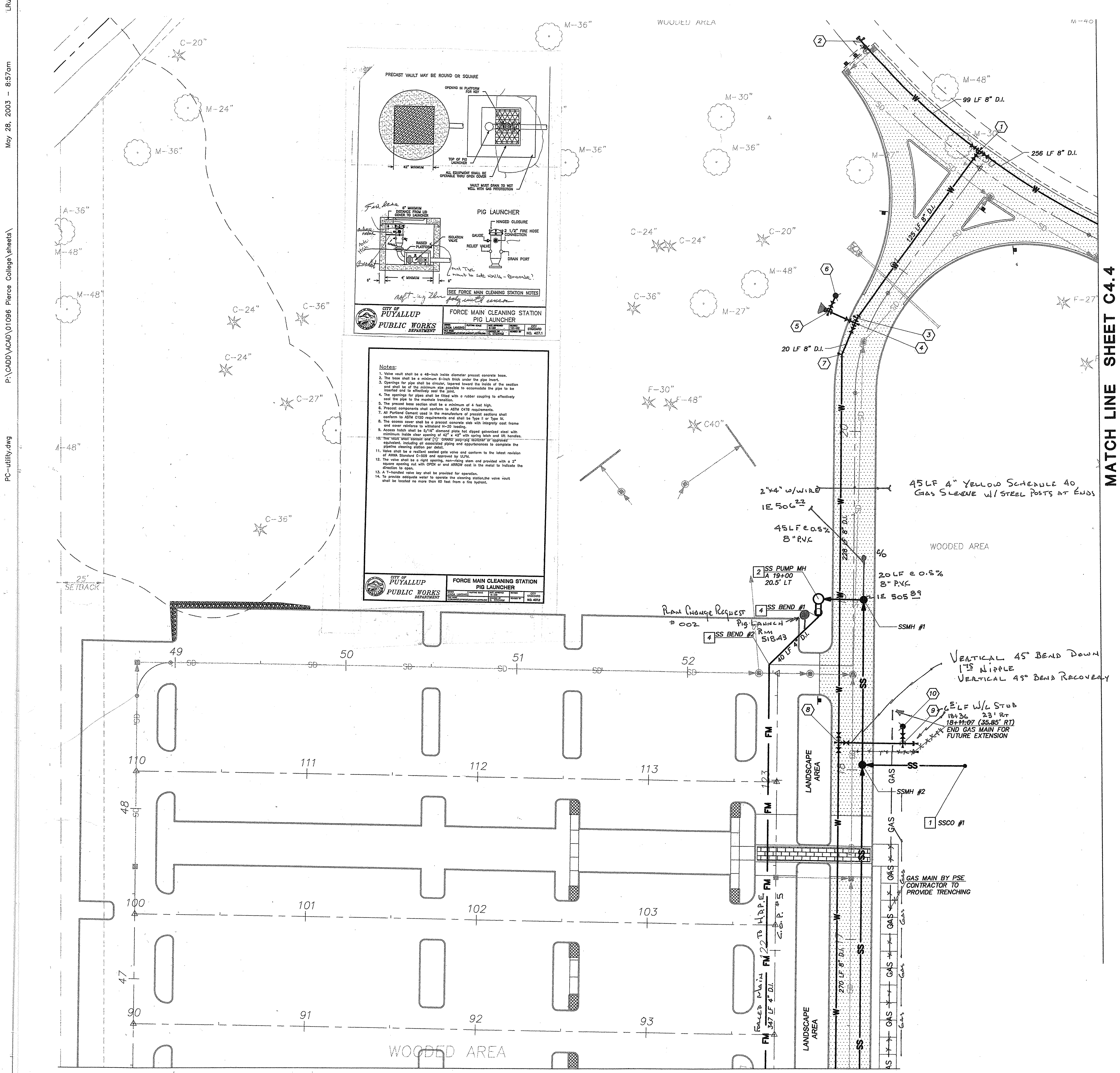
Sheet Title
UTILITY PLAN

Sheet No.
C4.2

Job No.

State Project No.
2000-050 G (1-1)

SE 1/4 SEC. 3 AND SW 1/4 SECTION 2, T. 19 N., R. 4 E., W.M.



MATCH LINE SHEET C4.2

STRUCTURE DATA					
STRUCTURE	STATION	OFFSET	RIM	I.E. IN	I.E. OUT
PUMP STATION	A 19+00.0	20.5' LT	514.75	505.26 - E	
SSMH #1	A 19+00.0	6.0' RT	514.00	505.49 - S	505.39 - W
SSMH #2	A 18+03.0	6.0' RT	517.32	506.08 - S	505.98 - N
SSCO #1	A 18+03.0	66.0' RT	-	-	506.32 - W

PIPE DATA				
FROM	TO	LENGTH	SIZE	SLOPE
SSMH #2	SSMH #1	97	8" PVC	0.005
SSCO #1	SSMH #2	60	8" PVC	0.004
SSMH #1	PUMP	27	8" PVC	0.005

SCALE IN FEET
HORIZ. 30 15 0 30 60

GENERAL NOTES:

1. SEE GENERAL AND STANDARD NOTES SHEETS C5.12 & C5.13 FOR MATERIAL SPECIFICATIONS AND ADDITIONAL REQUIREMENTS.
2. SEE SHEET C0.2 FOR HORIZONTAL CONTROL.
3. ALL GATE VALVES SHALL BE PER CITY STANDARD NO. 307, SEE SHEET C5.8 FOR DETAIL.
4. ALL THRUST BLOCKING SHALL BE PER CITY STANDARD NO 308, SEE SHEET C5.9 FOR DETAIL.
5. ALL SANITARY SEWER MANHOLES SHALL BE PER CITY STANDARD NO.401, SEE SHEET C5.10 FOR DETAIL.
6. GAS MAIN ALIGNMENT SHOWN SCHEMATICALLY. COORDINATE WITH PSE ON GAS MAIN DESIGN AND CONSTRUCTION.

SANITARY SEWER FORCE MAIN BEND TABLE		
SS BEND #	STATION	OFFSET
SS BEND #1	A 18+89.43	20.5' LT
SS BEND #2	A 18+60.93	49.0' LT

☐ SANITARY SEWER NOTES:

1 CONSTRUCT SEWER MAIN CLEAN OUT (FOR DEAD END LINE) PER CITY STANDARD NO. 404, SEE SHEET C5.10 FOR DETAIL.

2 CONSTRUCT SANITARY SEWER PUMP STATION & VALVE VAULT, SEE SHEET C5.11.1 FOR DETAIL.

4 CONSTRUCT 45° BEND (MJxMJ) IN 4" ~~D.I.~~ HDPE SANITARY SEWER FORCE MAIN WITH THRUST BLOCKING, PER DETAILS 308.1 & 308.3 ON SHEET C5.9. SEE SANITARY SEWER FORCE MAIN BEND TABLE THIS SHEET FOR BEND LOCATIONS.

⬡ WATER CONSTRUCTION NOTES:

1 B 249+93.89 (8.0' LT).
1-8"X 8"X 8" TEE (FLxFLxFL)
3-8" GATE VALVES (FLxMJ)
THRUST BLOCKING

2 B 248+95.00 (8' LT), 2-INCH BLOW OFF ASSEMBLY, PER CITY STANDARD NO. 305, SEE SHEET C5.8 FOR DETAIL.
1-8" BLIND FLANGE
1-2" BLOW OFF ASSEMBLY W/DOUBLE STRAP SADDLE, METER BOX, 2" GATE VALVE
THRUST BLOCKING
VALVE MARKER POST PER CITY STANDARD NO. 306, SEE SHEET C5.8 FOR DETAIL.

3 A 20+63.82 (8.35' LT)
1-8" D.I. 11.25° BEND (MJXFL)
THRUST BLOCKING

4 A 20+61.05 (8.38' LT).
1-8"X 8"X 8" TEE (FLxFLxFL)
2-8" GATE VALVES (FLxMJ)
THRUST BLOCKING

5 A 20+61.05 (29.5' LT)
1-8" X 6" X 8" TEE (MJxFLxMJ)
1-8" BLIND FLANGE
THRUST BLOCKING

6 A 20+66 (29.5' LT)
1-FIRE HYDRANT ASSEMBLY, PER CITY STANDARD NO. 304, SEE SHEET C5.8 FOR DETAIL. BASE ELEVATION 510.60

7 A 20+42.89 (10.28' LT)
1-8" D.I. ~~22.50 BEND~~ (MJXMJ) 11.5 Bend
THRUST BLOCKING

8 A 18+16.00 (8.0' LT).
1-8"X 8"X 8" TEE (FLxFLxFL)
3-8" GATE VALVES (FLxMJ)
THRUST BLOCKING

9 A 18+16.00 (29.5' RT)
1-8" X 6" X 8" TEE (MJxFLxMJ)
1-6" GATE VALVE (FLxMJ)
1-8" BLIND FLANGE
THRUST BLOCKING

10 A 18+26.00 (29.5' RT)
1-FIRE HYDRANT ASSEMBLY, PER CITY STANDARD NO. 304, SEE SHEET C5.8 FOR DETAIL. BASE ELEVATION 517.65.

Fire Hydrant/FDC location APPROVED
BY Mark D. Ford
CITY OF PUYALLUP ENGINEERING DEPARTMENT
DATE 6-02-03
NOTE:
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FIELD CHANGES TO THESE PLANS AS DETERMINED BY THE CITY ENGINEER.

