

**FIRCREST CITY COUNCIL/PLANNING COMMISSION
SPECIAL MEETING AGENDA**

**TUESDAY, FEBRUARY 7, 2023
6:00 P.M.**

**COUNCIL CHAMBERS
FIRCREST CITY HALL, 115 RAMSDELL STREET**

- 1. Call to Order**
- 2. Pledge of Allegiance**
- 3. Roll Call**
- 4. Introductions**
- 5. [Comprehensive Plan Update](#)**
- 6. [Form-Based Code Discussion](#)**
- 7. [Mildred and 19th St Traffic Impact Discussion](#)**
- 8. Adjournment**

Join the Zoom:

Dial: 1 253 215 8782

Webinar ID: 857 7769 7009

Passcode: 8675309



Comprehensive Plan Update Engagement Discussion

Overview

The Washington State Growth Management Act (GMA) requires cities and towns in Pierce County to perform a “periodic review” and update their local comprehensive plans by December 2024. The City of Fircrest will plan for our future through this update to our comprehensive plan.

The Comprehensive Plan is intended to represent the long-range (20-year) goals and policies of the City of Fircrest. This relies heavily on public participation and input from community members. One of the pillars of the GMA is public participation. Specifically, RCW 36.70A.140 states in part...

“Comprehensive plans – Ensure public participation. Each county and city that is required or chooses to plan under RCW 36.70A.040 shall establish and broadly disseminate to the public a public participation program identifying procedures providing for early and continuous public participation in the development and amendment of comprehensive land use plans and development regulations implementing such plans. The procedures shall provide for broad dissemination of proposals and alternatives, opportunity for written comments, public meetings after effective notice, provision for open discussion, communication programs, information services, and consideration of and response to public comments. . . .”

City staff has drafted the PPP for the City's 2024 Periodic Update of the Comprehensive Plan. The PPP's purpose is to identify the scope of the proposed update when legislative action is expected, and how the public can participate or comment. It also describes the steps the City will take to provide opportunities for public engagement.

This Public Participation Plan (PPP) is intended to:

- Outline the methods and means by which the public can be involved in the 2024 Update Process.
- Ensure input and guidance are sought from a diverse base of participants, in a timely and effective matter, such that said input can be considered and incorporated into the 2024 Update.
- Continually ensure that elected and appointed officials, as well as staff, fully understand the community and stakeholder concerns and perspectives.
- Meet the public participation requirements of the GMA.

Your feedback will help inform the next draft of the PPP document. We hope you share your feedback. Here are some questions to consider as you review:

1. Are there any specific organizations/groups that City staff should engage with as community partners/interested parties?
2. Given the limited resources of local governments, what other tools or approaches, not currently listed in the draft Public Participation Plan, should the city consider for communicating and engaging with the public?
3. What questions or topics should City staff incorporate into future surveys?

Attachments

1. The City contracted with BHC Consultants to assist with the update. [The attached scope of work](#) details the steps that will happen along the way but to fully understand the community's priorities and goals, we must solicit feedback.
2. Attached to this summary is a [draft public participation plan](#). This plan would be posted on the project webpage.

Webpages/ Comment Forms

1. [2024 Comprehensive Plan Draft Webpage](#)
2. [Draft "Kick-off Survey"](#)
3. [Draft Comment Form](#)
4. [Subscribe to Future Emails Form.](#)

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Comprehensive Plan 2024 Periodic Update Public Participation Plan

Introduction

The City of Fircrest is conducting a periodic review of its [Comprehensive Plan](#) (Plan) as required by the Washington State [Growth Management Act](#) (GMA). The City is required to complete its update by December 30, 2024. The Plan, originally adopted in 1996 and last updated in 2020, is a long-range policy guide for how the City plans to manage growth and development over a twenty-year period. The GMA requires jurisdictions to periodically update their Plan and development regulations to bring them up to date with:

- changes to state law,
- land use changes, if any,
- population and employment growth projections, and
- housing projections.

The Comprehensive Plan guides City decisions related to community character; land use; housing; capital facilities and utilities; transportation, parks, open space, and recreation.

Public Participation Program Purpose

To ensure compliance, the Washington State Department of Commerce recommends local governments begin the periodic update process by adopting a Public Participation Plan. It would clearly identify the scope of the proposed update, when legislative action is expected, and how the public can participate or comment.

This Public Participation Plan provides members of the public opportunities for early and continuing participation and access to key decision-making processes with the City of Fircrest Planning Commission and the City of Fircrest City Council. [\[RCW 36.70A.035\]](#). The plan describes the steps the City will take to provide opportunities for public engagement, as well as the City's contact information and web addresses. This plan is in addition to the public participation required by applicable FMC Code Sections outlined in Title 22.

Public Participation Plan Goals

1. **Accessible participation:** Accessible participation seeks to provide low-barrier opportunities for all who wish to participate to have a say in the decision-making process. Depending on the status of the COVID-19 pandemic, events will be hosted either online and/or at community locations throughout the City. For online activities, both computer and phone options will be made available. Upon request, staff will coordinate translators at key project engagement events. Project communication could include social media, print, email, and online communication methods.

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2. **Meaningful participation:** Meaningful participation means the City will provide enough background and educational opportunities about the update project so that public participants have the information and tools they need to feel knowledgeable and informed about City processes, policies, and regulations. Meaningful participation means the City will provide opportunities to listen to its constituents and hear about their lived experiences. Meaningful participation means engagement opportunities will take place early in the project process, so there is time for discussion and learning to take place and have an impact on recommendations and decisions. Meaningful participation means that public feedback will be shared with the Planning Commission and City Council for their discussions on specific topics.
3. **Transparency and accountability:** Public engagement opportunities will distinguish between opportunities designed to provide information versus those that seek input and feedback on decision-making. Opportunities will be clearly defined and advertised where the public can provide timely input so that there is an opportunity to affect decisions. Staff will keep the project website updated with current information and use concise, plain, and easy-to-understand language. There will be an ongoing record of comments, along with an online mechanism to make this information available to the public. Being transparent and clear means the public can hold the City accountable in its process and decision-making.

Public Participation Tools

City of Fircrest staff will use a variety of outreach and engagement tools, tailored to the needs and opportunities during each phase of the update.

Outreach Tools:

Project webpage

City staff will maintain a webpage dedicated to the Plan update that includes draft documents; maps, the scope of work/schedule; meeting information; contact information; information on how to stay involved, and provide comments. [2024 Comprehensive Plan Update - City of Fircrest](#)

Social media

Submit posts on the City's social media page to provide information about open houses, public work sessions/hearings times and locations, and other key messages and notices.

Email notifications to interested parties

Maintain a list of interested members of the public and stakeholders who will be notified of meetings and other information related to the update process via email.

Legal notices

Publish legal notices in the paper of record identifying public hearing times, locations, and information on how to provide comments.

Engagement Tools:

Public meetings and open houses

City staff will hold public meetings and open houses to provide background information and receive comments and feedback from interested members of the public. Staff commits to hold both in-person,

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online, and/or hybrid meetings at convenient times. Additionally, staff will present material online to create an alternative for residents unable to attend in person. Notice of these meetings could be provided through methods such as a news release, email notification, project webpage, social media, and legal notices, as appropriate.