APPROVED
BY [signature] P.E.
CITY OF PUYALLUP ENGINEERING DEPARTMENT
DATE 6/02/03
NOTE:
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The City will not be responsible for errors and/or omissions of these plans.
Field conditions may dictate changes to these plans as determined by the city engineer.

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f: 503.525.0440

T. PATRICK ALLEN
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
5/30/03
EXPIRES: 11/21/03

Pierce College Puyallup

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Pierce College
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TEL (360) 709-0301
FAX (360) 709-0668

Sanitary Sewer Extension
REVISIONS: Pig Launch
C.O.P. 13 Gas Sleeve
REVISION NUMBER | IN PROGRESS | NO CHANGE THIS SHEET | REVISION EDITION CLOSING DATE
C.O.P. #5 Forced Main to H.D.P.E.
Gas Line Revision

date May 2003
designed by MJJ
drawn by LER/JMB
checked by TPA
approved by TPA

Sheet Title
UTILITY PLAN

Sheet No.
C4.3
22 of 41
Job No.

State Project No.
2000-050 G (1-1)

May 29, 2003 - 2:27pm

PC-dets-wtrswr-5-11-1.dwg P:\CADD\ACAD\01096 Pierce College\sheets\

GENERAL NOTES:

1. ALL CONNECTIONS SHALL BE FLANGED
2. ALL PIPING 4" DIP, CL 52, AWWA C-151, MORTAR LINED. ALL FITTINGS 4" DUCTILE IRON, CLASS 250, AWWA C-110, MORTAR LINED, FLANGED WITHIN WET WELL AND VALVE VAULT.
3. FOR GENERAL NOTES AND SPECIFICATIONS FOR LIFT STATION AND FORCE MAIN SEE SHEET C5.13

CONSTRUCTION NOTES:

1 PUMP RAIL SUPPORTS: INSTALL IN ACCORDANCE IWTH RAIL MFG. INSTRUCTIONS. 1 1/2-INCH STAINLESS STEEL.

2 DISCHARGE ELBOW, 4-INCH D.I., PIPE SUPPORT AND ANCHOR BOLTS, INSTALL PER PUMP MFG. INSTRUCTIONS.

3 MYERS NON-CLOG EXPLOSION PROOF SUBMERSIBLE PUMP. MODEL 4RCX, 34500 RPM, 30 HP MOTOR. 6-INCH CAST IRON IMPELLER.

4 4-INCH GATE VALVE, FLANGED.

5 4-INCH CHECK VALVE, SWING TYPE LEVEL AND SPRING OPERATED, WITH MERCURY SWITCH.

6 INSTALL 72-INCH DIAMETER MANHOLE, WSDOT TYPE 1, PER STANDARD PLAN 3-23c. MANHOLE SHALL BE COATED WITH TNEMIC 120 VINYL ESTER AUANTUM POLYMORPHIC RESIN OR APPROVED EQUAL WHICH IS RESISTANT TO SULFURIC ACID AND HYDROGEN SULFIDE.

7 PROVIDE LINKSEAL MODULAR WALL SEALS FOR ALL WALL PENETRATIONS

8 STAND ON MODEL 589 VALVE SUPPORTS PER VALVE MFG. INSTRUCTIONS.

9 4-INCH D.I. WYE (FLxFLxFL)

10 4-INCH D.I. 45° BEND (FLxFL)

11 3-INCH N.P.T. CHECK VALVE AND DRAIN PIPE.

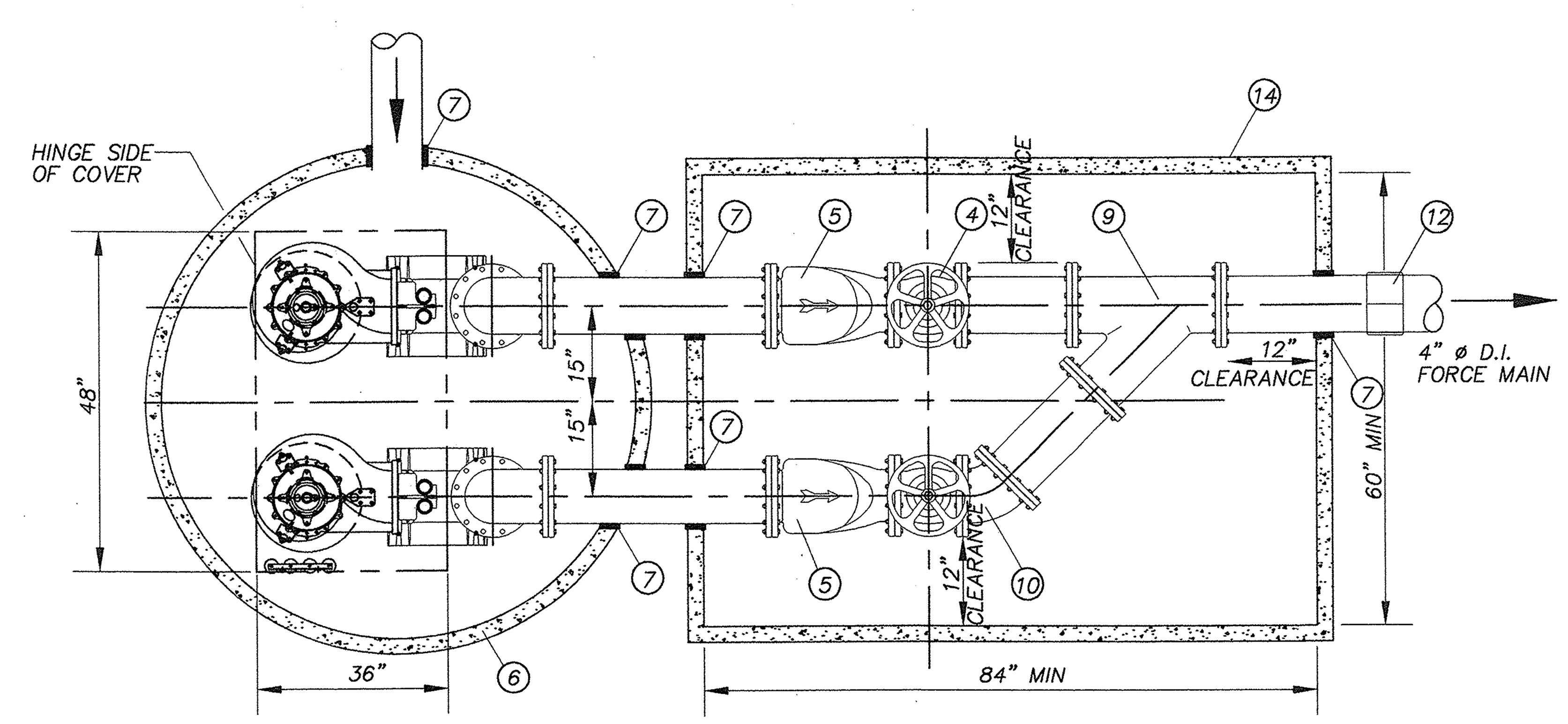
12 4-INCH STR. CAST COUPLING TO FORCE MAIN.

13 LOCKING 36"x48" ALUMINUM HATCH. LEAF DIAMOND, SPRING ASSISTED.

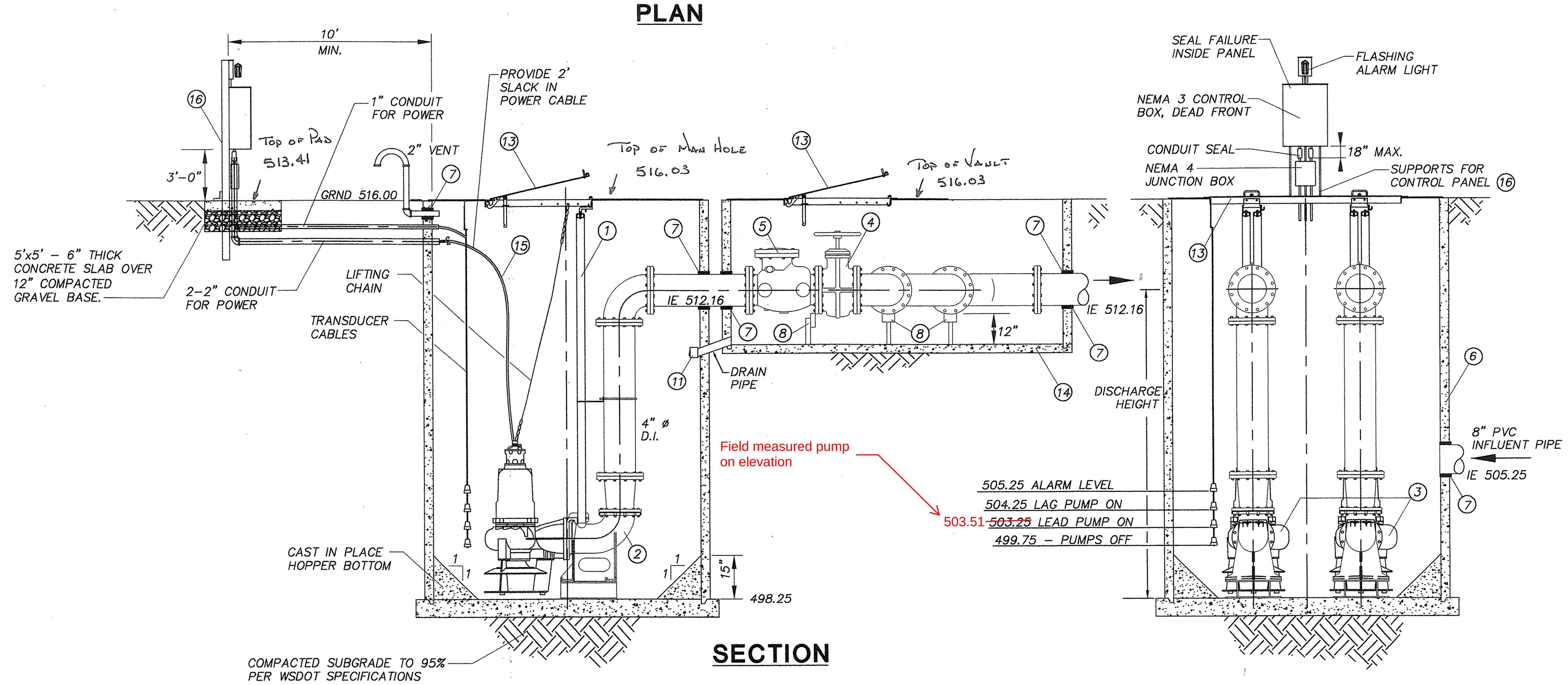
14 PRECAST CONCRETE VAULT, UTILITY VAULT 676-LA, 5'x7' OR EQUAL.