Surveys

City staff will use a series of surveys to collect feedback from the community on various topics related to the Plan update. City Staff plan to conduct multiple surveys.

1. “Kick-off Survey” to ask HOW people want to participate in the update process, and WHAT is important to them. The results of that survey will be incorporated into future communications and surveys.
2. Begin “formal” surveys on specific topics. All notices will be sent to the “2024 Periodic Email List”, posted to the website, and posted out via social media.

Public comments

Written comments will be accepted by mail or email throughout the update process. Comments may be made to: City of Fircrest Planning, 115 Ramsdell St, Fircrest, WA 98466, an [online comment form](#), or permits@Cityoffircrest.net. There will also be topic-specific comment periods during the update process to provide feedback on certain elements of the plan update. All comments received will be provided to the decision makers (Planning Commission and City Council) as part of their hearing packets on major decisions of the Plan update.

There is also an opportunity for providing oral testimony during public hearings. Information on how to provide oral testimony will be provided at the hearings.

Planning Commission meetings

City staff will hold a series of work sessions with the Planning Commission throughout the course of the Plan update. The Planning Commission is a five-member advisory board to the City Council on issues related to land use policy and land use changes. The Planning Commission typically meets on the first Tuesday of every month at 6:00 p.m. All meetings are currently in-person at Fircrest City Hall. All meetings are open to the public, recorded, and posted to the [Planning Commission’s webpage](#). Planning Commission hearings provide an opportunity for public testimony.

Notice of Planning Commission meetings could be provided through such methods as a news release, email notification, project webpage, social media, and legal notices, as appropriate.

City Council meetings

City staff will hold a series of Study Sessions and updates with the City Council throughout the course of the Plan update. Study Sessions are typically held on the third Monday of the month at 6:00 p.m. All meetings are currently hybrid, meaning attendees can join in person at Fircrest City Hall or by Zoom. All meetings are open to the public to watch and listen to. The Study Sessions are recorded and posted to the [council’s meeting page](#).

Council hearings will be scheduled as needed for key decisions throughout the Plan update process. Notice of these meetings could be provided through such methods as a news release, email notification, project webpage, social media, and legal notices, as appropriate. All meetings are open to the public in a hybrid format, recorded, and posted on the [council’s meeting page](#).

City of Fircrest Comprehensive Plan Update

I. Scope of Work

Overall Scope: Provide professional planning services necessary to complete the tasks outlined in the City's request for proposals, titled "revised Request for Proposals – Periodic review and Update of Comprehensive Plan and Development Regulations," which was due December 16, 2022. Consistent with BHC Consultants, LLC (BHC) Proposal, our work will be divided into tasks, as described in detail below. BHC will be the prime consultant for this project, while some work will be completed by subconsultant Transpo Group.

Task 1 - Project Management and Team Coordination

Work Tasks

1.1. Project Coordination over the Life of the Project.

- Check-In Calls with BHC, twice monthly
 - Date and time to be determined.
 - Includes preparation of an agenda and facilitation of check-in meetings and note-taking.
- Workflow Coordination and Quality Control
 - Project management of consultant team; tracking deliverable deadlines; reviewing work prior to submittal to the client.
 - Internal meetings between Prime and Subs
- Monthly Invoicing and Project Status Reporting.
 - Prepare invoices for fees and expenses and provide reporting on overall budget status, including current project billings, total project billings, and remaining project budget.

1.2. Project Start-Up.

- Virtual Kick-Off Briefing Session with Staff (March 2023).
 - Attend a virtual meeting with City staff (list to be defined in coordination with City staff)
 - Prepare a DRAFT of the project schedule to discuss with staff in this meeting
- Complete a Department of Commerce checklist including review of the Comprehensive Plan and Development Regulations
- Complete analysis of the County's Countywide Planning Policies and relevant PSRC accreditation checklist for Transportation.
- Prepare a schedule in coordination with staff. Schedule to include:
 - Public outreach plan schedule
 - Deliverable deadlines
 - Council and Commission briefings & Involvement
 - Research and drafting phase
 - Document template, compilation, and review
 - Commerce Notifications and PRSC Certification
 - SEPA
 - Adoption procedures

Deliverables

- Kick-Off Meeting with Staff in the first quarter of 2023.
- Completed Department of Commerce and PSRC Checklist(s)
- Gaps analysis with Countywide Planning Policies
- Work plan and calendar.

Assumptions

- Project timeline includes work from February 2023 through December 2024
- Meetings between BHC, City Staff, and sub will be held virtually unless otherwise noted.

Task 2 –Visioning and Public Outreach

Work Tasks

2.1. Public Outreach Plan

- Develop a detailed schedule of all engagement activities, list of events, and intended outcomes with City Staff.
- Identify key stakeholder groups, including but not limited to:
 - Stakeholders who have not been able to participate in community outreach in the past;
 - Organized stakeholders who will want early and continuous involvement;
 - Stakeholders who may have a particular interest in focused topics contained within the Comprehensive Plan.

2.2. Community Visioning Exercises and Outreach Events

- In-person kick-off presentation with BHC at a Planning Commission Meeting in the first quarter of 2023
- One visioning event with key stakeholders, including city staff, members of the public, and/or members of the Council, to be determined with staff.
- Three public open houses or public workshop events on Comp Plan topic areas. Visioning exercises could be included in earlier events, with later events focusing more on topic areas such as Housing, Land Use, or other topics of high community interest. Topics to be determined jointly with staff. Workshops facilitated by consultant team with assistance from City Staff.

OR

Three topical presentations to the Planning Commission, as directed by staff (schedule and topics to be determined, within budget allowances).

Deliverables

- Public Outreach Plan: memo
- Presentation and Memo to Planning Commission
- Outreach materials, and presence at outreach events, as appropriate.
- Updated and vetted community Vision Statement

Assumptions

- City Staff is available to assist with some of the outreach coordination and attendance
- City staff will help secure meeting venues and invite the public to attend events
- Some topic meetings may be held virtually to save on costs or if public health conditions require it

Exhibit A

- City Staff will provide public noticing of events and coordinate locations or rentals
- City staff will keep Planning Commission and City Council briefed on progress throughout the project

Task 3 – Draft Comprehensive Plan Chapters

Work Tasks

Consultant-Led Chapter Updates:

3.1 Chapters 1 and 2 Introduction, Community Character

- Update Chapters based on existing conditions report and community visioning.
- Existing Conditions Report
 - Collect data from Pierce County for the City boundary as well as for the City's assigned UGA and potential annexation areas.
 - Develop a demographic profile, market profile, and baseline fiscal analysis including:
 - Population characteristics (age, people living with disabilities or other special or health needs)
 - Household size, composition, and income
 - Educational attainment
 - Employment and Employment Income
 - Travel to Work
 - Assess climate vulnerabilities and opportunities for resilience

3.2 Chapter 3 Land Use Chapter and Land Capacity Analysis

- Perform Land Capacity Analysis to identify whether land use designations can accommodate expected growth in the planning time horizon.
- Incorporate community feedback and visioning into land use policies
- Review and update existing policies as necessary
- GIS mapping services, if needed, to update Future Land Use Map

3.3 Chapter 4: Housing

- Incorporate findings from housing needs assessment,
- Update housing goals and policies, consistent with State RCWs and reflective of community vision and needs
- Add graphics to identify various housing options.