15 PROVIDE 2' SLACK IN POWER CABLE.

16 CONSTRUCT SUPPORT WITH PVC COATED STEEL CHANNELS.



PLAN



SECTION

DUPLEX SUBMERSIBLE PUMP INSTALLATION DETAIL

N.T.S.

op

opsis architecture LLP

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v: 503.525.9511
f: 503.525.0440

T. PATRICK ALLEN
STATE OF WASHINGTON
26874
REGISTERED
PROFESSIONAL ENGINEER
5/30/03

EXPIRES: 11/21/03

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College Center Building

Pierce College
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MSGS
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entranco

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FAX (360) 709-0668

Top of Electrical Pad

REVISIONS: Elev

REVISION NUMBER	IN PROGRESS	NO CHANGES THIS SHEET	REVISION EDITION CLOSING DATE

date May 2003
designed by MJJ
drawn by LER/JMB
checked by TPA
approved by TPA

Sheet Title

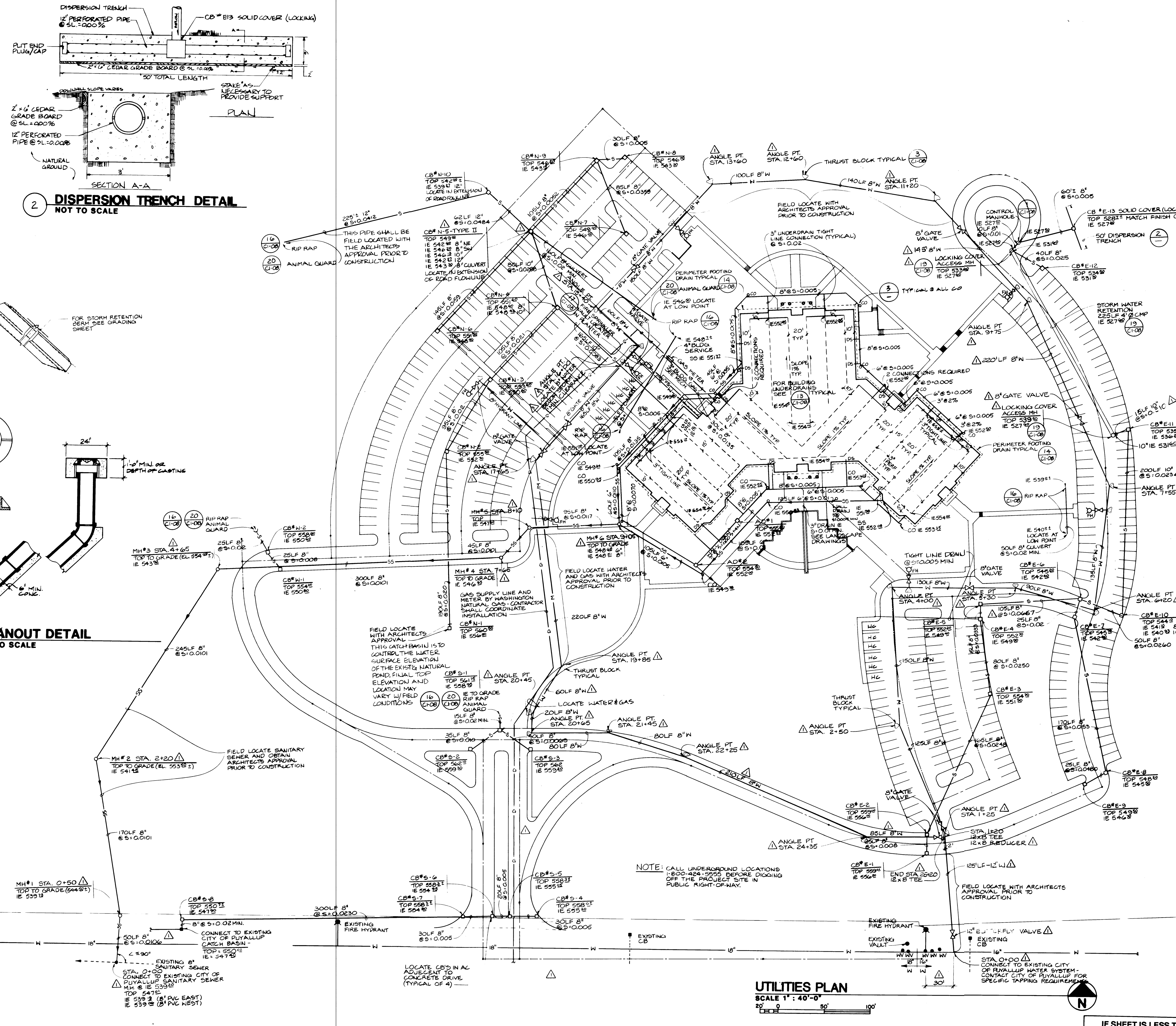
WATER AND SEWER DETAILS

Sheet No.

C5.11.1

Job No.

State Project No.
2000-050 G (1-1)



LEGEND

- CB CATCH BASIN
- MH MANHOLE
- FH FIRE HYDRANT
- CO CLEAN OUT
- WATER VALVE
- —SS— SANITARY SEWER
- —S— STORM DRAINAGE
- —W— WATER
- FOOTING DRAIN
- UNDERDRAIN
- EXISTING CONTOUR
- —550— FINISH GRADE CONTOUR
- AD AREA DRAIN
- THRUST BLOCK
- —FS— FIRE SPRINKLER SERVICE
- EXISTING WATER VALVE
- —G— GAS
- CENTER LINE
- 2:1 CUT OR FILL SLOPE
- E-A-2-4 CONTROL SWING HUB & TACK
- TW 559 TOP WALL ELEVATION
- x558 SPOT ELEVATION
- STOP SIGN
- YIELD
- SPEED LIMIT
- CROSSWALK STRIPING
- HC TYPICAL HANDICAP SYMBOL REQUIRED

GENERAL NOTES

1. SEE TYPICAL DETAIL 1/C1-08 FOR BEDDING REQUIREMENTS.
2. SEE TYPICAL DETAIL FOR CATCH BASIN PIPING.
3. DOWN SPOUT CONNECTION TO HEADER SHALL BE SAME SIZE AS DOWN SPOUT AT S=0.02 MIN.
4. UNDERDRAIN AND FOOTING DRAIN CONNECTION LINES SHALL BE 3" TIGHTLINE AT S=0.02 MIN.
5. LOCATE DOWNSPOUT POSITIONS FROM ARCHITECTURAL & MECHANICAL DRAWINGS.
6. SEE MECHANICAL PLANS FOR WATER & SANITARY SEWER STUB LOCATIONS.
7. BUILDING FINISH FLOOR IS ELEVATION 556.00
8. TOP ELEVATION OF CATCH BASINS ADJACENT TO 39TH AVENUE SOUTHEAST IS APPROXIMATE AND SHALL BE ADJUSTED TO MATCH FIELD CONDITIONS.
9. DISPERSION TRENCH SHALL BE CONSTRUCTED WITH MINIMUM DAMAGE TO NATURAL VEGETATION.
10. SEE MECHANICAL AND ELECTRICAL SITE PLANS FOR ADDITIONAL UTILITIES.
11. SEE SHEET C1-03 FOR DATUM
12. SEE LANDSCAPE SECTION FOR RESTORATION OF DISTURBED AREAS.
13. TOP ELEVATION OF MAN HOLE RIMS IN UNIMPROVED AREA SHALL BE ADJUSTED TO MEET FIELD REQUIREMENTS.
14. SEE TYPICAL DETAIL 3/C1-04 FOR CLEANOUT FOR ADD. NOTES SEE SH.