3.4 Chapter 5: Transportation

- Collect and analyze updated traffic and safety data
- Prepare travel forecasts
- Assess multimodal needs
- Refine the long-term transportation capital project list

Exhibit A

- Audit existing transportation goals and policies, and ensure consistency with PSRC and Department of Commerce requirements
- Review and update existing policies as necessary.

3.5 Chapter 6: Parks and Recreation

- Review the existing PROS plan to determine whether any minor updates are needed to the parks inventory or facilities analysis or levels of service
- Update the goals and policies in the comprehensive plan element to guide a future update to the PROS plan, as needed, and to ensure compliance with Department of Commerce requirements.
- This update will not include providing cost estimates for any parks-related capital facilities identified, but the consultant team will work with City staff to integrate any available cost estimates into the Capital Facilities element.

3.4 Chapter 6 Capital Facilities

- Update to include a current 6-year capital facilities plan that supports the expenditures required for the chosen land use scenarios envisioned by the comprehensive plan.
- Confirm appropriate levels of service, assess deficiencies, and plan for needed repairs, upgrades, or new projects.
- Review existing goals and policies to ensure the element is consistent with Department of Commerce and PSRC requirements.

3.5 Chapter 7 Utilities

- Update to reflect any changes in growth forecasting used in the Land Use element
- Work with the City and local utility providers to understand available capacity and whether any gaps exist in capacity, given growth projections.
- Review and update goals and policies, as needed.

3.6 Chapter 8 Natural Environment and Climate Resilience

- Assessment of the City's adopted Critical Areas ordinance, flood hazard ordinance, and shoreline master program to see whether policies have been met.
- Identify policies no longer needed or supported by community vision
- Analyze element for consistency with recently adopted county, state, and federal policies to identify any new or revised policy needs.
- Audit likely threats and vulnerabilities due to climate change, as identified in Climate Vulnerability and assess the need (if any) for new goals and policies to be integrated into the Natural Environment Element
- Review and update policies as necessary to remain consistent with Department of Commerce guidance

Deliverables

- Existing Conditions Report and Summary of Resource Documents

Exhibit A

- Policy Gap Analysis, including GMA Comp Plan Update Checklist, PSRC Checklist
- Updated Comprehensive Plan Document Format
- Internal Staff review Drafts of Comprehensive Plan (consultant-led chapters) Chapters
- Public Review Draft of Complete Comprehensive Plan

Assumptions

- City to provide existing GIS layers for mapping needs

Task 4 – Environmental Review, Adoption, and Implementation

Work Tasks

4.1 Assessment of required Environmental Review

- Assessment of what level of environmental review will be needed based on the extent of proposed changes to land use designations and zoning designations considered in the Comprehensive Plan.

4.2 (Optional) Preparation of a SEPA Checklist and threshold determination

- Assuming an Environmental EIS (EIS) is not needed: preparation of an Environmental Checklist prior to determination of a determination of non-significance (DNS) or a mitigated determination of non-significance (MDNS).

Deliverables

- SEPA Environmental Checklist
- Threshold determination for the City to publish and distribute

Assumptions

- If an EIS is needed, BHC will advise the City on how to obtain outside consultant services

Task 5 – Identify Development Regulations for Revisions and Updates

Work Tasks

5.1 Land Use regulations audit

- Audit of the City's Municipal code, Titles 22 and 23 to identify any existing standards out of compliance with the GMA or Comprehensive Plan policies.
- Preparation of a memo that prioritizes these findings and proposes redlines so the City may phase future updates to development regulations as necessary.

Deliverables

- Land Use Regulations Memo: Future Updates and Redlines.

Assumptions

- City staff will assist with the prioritization of development regulations updates and assist with review and adoption of development regulation changes, if timing diverts from the Comprehensive Plan adoption schedule.

Task 6 – Adoption Assistance

Work Tasks

6.1 Public Hearings

- Attendance and presentation at up to four Public Hearings related to the recommendation or adoption of the Comprehensive Plan. This can be with the Planning Commission or City Council, based on staff direction.

Deliverables

- Final Adoption Draft of Comprehensive Plan
- Prepared presentation for public hearings

Assumptions

- Does not include Consultant attendance at additional hearings or appeals proceedings
- Does not include the preparation of final adoption ordinances or final staff report.

II. Tasks Not Included in this Scope

Based on our understanding of the scope of this project, we anticipate there may be additional technical analysis or policy development not identified in the City's RFP or the consultant team's Proposal. These tasks have not been included in this Scope of Work. If the City identifies these or any other tasks necessary to complete the Comprehensive Plan Update, a contract amendment will be necessary.

- Web hosting
- An Environmental Impact Statement.
- Preparation of new Best Available Science analysis specific to Fircrest (BAS review will be based on existing resources)
- Creating new or updated stormwater management regulations.
- Creating a new or updated Floodplain Management Program.
- Engineering Standards Update
- Creation of updated transportation or parks impact fees.



THE CITY OF FIRCREST

Planning and Building Department

Form-Based Code Expansion Discussion

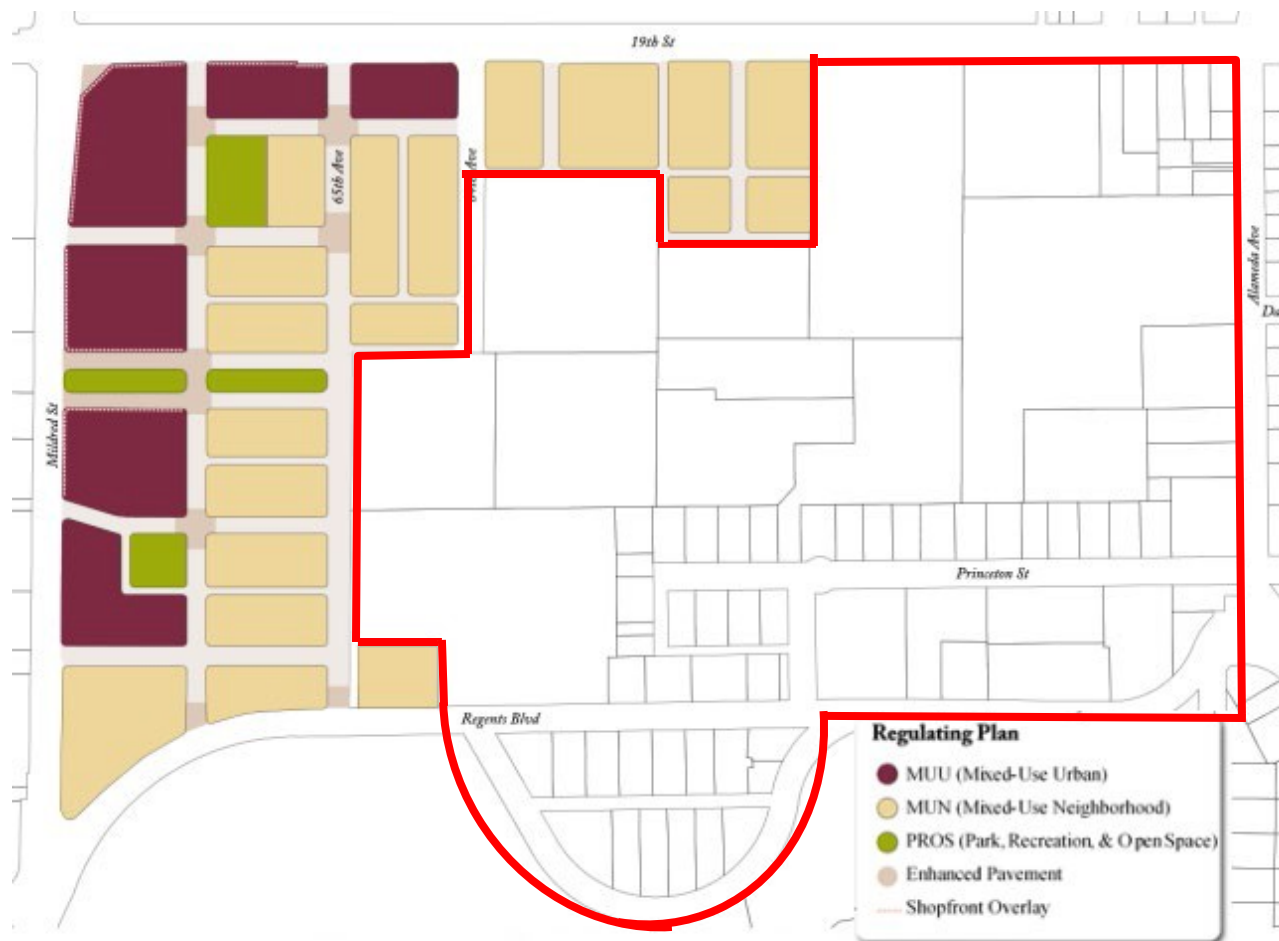
Overview

In December 2020, the City Council adopted the Form-Based Code (FBC) and related zoning code text and map amendments that apply to the 19th & Mildred Street area. .

The new regulations provide more flexibility as to the types of uses allowed compared to traditional zoning. In addition, the FBC establishes high standards for urban design, architecture, street design, and landscaping at the scale of neighborhood, block, lot, and building. The FBC places an increased focus on the design of the public realm – the public space defined by the exterior of buildings and the surrounding streets and open space.

In September 2021, Alliance Residential Company initiated discussions with Staff regarding a mixed-use development proposal for 2119 Mildred Street. This project is proceeding through the land-use review process with construction anticipated to begin during Summer 2023.

There has been discussion about expanding the Form-Based Code area east toward Alameda Ave and south towards the Regents Blvd/ Arondale Drive area. Areas subject to the FBC are shown as colored areas in the map below. This map also shows potential expansion areas.





As the map shows, there are several large parcels in the potential expansion area. These parcels could include Temple Baptist Church, 13 Colonies Townhomes, Fircrest Methodist Church, Fircrest Family Townhomes, Fircrest Regents Apartments, Redeemer Lutheran Church, the commercial spaces in Fircrest Town Center along Regents, and several residential properties along Regents Blvd, Princeton St, Alameda Ave, and Columbia Ave.

It may be beneficial to look at the expansion area as a potential growth opportunity. Concentrating growth and allowing a mix of housing types in the expansion area, would help the City to meet housing targets while maintaining the look and ‘feel’ of Fircrest in the majority of the community.

The purpose of the discussion for the joint meeting is to consider how the Comprehensive Plan update might explore expanding the FBC to cover some of these additional areas.

Some questions that may help spur a conversation are:

- Is the Council/ Commission open to the idea, generally?
- If so, would we want to include a potential expansion in the Comp Plan Update?

Mildred Traffic Impacts Discussion

Overview

In September 2021, Alliance Residential Company initiated discussions with Staff regarding a mixed-use development proposal for 2119 Mildred Street. This project is proceeding through the land-use process with construction anticipated to begin during Summer 2023.

As part of the application process, Alliance was required to obtain a traffic impact analysis (TIA).

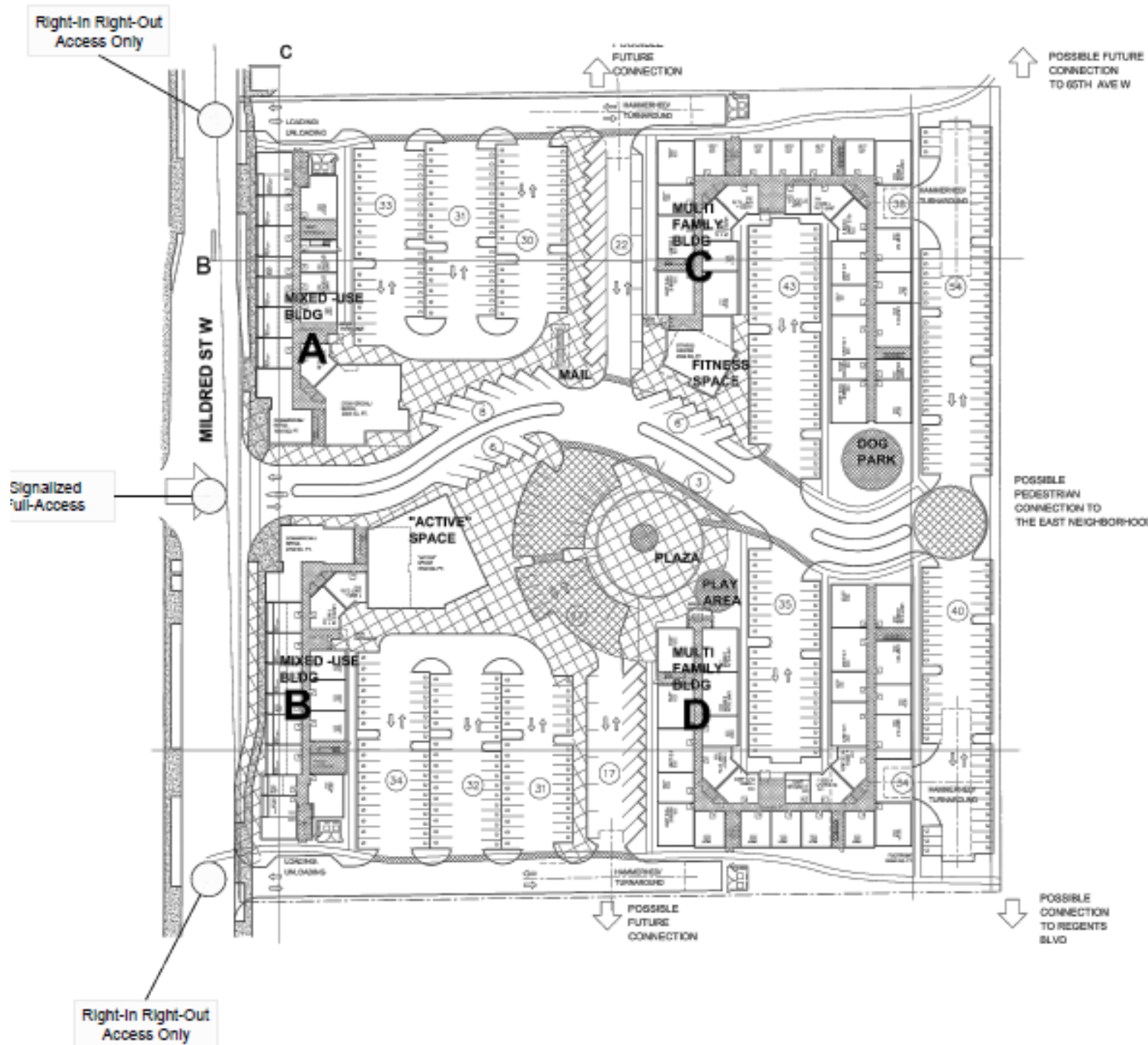
Local governments have a responsibility to ensure public health, safety, and welfare. For new development, redevelopment, and rezoning projects, these responsibilities are managed through various planning and engineering review processes, including the review of the potential “traffic, impacts”. Because new developments typically generate additional vehicle trips that will use public roads, a traffic impact study, commonly referred to as a TIS or TIA, is used to help determine the extent of these impacts. In general, a traffic impact study provides a review of:

- Existing conditions
- The proposed development, site access, and circulation
- Effects of new trips on roadways and intersections

For the proposed development on Mildred Street, a traffic impact analysis was submitted to the City of University Place as well as the City of Fircrest for review. Mildred Street is owned and controlled by University Place. Alliance has agreed to place a signal at the main project intersection on Mildred Street, which will be at 22nd Street West. Additionally, the secondary access points to the proposed project located to the north and south of 22nd Street West will be right-in/ right-out (RIRO). The signalization and the RIRO were requirements of University Place. (See Page 17 of the TIA.)

The maps and drawings on the following pages depict the area in relation to the proposed project. Some of these have been revised since publication of the TIA.

Attachments: [Traffic Impact Analysis](#)





Traffic Impact Analysis

FIRCREST PROSE

Prepared for:
Alliance Residential

January 2023

Prepared by:



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1.22165.00

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Introduction

This traffic impact analysis (TIA) identifies potential transportation-related impacts associated with the construction of a 395-unit multifamily residential development with 8,650 square feet of retail located in the City of Fircrest.

Project Description

The project is located east of Mildred Street W with 23rd St W to the south and S 19th Street approximately 0.1 miles to the north (see Figure 1). The project would develop 412 multifamily units with 12,000 square feet of retail space. The existing unoccupied warehouse would be demolished. Three vehicular access points on Mildred would be provided to the site. The north and south access points would be restricted to right-in/right-out movements through on-site features such as a pork chop/island. The center access, aligned with 22nd St W, would be signalized. A preliminary site plan is illustrated on Figure 2. The project is anticipated to be constructed and occupied by 2026.

Study Scope

While the project is located in the City of Fircrest, access and off-site impacts are primarily within the University Place jurisdiction. As such City of University Place staff was consulted as part of the preparation of this Traffic Impact Analysis. Based on this coordination, the following intersections were identified for analysis:

1. Mildred Street W/S 19th Street
2. Mildred Street W/22nd Street W
3. 67th Avenue W/Regents Boulevard W/24th Street W
4. Bridgeport Way W/27th Street W
5. 35th Street W/67th Avenue W
6. 40th Street W/67th Avenue W

In addition to the off-site intersections, the three proposed access points were evaluated under future (2026) with-project conditions.

The scope of the analysis includes analysis of existing and future conditions in the vicinity of the project site under weekday PM peak hour conditions. A review of the surrounding street system, transit service, non-motorized facilities, existing and future (2026) without-project weekday peak hour traffic volumes, traffic operations, and traffic safety are provided. Future (2026) with-project conditions were estimated by adding site-generated traffic to future without-project volumes. The project's impacts on the surrounding transportation system were identified by comparing the future with-project conditions to the future without-project conditions.



Site Vicinity & Study Intersections

Fircrest Prose

transpogroup 

FIGURE

1

Existing and Future Without-Project Conditions

This section describes existing condition within the identified study area. Characteristics are provided for the roadway network, non-motorized facilities, transit service, existing traffic volumes, traffic operations, and traffic safety.

Roadway Network

The following sections describe the existing street network within the vicinity of the proposed project and anticipated changes resulting from planned improvements.

Existing

The project site is in the City of Fircrest, with site accesses along Mildred Street W. The site lies south of S 19th Street, with the southernmost boundary approximately parallel to 23rd Street W. A description of the existing roadway network is shown on Table 1.

Table 1. Study Area Existing Roadway Network Summary

Roadway	Arterial Classification ¹	Posted Speed Limit (mph)	Number of Travel Lanes	Parking?	Sidewalks?	Bicycle Facilities?
S 19th Street	Principal Arterial	35	5	No	Yes	No
Mildred Street W	Minor Arterial	35	3-5 ²	No	Yes	Yes
24th Street W	Major Collector	25	2	No	No	No
27th Street W/Regents Boulevard	Minor Arterial	35	3	No	Yes	No
Bridgeport Way W	Principal Arterial	35	5	No	Yes	Yes
35th Street W	Major Collector	25	2	No	Yes	No
40th Street W	Principal Arterial	35	3	No	Yes	Yes

1. Arterial Classification comes from WSDOT

2. S Mildred St is a 3 lane road that widens to 5 lanes at some intersections to include designated turn lanes

Planned Improvements

Based on a review of the *City of University Place 2022-2027 Transportation Improvement Program* (TIP), seven planned improvements were identified within the vicinity of the study area that would impact the street network. Only two of the seven planned projects have secured some degree of funding at the time of this analysis. The following planned improvements were identified:

- **Mildred St/Regents Intersection Improvements (Project #1)** - Construction of intersection improvements at the intersection of 67th Avenue and Regents Boulevard. Project is projected to start in 2023 and last until 2026-2027.
- **27th St W Undergrounding (Project #2)** – Installation of underground utilities below 27th Street West between Grandview Drive and Bridgeport Way. Project is expected to start between 2026 and 2027.
- **67th Ave Phases 1-3 (Projects #11-13)** – Construct concrete curbs, gutters, and sidewalks on both sides of 67th Avenue between Regents Boulevard and 40th Street in phase 1, between Bridgeport Way and Cirque Drive in phase 2, and between Cirque Drive and 40th Street in phase 3. Phase 1 is projected for completion in 2022, phase 2 is expected to last between 2022 and 2024, and phase 3 is expected to begin in 2026. Some funding has been secured for phases 1 and 2.

- **40th Street Phase 3 (Project #14)** - – Construct concrete curbs, gutters, sidewalks, and bike lanes on the north side of 40th Street between 7200 block and 67th Avenue. Project is expected to begin between 2026 and 2027.
- **35th Street Improvements Phases 1-2 (Projects # 19-20)** – Construction of concrete curbs, gutters, sidewalks, and bike lanes on both sides of 35th Street between Bridgeport way and 67th Street during phase 1, and between Grandview Drive and Bridgeport Way during phase 2. Both phases have secured funding and are expected to be completed in 2023.
- **27th Street (Project #26)** – Construction of curb, gutter, sidewalks and bike lane on one side of 27th Street between Grandview Drive and city limits (67th Avenue/ S Mildred Street). Enclosed storm drainage will also be installed throughout the street. The project is expected to start between 2026 and 2027.
- **40th Street/67th Avenue Intersection (Project #43)** - Construction of intersection improvements at the intersection of 40th Street and 67th Avenue. Project is expected to start between 2026 and 2027.