APPROVED

WATER SYSTEM — HYDRANT LAYOUT
SANITARY SEWER — STORM DRAIN
DETENTION SYSTEM
LANDSCAPING — PARKING
PLANNING COMMISSION / CITY COUNCIL CONDITIONS
BUILDING SETBACKS
FIRE LINE/DOUBLE BACKFLOW PREVENTOR

CITY ENGINEER — DATE 6-21-89
PLANNING DIRECTOR — DATE

THIS APPROVAL IS SUBJECT TO THE MATERIAL AND CONSTRUCTION BEING IN COMPLIANCE WITH STATE AND LOCAL STANDARDS AND IS VOID ONE (1) YEAR FROM THIS APPROVAL DATE

IF SHEET IS LESS THAN 30" x 42" IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

McGRANAHAN · MESSENGER · ASSOCIATES
ARCHITECTURE ENGINEERING PLANNING INTERIORS

PHASE 1
CONSTRUCTION DOCUMENTS

DRAWING NUMBER
Pierce College Phase 1
56 SE

9.10 Wetlands Report

MSGS ARCHITECTS

PIERCE COLLEGE – PUYALLUP CAMPUS REVISED WETLAND RECONNAISSANCE AND VERIFICATION REPORT

PREPARED FOR:

MSGS ARCHITECTS
510 CAPITAL WAY SOUTH
OLYMPIA, WA 98501

PREPARED BY:

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TACOMA, WASHINGTON 98403
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NOVEMBER 13, 2006

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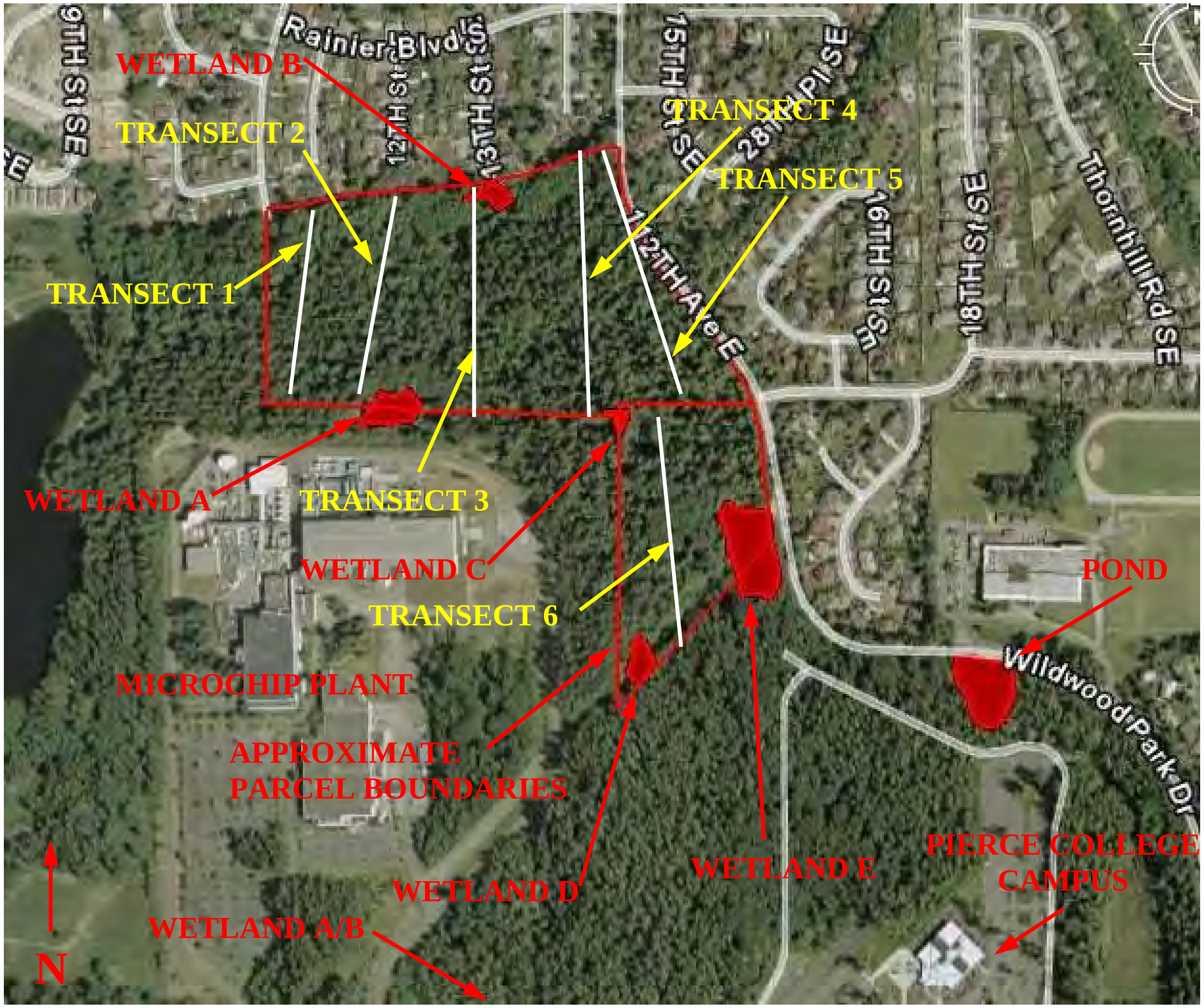
Figure 1. Wetland Reconnaissance Map



1. INTRODUCTION

Grette Associates, LLC has been contracted by MSGS Architects to perform a wetland reconnaissance and verification investigation of a 43.79-acre site located near Puyallup, Washington. The site is located north of the existing Pierce College – Puyallup campus, approximately ¾ mile east of Meridian Ave E and between Bradley Lake Park and Wildwood Park Drive. The site is in the center of the E ½ of Section 03, Township 19 North, Range 04 East W.M., within the City of Puyallup (Pierce County Parcel Nos. 0419031062, 0419034023). The investigations also included areas of Pierce County Parcel No. 041903418, which is immediately to the south of 0419034023 and also is part of the Pierce College campus, where features extended onto the former.

Grette Associates staff biologists visited the site on April 25, 2006 and conducted a transect survey of the site. The purpose of the investigation was to verify the presence and boundaries of previously delineated wetlands and to document any unidentified wetland areas. The wetlands encountered were not delineated according to US Army Corps of Engineers and Ecology standard methods. Wetland biologists used site topography, vegetation, hydrology, and soils to determine coarse boundaries which were flagged and surveyed during the investigations using a Trimble Pro-XR Differential Global Positioning System (dGPS) unit, as were transect endpoints (Figure 1).

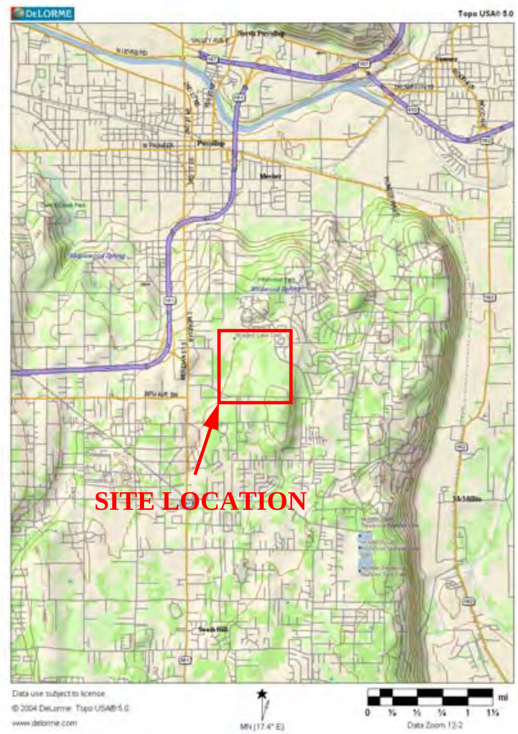
The goal of this work was to provide sufficient spatial and descriptive information to locate and categorize these wetlands for planning purposes for future site use. Complete wetland delineations will be required if development is proposed in or near the buffer areas determined in this report or according to current Puyallup Municipal Code (PMC) at that time. It also is recommended that categorizations be verified at that time using current data and categorization methods required by the City of Puyallup.

2. BASELINE INFORMATION

The site is approximately 43.79 acres in size, and is located west of Wildwood Park Drive between a residential neighborhood to the north and 39th Ave SE to the south. To access the site from Interstate 5 southbound, take Exit 127 to Highway 512 east. Take the Highway 161 (Meridian Ave) exit, and turn right onto Meridian Avenue. Turn left onto 37th Ave SE, which will become 39th Ave SE. Areas of the site may be accessed from the Pierce College Campus, Wildwood Park Drive, or the street ends to the south off of Rainier Boulevard S, which is accessed from Wildwood Park Drive at the north end of the site.

Figure 2. Area Vicinity Map.

Figure 3. Site Location Map.



Site Characteristics

The site is generally undeveloped, with the exceptions of an unpaved access road running from east to west along the 31st Ave E alignment, and a mowed pipeline right of way on the south property line of parcel 0419034023. Along much of the access road, a fenceline runs immediately south of the access road and delineates the Pierce College property from a property to the south.

North of the access road, the topography of the property is generally flat then sloping downhill toward the residential neighborhood to the north; it also gradually slopes uphill from west to east. There are two main vegetation assemblages in this area. Much of the vegetation north of the access road is characterized as an evergreen canopy dominated by Douglas fir with some western red cedar and few deciduous trees. The understory is composed of shrubs including evergreen huckleberry, salal, Indian plum, and vine maple, and groundcover consisting of sword fern, bracken fern and stinging nettle. Invasive species including Himalayan and trailing blackberry were observed in this assemblage.

Along the north property line, where the topography slopes downhill, the canopy is dominated by red alder and big leaf maple with few Douglas fir; the shrub understory is predominantly salmonberry, vine maple, and Indian plum. Groundcover includes bleeding heart, stinging nettle, and willow herb. Groundcover in areas of more open canopy includes grasses, particularly along the north property line, and includes some reed canary grass. Invasive blackberry species also are present in this assemblage.