While worth noting these improvements, no intersection improvements were identified by the City of Fircrest that would impact the operational characteristics of study area intersections.

Non-Motorized Facilities

Sidewalks are provided along Mildred Street W in the vicinity of the project site. Marked crosswalks with curb ramps are present at all 6 intersections in the study area. Bike lanes exist in both the north and south directions of the segment of Mildred Street W that borders the project site. The nearest signalized pedestrian and bicycle crossings occur to the north at S Mildred Street/S 19th Street, and to the south at Mildred Street W/Regents Boulevard/67th Avenue W.

In the future, as identified in the planned improvement section above, there are planned project to install sidewalks at the intersections of Mildred Street/Regents Boulevard, Bridgeport Way/27th Street, 67th Avenue/35th Street, and 67th Avenue/40th Street.

Transit Service

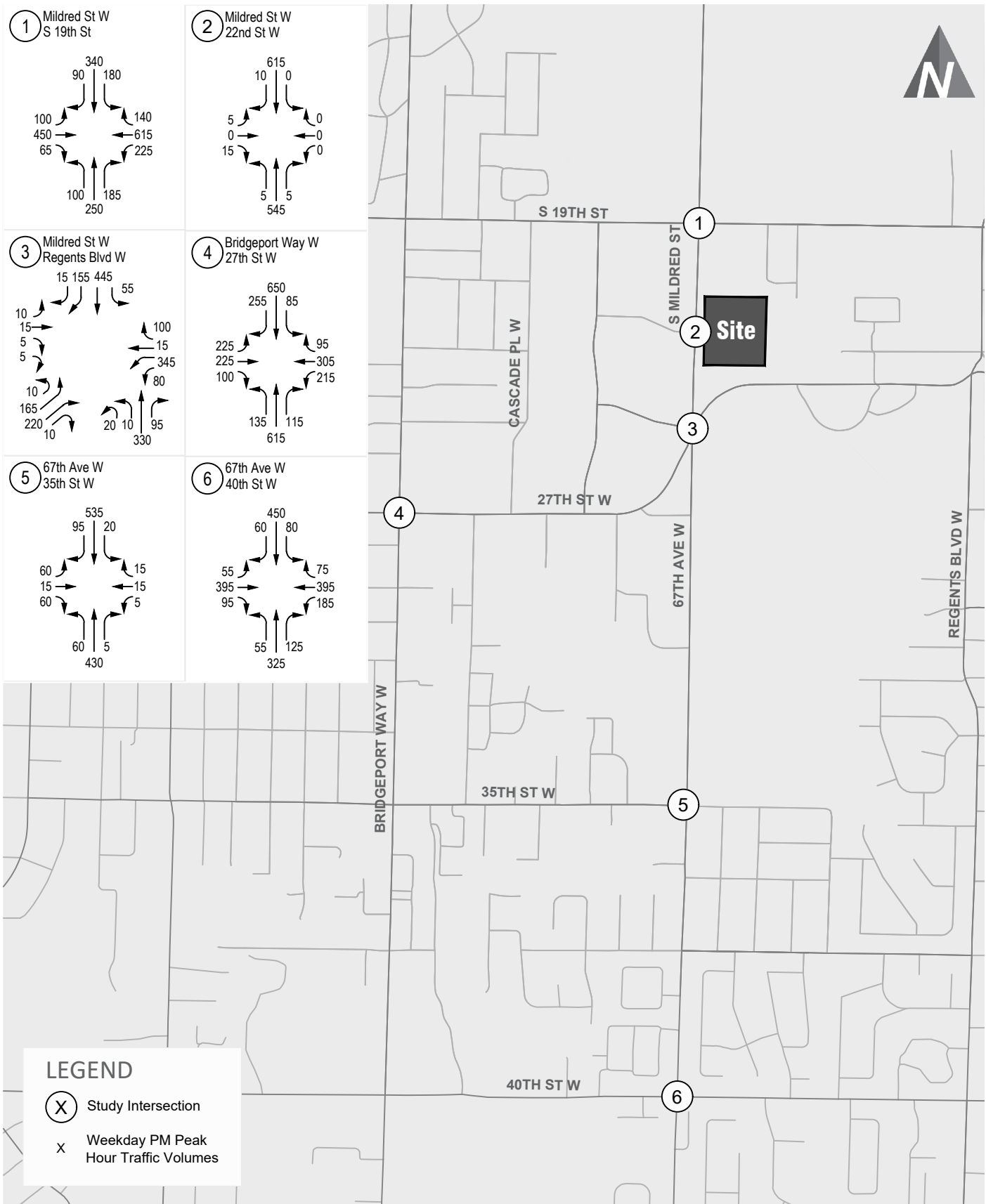
The closest transit stop to the site is located along S Mildred Street at the 22nd Street W intersection, immediately south of the existing site access. The stop is served by Pierce Transit's Route 53, providing service from Tacoma Community College to South Tacoma. This route has a designate transit-only lane on the south side of the intersection of S Mildred Street and S 19th Street. Pierce Transit's Routes 2 and 52 also run along streets designated in the study area.

Traffic Volumes

The following sections summarize existing and future (2026) without-project traffic volumes within the study area.

Existing

Existing weekday PM peak period (4-6 p.m.) traffic volumes were collected in June 2022 at the study intersections. The estimated existing weekday PM peak hour traffic volumes are shown on Figure 3. The traffic volumes were rounded to the nearest five vehicles to account for daily fluctuations. The detailed weekday PM peak hour traffic counts are included in Appendix A.