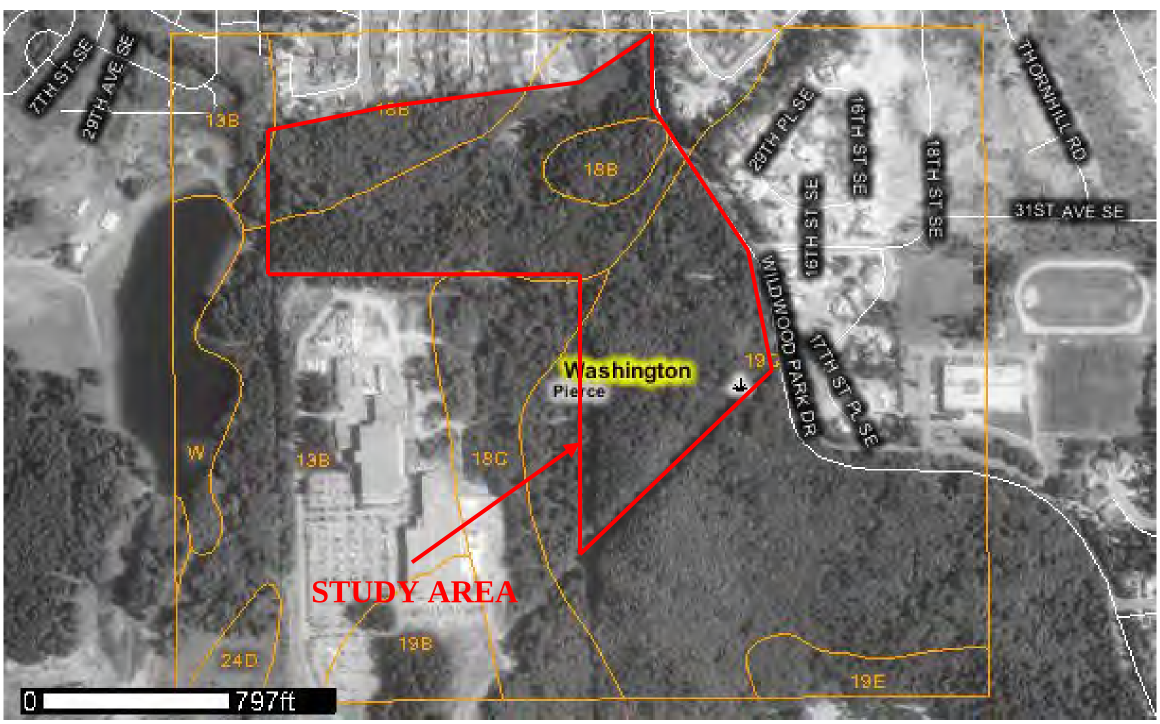
South of the access road, topography is generally flat, although it did slope gently downward to the south at approximately the pipeline right of way. The vegetation in this area is similar to the evergreen-dominated assemblage to the north of the access road and also includes relatively more hemlock and red elderberry. A maintained pipeline right of way marked the southern extent of the investigations; wetland areas that extended south of the right of way were flagged, but no additional transects were walked in this area.

Existing Information

Prior to the field investigations, several public resources were consulted to determine if previously identified wetlands exist on the site. These resources include the Natural Resource Conservation Service's (NRCS) Soil Survey of Pierce County, Washington, the U. S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI), and Pierce County's County Wetland Inventory (CWI). The information gathered from these resources is described below.

The NRCS's Soil Survey of Pierce County, Washington identifies three soil series present on the subject property (Zulauf 1979) (Figure 4). The three soil series identified on the site are Indianola loamy sand, Everett gravelly sandy loam, and Kapowsin gravelly loam. All three of these series are identified as ***not hydric*** on Pierce County's Hydric Soils List (NRCS 2001). Similarly, none of these soils are listed on the list of Hydric Soils of Washington (NRCS 1995).

Figure 4. NRCS Soil Survey Map.

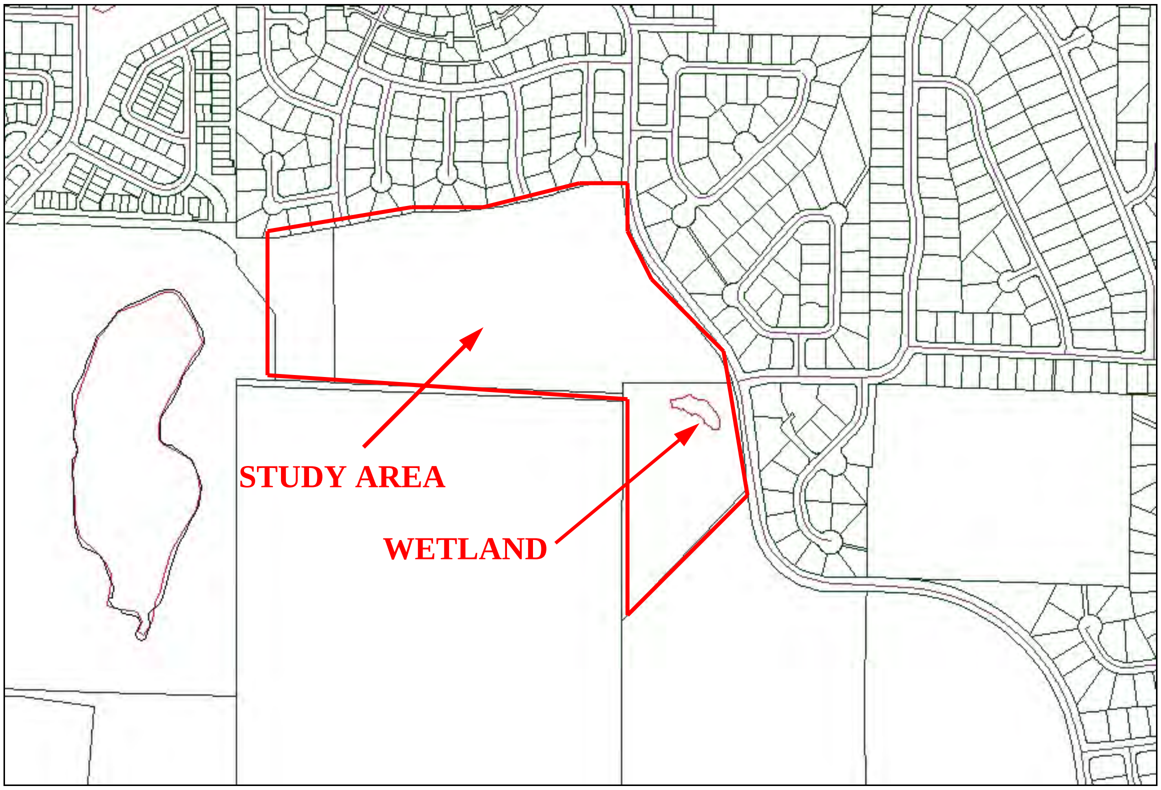


The USFWS's NWI database was queried to determine if previously identified wetlands occur on the site (USGS 2006). The NWI map identifies one wetland in this area, a palustrine forested seasonally flooded area immediately north of the pipeline right of way near Wildwood Park Drive (Figure 5). The NWI does not include polygons in the areas of known wetlands previously delineated on this property.

Figure 5. National Wetland Inventory map.

In addition to the NWI database, the Pierce County Wetlands Inventory (CWI) was queried to determine if previously-identified wetlands exist on or near the subject property. According to the CWI map, one wetland is identified within the Study Area (Figure 6). The wetland identified in the CWI generally corresponds to wetland area identified immediately north of the pipeline right of way near Wildwood Park Drive. As with the NWI above, the CWI does not include polygons in the areas of known wetlands previously delineated on this property.

Figure 6. Pierce County Wetland Inventory map



In addition to these wetland resources, both the Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species database and the Washington State Department of Natural Resources (WDNR) Natural Heritage Program were queried to determine if state or federally listed plant or animal species are present on the property. According to these databases, there are no such plant or animal species on the site. Furthermore, there are no natural heritage wetlands or high quality native ecosystems on the site.

3. METHODS

The access road along the 31st Ave S alignment was used a baseline for six north-south transects; five of which were to the north of the access road (transects 1-5) and one of which was south of the it (transect 6). The transects were spaced roughly 300- to 400-ft apart (Figure 1). The biologists walked each transect together looking for indicators of wetland areas based on vegetation, hydrology, and topographic features. When draws or other features were observed from transects, they were followed off of the transects to determine whether they supported wetland areas.

Wetlands identified were coarsely delineated with surveyor's flagging, and each flag was located with the dGPS unit. Each wetland was generally assessed for habitat attributes, vegetation community type and complexity, presence of priority species or habitats (as defined by the WDFW) and hydrologic characteristics. Based on this assessment, each wetland was categorized using the criteria in Section 21.06.810 of the PMC. Buffer width recommendations are as stated in Section 21.06.830 of the PMC.

4. RESULTS

Five wetland areas were identified during this effort, four of which had been previously delineated or flagged. There were no wetland areas located along transects 1, 2, 5, or 6. The wetlands range in approximate area from 2,400 to 38,900 square feet. Table 1 below summarizes the results of the wetland investigation.

Table 1. Pierce College – Puyallup Campus Wetland Summary.

Wetland	Approximate Size (Sq. Ft.)*	Previously Flagged	Category	PMC Buffer Width (Ft)
A	14,763	Yes	III	50
B	5,058	No	III	50
C	2,365	Yes	III	Not Regulated
D	9,774	Yes	III	50
E	38,870	Yes	III	50

*This is an approximate area based on the reconnaissance field flagging; precise wetlands areas would require a full delineation.