Existing Weekday Peak Hour Traffic Volumes

Fircrest Prose

transpogroup 

FIGURE

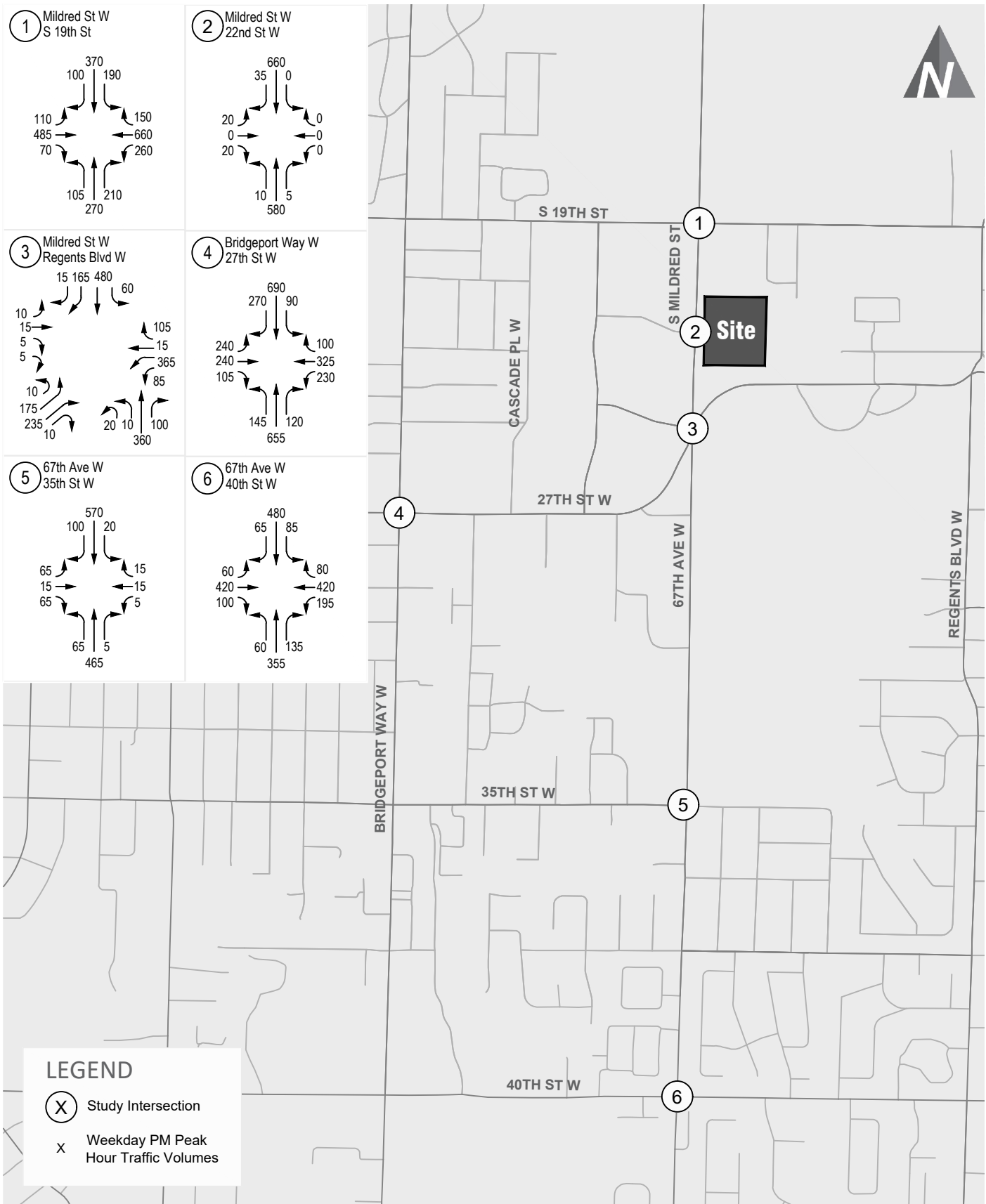
3

Future Without-Project Traffic Volumes

Future (2026) without-project traffic volumes were forecasted by applying an annual growth rate to existing traffic volumes and adding traffic from “pipeline” development projects that would also contribute traffic to study intersections. Consistent with the Traffic Impact Analysis completed for the project on the west side of Mildred Street W, an annual growth rate of 1.5 percent was applied to existing study intersection traffic volumes to estimate 2026 horizon year background traffic growth. In addition to the background growth rate, one pipeline project was identified to be completed by 2026 and is included in the analysis, based on coordination with City staff. The pipeline project is described below.

- **Narrow Urban Village:** *Up to 272 Multi-family dwelling units single family development located between 70th Avenue W and Mildred Street W. The development is bisected by 22nd Street W; providing a new intersection with Mildred Street W.*

The forecast future (2026) without-project weekday peak hour traffic volumes are shown on Figure 4.



Future (2026) Without-Project Weekday Peak Hour Traffic Volumes

FIGURE

Traffic Operations

The operational characteristics of an intersection are determined by calculating the intersection level of service (LOS). At unsignalized side-street, stop-controlled intersections, LOS is measured by the average delay on the worst movement of the intersection. Traffic operations and average vehicle delay can be described qualitatively with a range of levels of service (LOS A through LOS F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Appendix B contains a detailed explanation of LOS criteria and definitions.

Existing analysis parameters such as channelization were maintained for future (2026) without-project conditions. Weekday AM and PM peak hour traffic operations for existing and future (2026) without-project conditions were evaluated based on the procedures identified in the *Highway Capacity Manual* (HCM 6) using *Synchro 11*. *Synchro 11* is a software program that uses HCM methodology to evaluate intersection LOS and average vehicle delay. The intersections of S 19th Street/Mildred Street W and Mildred Street W/Regents Boulevard/67th Avenue W were evaluated based on HCM 2000 methodology due to the northbound transit queue jump and five-lane approach respectively. These two parameters are restricted by HCM 6th edition methodology, so HCM 2000 was used. Results for the existing and future without-project operations analyses are summarized in Table 2. Detailed LOS worksheets for each intersection analysis are included in Appendix C.

Table 2. Existing and Future (2026) Without-Project Weekday PM Peak Hour Level of Service

Intersections	Traffic Control ⁴	Existing			2026 Without-Project		
		LOS ¹	Delay ²	WM ³	LOS	Delay	WM
<u>PM Peak Hour</u>							
1. Mildred St W/S 19th St	Signal	D	35	-	D	37	-
2. Mildred St W/22nd St W	TWSC	C	17	EB	D	27	EB
3. Mildred St W/Regents Blvd	Signal	D	49	-	D	52	-
4. Bridgeport Way W/27th St W	Signal	B	18	-	B	19	-
5. 67th Ave W/35th St W	Signal	A	6	-	A	6	-
6. 67th Ave W/40th St W	Signal	C	28	-	C	33	-

Note: TWSC = two-way stop-controlled.

1. Level of service (LOS), based on *Highway Capacity Manual* 6th Edition methodology.

2. Average delay in seconds per vehicle.

3. Worst movement reported for unsignalized intersections where EB = eastbound

4. Existing traffic control

As shown in Table 2, all intersections operate at LOS D or better under existing and future (2026) without-project PM peak hour conditions, meeting the City's LOS D standard.

Traffic Safety

Collision data was obtained from the Washington State Department of Transportation (WSDOT) for the most recent three-year period for the study area intersections. Data was summarized between January 1, 2019 and December 31, 2021. A summary of the collision history at the study intersections is provided in Table 3.

Table 3. Three-Year Collision Summary – 2019 to 2021

Location	Number of Collisions			Total	Annual Average	Collisions per MEV ¹
	2019	2020	2021			
1. Mildred St W/S 19th St	5	4	9	18	6.00	0.60
2. Mildred St W/22nd St W	1	1	0	2	0.67	0.15
3. Mildred St W/Regents Blvd	6	0	4	10	3.33	0.47
4. Bridgeport Way W/27th St W	5	8	8	21	7.00	0.53
5. 67th Ave W/35th St W	2	1	2	5	1.67	0.35
6. 67th Ave W/40th St W	7	3	2	12	4.00	0.38

Source: WSDOT June 2022

1. MEV = Million Entering Vehicles

As shown in Table 3, annual averages ranged from 0.67 to 7 collisions per year at the study intersections. The majority of collisions resulted in property damage only and were the result of rear-end collisions or entering at an angle. There were no reported fatalities. There was one reported pedestrian related collision at the intersection of Bridgeport Way W/27th Street W in which a vehicle driving straight hit a pedestrian at night, resulting in an injury.