4.1 Wetland A

Wetland A is a large wetland area that had been previously delineated as Wetland A/B (Entranco 2003) was flagged adjacent to the access road between transects 1 and 2 (Figure 1). The verification generally agrees with the flagging from the previous delineation. Wetland A is approximately 14,763 square feet in size, and is classified as a Palustrine Scrub-Shrub, Seasonally Flooded wetland. Around the margins the canopy included red alder, pacific dogwood, black cottonwood, and western red cedar; but the majority of the wetland area was shrub-scrub vegetation including red-osier dogwood and salmonberry.

Wetland A is situated in a wide low spot and includes some standing water and areas of thick mud; there also are high spots due to decomposing fallen trees. Hydrology is likely supported from groundwater and runoff from the surrounding areas; there does not appear to be surface water flowing into or out of this area. High spots resulted in areas of drier vegetation including Indian plum and vine maple within the wetland area.

The wetland likely provides several important water quality functions such as filtration of pollutants from runoff originating from the property to the south, and trapping of sediment from the dirt access road running through the south portion of the wetland. However these functions are probably limited due to the location of the wetland within the landscape (the wetland is hydrologically isolated). The wetland also likely provides general wildlife habitat functions such foraging, cover, and nesting/breeding as it is part of a larger, relatively undisturbed forested corridor.

Based on the coarse assessment of wetland boundaries and characteristics observed in the field, Wetland A is a Category III wetland and would be subject to a 50-ft buffer under the current PMC.

4.2 Wetland B

Wetland B is the only wetland area that was not either previously flagged or delineated. It is located at the sloping south end of transect 3 adjacent to residential development and the street end for 13th Street SE, and is approximately 5,058 square feet (Figure 1). Wetland B is classified as a Palustrine Forested/Emergent, Seasonally Flooded wetland. The canopy on the hillside is primarily red alder with a grassy understory; there are also large black cottonwoods and Himalayan blackberry along the edges of the wetland near the street.

Wetland B is situated on a slope that flattens out at the north edge of the property. Hydrology appears to be supported by a seep that comes from the slope and collects in a wet swale at the street end. The swale leads west along the north property line, gradually dissipating approximately 50 feet west of the wetland edge.

The water quality functions provided by Wetland B are likely limited due to its relatively small size and lack of hydrologic connection to other surface waters. The wetland may filter small amounts of runoff from the residential areas to the north, however storm drains in these areas direct most stormwater runoff away from the wetland. Similarly, the wetland likely provides little wildlife habitat function because of its small size and close proximity to residential development.

Based on the coarse assessment of wetland boundaries and characteristics observed in the field, Wetland B is a Category III wetland and would be subject to a 50-ft buffer under the current PMC.

4.3 Wetland C

Wetland C is located at the northeast corner of the fenceline between the Pierce College property and the adjacent property (Figure 1). Wetland C is classified as a Palustrine Forested/Scrub-Shrub, Seasonally Flooded wetland. There was previous wetland flagging at this site, but it does not appear to correspond to any Entranco delineation reports. Wetland C is a approximately 2,365 square feet, which includes part of the access road/walking path. Vegetation is mostly mixed shrub, ferns, and emergent ground cover with a few red alder and western red cedar. Shrubs include salmonberry and red elderberry, ferns include sword fern and bracken fern, and emergent ground cover includes slough sedge, reed canary grass, and creeping buttercup.

Wetland C is located in a small depression, and hydrology appears to be supported by groundwater or runoff from adjacent areas. There does not appear to be water flowing into or out of this area. Much of the wetland is located on the access road/walking path and within the area disturbed to construct the fence.

As with Wetlands A and B, Wetland C is limited in its ability to provide water quality functions because of its relatively small size and hydrologic isolation. The buffer areas surrounding the wetland are densely vegetated and relatively flat, preventing the wetland from filtering out pollutants or trapping sediment from in-flowing runoff. The wetland likely provides general habitat to birds and small mammals, however a property line fence bisects the wetland and likely interrupts the movement of large mammals into and out of the wetland. Deer were observed during the investigation elsewhere on the site.

Based on the coarse assessment of wetland boundaries and characteristics observed in the field, Wetland C is a Category III wetland. As Wetland C is a Category III wetland less than 2,500 square feet in size, it is below the minimum size of wetlands regulated by the PMC and therefore no buffer is applied. However, as mentioned previously this size is based on a coarse determination and would need to be field delineated prior to extensive land use planning.

4.4 Wetland D

Wetland D is located at the south end of transect 6 (Figure 1). It spans the pipeline right of way and includes forested and shrub-scrub assemblages on either side of it. The portion of Wetland D within the study area (north of the pipeline right-of-way) is approximately 9,774 square feet in size. Wetland D is classified as a Palustrine Forested, Seasonally Flooded wetland. The portion of the wetland south of the right-of-way was investigated to gauge the accuracy of the previous delineation. The verification generally agrees with the flagging from the previous delineation in this area. The areas immediately on either side of the right of way include a red alder and big leaf maple canopy with understory dominated by red-osier dogwood, slough sedge, salmonberry and sparse common rush, which is more common at the far south end of the wetland. The right of way appears to undergo regular vegetation maintenance and is dominated by reed canary grass. There are a number of large snags at the far south end of the wetland near the parking lot retaining wall.

Wetland D is located in depression, and there are large areas of standing water on either side of the pipeline right of way. Hydrology appears to be supported by groundwater as well as runoff from adjacent areas. Water also enters the wetland from several culverts from the adjacent parking lot to the south.

Water quality functions provided by Wetland D likely include toxin removal, sediment trapping and erosion control, as stormwater from the adjacent parking lot appears to be directed into the wetland. Wetland D also likely provides a high degree of organic productivity due to its dense vegetation and highly stratified vegetative canopy, as well as offering a high degree of wildlife habitat, habitat connectivity and native plant diversity. Deer and deer sign were observed in this area.

Based on the coarse assessment of wetland boundaries and characteristics observed in the field, Wetland D is a Category III wetland and would be subject to a 50-ft buffer under the current PMC.

4.5 Wetland E

Wetland E is located at the east edge of the property adjacent to Wildwood Park Drive (Figure 1). It also extends to either side of the pipeline right of way and is approximately 38,870 square feet in size. The area south of the right of way was previously delineated as Wetland C (Entranco 2001). The verification generally agrees with flagging from the previous delineation in this area. The species composition is similar to Wetland D, although areas of dense willow were noted within the north portion of Wetland E. Wetland E is classified as a Palustrine Scrub-Shrub, Seasonally Flooded wetland.

Wetland E is located in depression. Hydrology appears to be supported by groundwater as well as runoff from Wildwood Park Drive and adjacent areas. There does not appear to be a surface water outlet from this area.

Wetland E likely provides toxin removal, sediment trapping and groundwater recharge functions, as stormwater runoff from Wildwood Park Drive likely enters the wetland and there is no surface water outlet from the wetland. Wetland E also likely provides a high degree of organic productivity due to its dense vegetation, as well as offering a high degree of wildlife habitat, habitat connectivity and native plant diversity.

Based on the coarse assessment of wetland boundaries and characteristics observed in the field, Wetland E is a Category III wetland and would be subject to a 50-ft buffer under the current PMC.

4.6 Pond

An existing pond is located immediately south of Wildwood Park Drive, southeast of the primary study area for this investigation (Figure 1). The pond is located opposite Wildwood Park Drive from the entrance to Ferrucci Junior High School, and is approximately 35,616 square feet in size (Entranco 2002).

The pond consists of a sparse canopy of young red alder and western red cedar over a dense understory of Scouler's and Hooker's willow, salmonberry and Himalayan blackberry. Small areas of open water are scattered throughout the wetland, as are numerous standing snags. Buffer vegetation around the perimeter if the pond includes big leaf maple, red alder, western red cedar and Indian plum.

Functions likely provided by the pond include pollution filtration, stormwater retention, groundwater recharge amphibian breeding, and general wildlife habitat. The pond does not contain a surface water outlet and is not contiguous with any other surface waters.

While the pond boundaries were not investigated, the characteristics observed in the field confirm that the pond is a Category III wetland and would be subject to a 50-ft buffer under the current PMC.

4.6 Wetland A/B

Wetland A/B was previously delineated in 2002 (Entranco 2002b). This Wetland A/B should not be confused with the wetland delineated in 2003 as "Wetland A/B", which is referred to in this investigation as Wetland A. Wetland A/B is located northwest of the maintenance building in the southwest corner of the campus (Figure 1, not shown). The wetland is approximately 13,978 square feet in size and is classified as a Palustrine Forested, Seasonally Flooded wetland.

The vegetation community consists of a canopy of large, mature red alder and sparse western red cedar over a shrub understory of primarily salmonberry. Emergent wetland species present are small-fruited bulrush and skunk cabbage. Buffer vegetation around the perimeter of the wetland consists of big leaf maple, red alder and Douglas fir over salmonberry.

According to the Entranco report (2002b), the wetland consists of two large depressions separated by a narrow upland berm. This characteristic indicates that the two depressions may have been created to function as a stormwater detention facility. Areas of open water are present beneath the forested canopy. While no specific culverts or drainages were observed entering the wetland, it is likely that stormwater from the parking areas and access roads is diverted into this area.

Wetland A/B likely performs several water quality functions such as stormwater retention, toxin filtration, sediment trapping, and groundwater recharge. Wildlife functions likely include large and small mammal foraging and cover, amphibian breeding, small bird and raptor nesting and foraging, and general habitat connectivity.

While the boundaries of Wetland A/B were not investigated, the characteristics observed in the field confirm that Wetland A/B is a Category III wetland and would be subject to a 50-ft buffer under the current PMC.

5. REFERENCES

Entranco, Inc. 2002a. Draft Wetland Delineation Report: Pierce College – Task 7. Prepared for Pierce College, February 27, 2002. Olympia, Washington.

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Zulauf, A.S. 1979. Soil Survey of Pierce County, Washington. United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources, and Washington State University, Agriculture Research Center. Washington, D.C.

9.11 SEPA Checklist

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:
Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants*:**
This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:
For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background

1. Name of proposed project, if applicable: Pierce College Puyallup Campus Master Plan Update

2. Name of applicant: Pierce College Puyallup

3. Address and phone number of applicant and contact person:

Applicant:
Sylvia James
Vice President Administrative Services
Pierce College
1601 39th Avenue SE
Puyallup, WA 98374
253-964-6510
sjames@pierce.ctc.edu

Contact Person:
Helen Stanton
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2215 North 30th Street, Suite 300
Tacoma, WA 98403
253-383-2422
hstanton@ahbl.com

4. Date checklist prepared: April 1, 2021

5. Agency requesting checklist: City of Puyallup

6. Proposed timing or schedule (including phasing, if applicable):
The proposed development covered in the Master Plan is for near-term development to occur within the next 1-10 years. Most developments are dependent on funding sources and opportunities as to when in this time frame they will occur. Near term development (1-10 Years) covered in the Master Plan includes: STEM building, Brouillet Library/Science Building renovation and expansion, surface parking expansion, new parking structure, Gaspard Administration Building remodel, Storage facility, Maintenance Shop expansion, reconfigure main entrance drive and transit loop, remove portable, Communication Center acquisition, Gender inclusive restrooms, Athletic Field development.

   The most immediate development within the Master Plan includes the STEM Building and the parking expansion. The STEM Building design phase will begin in May 2021 pending selection of the Design-Build team, phased construction is anticipated to start in May 2022 and be completed in the Summer of 2023. The surface parking expansion is scheduled for design, permitting, and construction beginning in Spring 2021.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
No, all currently anticipated projects are outlined in the proposed Master Plan.

8. List any environmental information you know about that has been prepared, or will be

prepared, directly related to this proposal.

- Traffic Impact Analysis, Prepared by Transportation Engineering NorthWest, January 2021
- Pierce College – Puyallup Campus Revised Wetland Reconnaissance and Verification Report, Prepared by Grette Associates, November 2006. No impacts to previous delineated wetlands are proposed through this Master Plan.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
To our knowledge, there are no other applications for governmental approval that directly cover the proposed site.

10. List any government approvals or permits that will be needed for your proposal, if known.
    - Land Use Permit – Modification to Master Plan from City of Puyalllup
    - SEPA Determination from City of Puyalllup
    - Site Development/Building Permits from City of Puyalllup
    - NPDES Permit from Department of Ecology

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)
The Pierce College Puyallup Campus currently has five main buildings; Gaspard Administration Building, Brouillet Library/Science Building, College Center Building, Arts and Allied Health Building, and the Health Education Center. These five buildings total 242,597 gross square feet. The College campus also has four smaller buildings; Maintenance Building, Portable Building, City of Puyallup Communication Center, and the Faculty Office Building. These four buildings total 13,207 gross square feet. The proposed projects within the Master Plan would expand the college campus by approximately an additional 77,700 SF. Cumulatively, this expansion would result in a total of approximately 333,504 SF of building area.
The proposed building developments included in the Master Plan includes
- A new three story STEM Building of approximately 54,433 SF
- Expansion of the Brouillet Library/Science Building by approximately 6,000 SF
- A new single story storage facility of approximately 8,000 SF
- Removal of the existing portable building
- Expansion of the Maintenance shop by approximately 1,600 SF
- New athletic fields and associated building facilities of approximately 10,460 SF

Also includes in the Master Plan is a new vertical parking structure of approximately 142,640 SF and surface parking expansions which will add approximately 203,281 SF of surface parking area.

Figure 1 – Pierce College Development Plan

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The site is located at 1601 – 39th Avenue Southeast in the City of Puyallup. Assessor's Tax Parcel Numbers: 041902-3011, 041902-3012, 041902-3013, 041903-1061, 041903-1062, 041903-4013, 041903-4018, 041903-4023.

Figure 2 - Vicinity Map

B. Environmental Elements

1. Earth

a. General description of the site:
(circle one): $\boxed{\text{Flat}}$, rolling, hilly, steep slopes, mountainous, other ___________

b. What is the steepest slope on the site (approximate percent slope)?
The site generally slopes gently upward from the northwest to the southeast. The steepest slope on the site is approximately 22 percent.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.
According to the US Department of Agriculture Natural Resource Conservation Web Soil Survey, the majority of the site is Everett very gravelly sandy loam and Indianola loamy sand with a small portion containing Kapowsin gravelly ashy loam.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.
There are no known indications of unstable soils.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.
Grading and filling may be necessary for construction of proposed improvements identified in the Master Plan. All fill will be from clean sources.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
Temporary erosion could occur during construction activities associated with grading, filling, and excavating. The site development permit will include a Temporary Erosion Control Plan that will include construction procedures and best management practices.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 25%.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
Construction activity will utilize Best Management Practices (BMP's) and stormwater management design criteria set forth in the City's adopted stormwater management manual. Proposed development will utilize stormwater BMP's such as inlet protection, silt fence, construction entrances, and a sediment pond.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Construction activities have the potential to create temporary dust emissions during earth-moving activities and exhaust emissions due to the combustion of gasoline and diesel fuels. Dust and exhaust emissions are expected to be minimal, localized, and temporary. After construction, emissions will be generated by vehicles accessing the site.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
Other than vehicle emissions from adjacent traffic, there is no source of off-site emissions that will affect the proposal.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
During construction, temporary measures will be applied where necessary, which may include limiting the idling of construction equipment, water sprays to control dust, limiting vehicle speeds, and general maintenance of construction equipment. Due to the large distance between construction areas and nearby uses, construction impacts will be less noticeable.

3. Water

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.
A 2006 Wetland Reconnaissance and Verification Report prepared by Grette Associates LLC identified five wetlands on the project site. The wetlands range in area from 2,400 square feet to 38,900 square feet.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.
Yes, work will be performed within 200 feet of wetlands that were established during approval of the previous Master Plan for Pierce College Puyallup. There will be no work within previously delineated wetland areas.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
No fill or dredge material will be placed in or removed from surface waters or wetlands.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
No surface water withdrawals or diversions are involved with the proposal.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
According to FEMA Firm Panel 53053C0342E, effective March 7, 2017, the property does not lie within a 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
No waste materials will be discharged to surface waters as a result of the proposal.

b. Ground Water:
   1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
      No groundwater will be withdrawn.

   2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
      The site is connected to sanitary sewer. No waste material will be discharged in to the ground.

c. Water runoff (including stormwater):
   1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
      Stormwater will be generated by the creation of new impervious surfaces (rooftops and paving) associated with the campus expansion activities identified in the Master Plan.

      Two new storm-water ponds are proposed as part of the Campus expansion. One is in the northwest corner of the project site adjacent to the proposed athletic field and the other north of College Way adjacent to the existing eastern parking area and proposed new parking lot near the proposed new STEM Building.

   2) Could waste materials enter ground or surface waters? If so, generally describe.
      It is not expected that waste materials will enter ground or surface waters.

   3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
      The proposal will not alter existing drainage patterns.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:
   All storm drainage treatment features will be designed to meet or exceed the City of Puyallup's surface water management requirements.

4. Plants

a. Check the types of vegetation found on the site:

_X___deciduous tree: **alder**, **maple**, aspen, other
_X___evergreen tree: **fir**, **cedar**, pine, other
_X___shrubs
_X___grass
_____pasture
_____crop or grain
_____orchards, vineyards or other permanent crops.
X____wet soil plants: cattail, **buttercup**, bullrush, skunk cabbage, other
_____water plants: water lily, eelgrass, milfoil, other

_____other types of vegetation

b. What kind and amount of vegetation will be removed or altered?
Approximately 5.6 acres of existing vegetation will be disturbed for the construction of the new buildings. A further 15.45 acres will be removed with future development of the athletic fields.

c. List threatened and endangered species known to be on or near the site.
To our knowledge, no threatened or endangered plant species are on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
New landscaping will utilize a mixture of native and ornamental plantings consistent with the landscape master plan (Appendix K of the Master Plan).

e. List all noxious weeds and invasive species known to be on or near the site.
Himalayan and trailback blackberry.

5. Animals

a. List any birds and <u>other</u> animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, **songbirds**, other:
mammals: deer, bear, elk, beaver, other: **Small mammals**
fish: bass, salmon, trout, herring, shellfish, other ____________

b. List any threatened and endangered species known to be on or near the site.
The Washington Department of Fish and Wildlife's Priority Habitat and Species (WDFW PHS) online mapping system was utilized to assess the presence of threatened and endangered species. There are no identified threatened or endangered animal species within the project site.

c. Is the site part of a migration route? If so, explain.
The site lies within the Pacific Flyway for Migratory Birds.

d. Proposed measures to preserve or enhance wildlife, if any:
No impacts are expected and no significant measures are proposed.

e. List any invasive animal species known to be on or near the site.
To our knowledge, no invasive animal species are on or near the site.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
New buildings will use electricity and natural gas to meet needs for heating, lighting, appliances, etc.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
   No, the potential use of solar energy will not be impacted.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
   The construction and operation of the proposed campus expansion will conform to applicable portions of the State of Washington Energy Code. Energy efficient methods will be used for the mechanical and lighting systems. The on-site lighting will include the use of LED fixtures.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.
   There is potential for construction equipment and personal vehicles to leak fuel, oil, or other fluids necessary to operate the equipment/vehicles. This risk is typical of construction activities and is minimal.

   1) Describe any known or possible contamination at the site from present or past uses.
      Washington Department of Ecology "What's In My Neighborhood" database identified two known contaminants within 0.5 miles of the project site.
      - Site Name: Air Products Manufacturing Corp, Cleanup Site ID: 5022, Status: No Further Action
      - Site Name: Microchip Technology Inc, Cleanup Site ID: 6308, Status: Cleanup Started

   2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
      There is a 60-foot wide gas easement right-of-way operated by El Paso Natural Gas Company which diagonally bisects parcel 041903-402-3. The El Paso Natural Gas Company is legally permitted to operate and maintain its pipeline within the easement. The El Paso Pipeline Group regularly maintains the right-of-way.

   3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
      Chemicals typical of construction activities including gasoline and diesel fuels for vehicle use. The laboratory associated with the STEM Building may include some chemicals in the storage and distribution of medical gases including oxygen and nitrous oxide.

   4) Describe special emergency services that might be required.
      The proposal will not require special emergency services beyond what is already available at the site.

   5) Proposed measures to reduce or control environmental health hazards, if any:
      Any soils contaminated by spills would be excavated and disposed of in a manner consistent with the level of contamination and in accordance with federal, state, and local regulatory requirements.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
The predominant noise in the area is from traffic on 39th Avenue Southeast and the 5th/7th Street Connector. The noise generated by these roads is not anticipated to have an impact on the proposed development at the campus.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.
Temporary, short-term noise impacts typical of construction projects will occur with operation of equipment during construction. Construction will normally occur between the hours of 7:00 a.m. and 6:00 p.m.

3) Proposed measures to reduce or control noise impacts, if any:
To mitigate general noise impacts during the clearing/grading, measures will include locating stationary equipment away from receiving properties, turning off idling construction equipment, requiring contractors to rigorously maintain all equipment, and training construction crews to avoid unnecessarily loud actions near residential areas will be employed.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.
The site is occupied by the existing Pierce Collage – Puyallup campus. Surrounding land uses are predominantly residential to the north and east, office uses to the west, and industrial and vacant last uses to the south. The site is bounded by 39th Avenue Southeast to the south and Wildwood Park Drive to the northeast.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?
To our knowledge the project site has not been used as working farmland or working forest lands. No agricultural or forest land will be converted.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:
No, the proposal will not impact any working farm or forest land operations.

c. Describe any structures on the site.
Administration Building: 42,920 sq. ft.
Arts and Allied Health Building: 61,597 sq. ft.
College Center Building: 60,880 sq. ft.
Garnero Child Development Center: 7,735 sq. ft.
Health Education Center: 16,636 sq. ft.
Library Sciences Building: 60,564 sq. ft.
Portable Faculty Office Building: 2,772 sq. ft.
Maintenance Building: 1,600 sq. ft.

911 Call Center: 1,100 sq. ft.

d. Will any structures be demolished? If so, what?
No structures are proposed to be demolished.

e. What is the current zoning classification of the site?
PF – Public Facilities

f. What is the current comprehensive plan designation of the site?
PF – Public Facilities

g. If applicable, what is the current shoreline master program designation of the site?
The site is not within a shoreline master program designated area.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
Yes, according to the wetland delineation included within the Master Plan most recently approved by the City, there are five on-site wetlands.

i. Approximately how many people would reside or work in the completed project?
Approximately 182 full time equivalent staff would work in the completed project.

j. Approximately how many people would the completed project displace?
The proposal will not displace any employees or residents.

k. Proposed measures to avoid or reduce displacement impacts, if any:
No special measures are proposed as no displacement impacts are expected.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
The proposed project includes the renovation of existing and construction of new facilities on the existing campus, therefore proposed uses are compatible with the existing use of the property. The existing college campus use is consistent with the City of Puyallup's Public Facilities Comprehensive Plan designation.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:
No special measures are required as no impacts will occur.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
The proposal does not include a housing component.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
Not applicable, the proposal would not eliminate any housing.

c. Proposed measures to reduce or control housing impacts, if any:
Not applicable, the proposal does not include a housing component.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
The tallest proposed structure is the new STEM Building. The building height for the proposed STEM building is 48 feet. The height of all other proposed structures at the campus site will not exceed the 50-foot height limit for the zone.

b. What views in the immediate vicinity would be altered or obstructed?
Views will not be significantly impacted by the proposed project. The new facilities at the campus site will be constructed within the interior of the site and there is significant vegetative screening surrounding the site, therefore views from adjacent properties are not anticipated to be impacted.

c. Proposed measures to reduce or control aesthetic impacts, if any:
Design features will be included to ensure consistency in design throughout the campus. Additionally, new buildings are set back from property lines and the public way and should not be readily visible from neighboring properties.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
The lighting master plan (Appendix J of the Master Plan) describes a wide variety of lighting fixtures for the site that include pole mounted, building mounted, and bollard or ground mounted. The lighting plan also shows intensity throughout the site.

Site lighting is intended to minimize light trespass and uses different optics within the fixtures to only illuminate areas where necessary to address safety and security on pathways, drive aisles, crosswalks, and within parking areas.

b. Could light or glare from the finished project be a safety hazard or interfere withviews?
No, it is not expected that lighting could pose a safety hazard or interfere with views. The shorter light fixtures used for pathway lighting and around the crosswalks have a low glare rating for pedestrian safety since they could be within the same line of sight for a driver. The parking lot light fixtures have a higher glare rating but are mounted to 28' so the light fixture glare is not in the same line of sight as pedestrians walking through the parking lot.

c. What existing off-site sources of light or glare may affect your proposal?
No off-site sources of light or glare will have an effect on the proposal.

d. Proposed measures to reduce or control light and glare impacts, if any:
All future lighting fixtures meet or will meet IES "full cutoff" requirements, which requires that no light is transmitted above the height of the fixture. Site lighting is intended to minimize light trespass and uses different optics within the fixtures to only illuminate areas where needed to address safety and security on pathways, drive isles, crosswalks and within parking lots.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?
The closest recreational uses to the proposed project site, include Bradley Lake Park, immediately south of the 5th/7th Street connector access drive and less than ¼ mile west of the campus. Other recreational uses within the immediate vicinity include Manorwood Park, located approximately ¼ mile east of the project site and Wildwood Park, located approximately ½ mile north of the project site.

b. Would the proposed project displace any existing recreational uses? If so, describe.
No recreational uses will be displaced.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
Athletic fields are proposed to be constructed in the northwest corner of the campus.

13. Historic and Cultural Preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.
The Washington State Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) online database identified multiple properties within 0. 5 miles are identified as having "no determination" and one site as having "determined eligible."

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.
The DAHP WISAARD did not identify evidence of historic, archeological, scientific, or cultural landmarks, or evidence of such on or within the vicinity of project site.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.
The proposal utilized the Washington Information System for Architectural and Archaeological Records Data (WISAARD) online database to assess potential impacts to cultural and historic resources on and near the proposal.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
No disturbance to cultural or historical resources is expected. The Washington State Department of Archaeology and Historic Preservation will be notified if any cultural or archeological objects are found during the site development work. If cultural or archaeological resources are found, then all site work will stop until Washington State Department of Archaeology and Historic Preservation provides guidance.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.
The site is currently accessed primarily from 39th Avenue Southeast along the southern boundary of the property. There is also a second access from the 5th/7th Street connection at the northwest corner of Bradley Lake Park.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?
There is one bus line directly serving the College (Pierce Transit Route 4). It is an 11-minute bus ride to the South Hill Mall Transit Center, where there is increased access to buses.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
The proposed parking expansion would see an addition of 112 parking spaces in a new parking lot sited north of the Health Education Center, an addition of 76 parking spaces in a new parking lot sited east of the Child Development Center, and an additional 16 parking spaces in the southeast corner of the site. A new vertical parking structure depicted in the western portion of the site will add approximately 500 additional parking spaces. No parking will be eliminated.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).
According to the Traffic Impact Analysis prepared by Transportation Engineering NorthWest (January 2021), the proposal is not require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
The proposal is not in the immediate vicinity of water, rail, or air transportation.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?
The Traffic Impact Analysis prepared by Transportation Engineering NorthWest in January 2021 shows the new weekday trips the proposed Pierce College Puyallup Campus expansion would generate during a typical weekday would be 1,438 (719 in and 719 out). Weekday morning peak hour new trips generated is projected to be 147 (113.2 in and 33.8 out). Weekday afternoon peak hour new trips generated is projected to be 132.1 (66 in and 66.1 out).

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.
This proposal will not impact, nor be impacted by, the movement of agricultural and forest products within the vicinity of the project site.

h. Proposed measures to reduce or control transportation impacts, if any:
The College will pay the required traffic impact fees set by the City of Puyallup under PMC 21.20.130.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.
The proposed development may result in an increased need for public safety services such as police and fire as student enrollment numbers increase with the College expansion.

b. Proposed measures to reduce or control direct impacts on public services, if any.
No special measures are proposed.

16. Utilities

a. Circle utilities currently available at the site:
electricity, **natural gas**, **water**, **refuse service**, **telephone**, **sanitary sewer**, septic system, other ____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.
Water Purveyor: City of Puyallup
Sewer Purveyor: City of Puyallup
Electricity: Puget Sound Energy
Natural Gas: Puget Sound Energy
Telephone: Centurylink Communications
Fire: East Pierce Fire and Rescue

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: HStanton

Name of Signee: Helen Stanton

Position and Agency/Organization: Land Use Planner, AHBL Inc

Date Submitted: April 30, 2021