The number of collisions per million entering vehicles (MEV) was also reviewed for the study intersections. The collision rate is representative of the number of collisions per one million entering vehicles at each intersection. Intersections with a rate greater than 1.0 collisions per MEV are typically noted for further investigation to determine whether an adverse condition exists. As shown in Table 3, the highest collisions per MEV occurred at the intersection of Mildred Street W/S 19th Street with a value of 0.60. The collision summary indicates that there are no present safety concerns at the study intersections.

Project Impacts

The following sections summarize the proposed project's impacts on the surrounding street system. First, traffic volumes generated by the proposed project are estimated and then distributed and assigned to adjacent roadways within the study area. Next, project trips are added to future without-project traffic volumes and the potential impact to traffic operations are identified. Site-specific items are also discussed.

Trip Generation

Trip generation for the existing and proposed project was based on established trip rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). As previously noted, the project includes construction of 395 multifamily (low-rise) homes and 8,650 sf of retail space. For the proposed land uses, ITE's Multifamily (LU #221) and Strip Plaza Retail (< 40k) (LU #822) were used. ITE land use definitions for 821 & 822 note that specific uses in this category could include retail merchandising facilities, office space, restaurants, banks, and recreational facilities amongst others. Pass-by trips were evaluated for the retail use consistent with the *Trip Generation Manual*, which is calculated as 40% of the gross trips.

Table 4 shows the estimated weekday trips generated by the proposed project. The detailed trip generation calculations are included in Appendix E.

Table 4. Estimated Weekday Vehicle Trip Generation

Land Use ¹	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Proposed								
Multifamily (LU #221)	412 du	1,920	39	131	170	98	63	161
Retail (LU #822 ²)	12,000 sf	94	17	11	28	40	39	79
	<i>Less Pass-By</i>	<u>38</u>	<u>6</u>	<u>6</u>	<u>12</u>	<u>16</u>	<u>16</u>	<u>32</u>
Net New Trips		1,976	50	136	186	122	86	208

Note: du = dwelling units, sf = square feet

1. Average trip rates from ITE *Trip Generation Manual*, 11th Edition (2021).

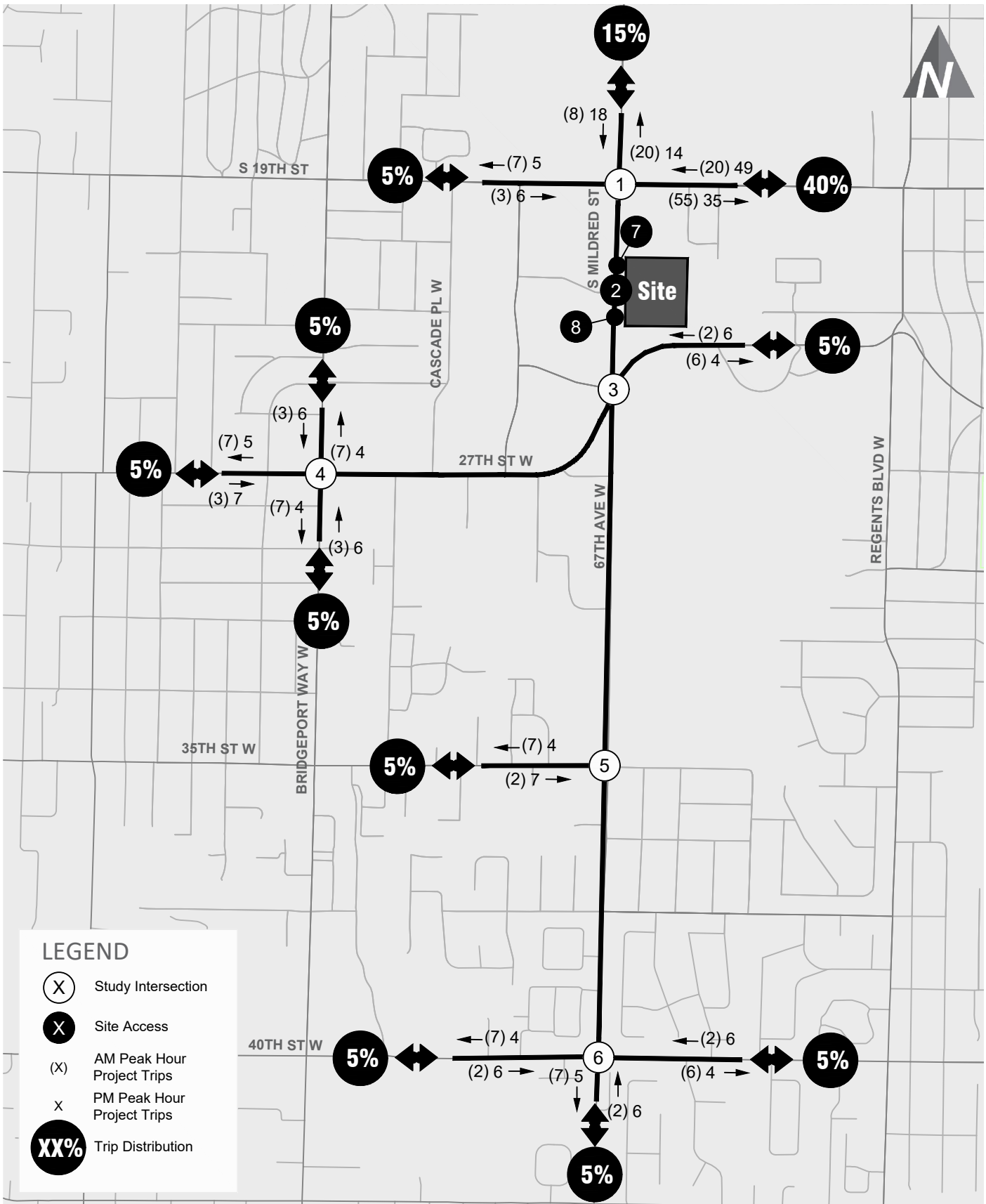
2. ITE Land use #822 – Strip Plaza Retail < 40k

As shown in Table 4, the proposed project is estimated to generate 1,976 weekday net new daily trips with 186 occurring in the weekday AM peak hour and 208 occurring in the PM peak hour.

Trip Distribution & Assignment

Trip distribution patterns for the proposed uses to and from the site were based on previous studies in the project vicinity, U.S. Census Bureau's *OnTheMap* tool, and were coordinated with City of University Place staff. *OnTheMap* is a web-based mapping and reporting application, which shows where workers are employed and where they live based on census data. The *OnTheMap* census data was translated to the number of people that live within a quarter-mile radius of the proposed project and where they work. The zip codes were evaluated to determine if a person would be more likely to travel to the zip code via vehicle or by other means. Trips to zip codes closer to the proposed project site or in more transit-oriented locations are more likely to use transit, walk, bike, or other non-SOV modes. The trip distribution for the proposed project is shown in Figure 5.

The net new peak hour project trips were assigned within the study area based on distribution for the proposed project and are shown in Figure 5. Note that the trip assignment considers the RIRO restrictions at the north and south site driveways.



Project Trip Distribution and Weekday Peak Hour Assignment

FIGURE

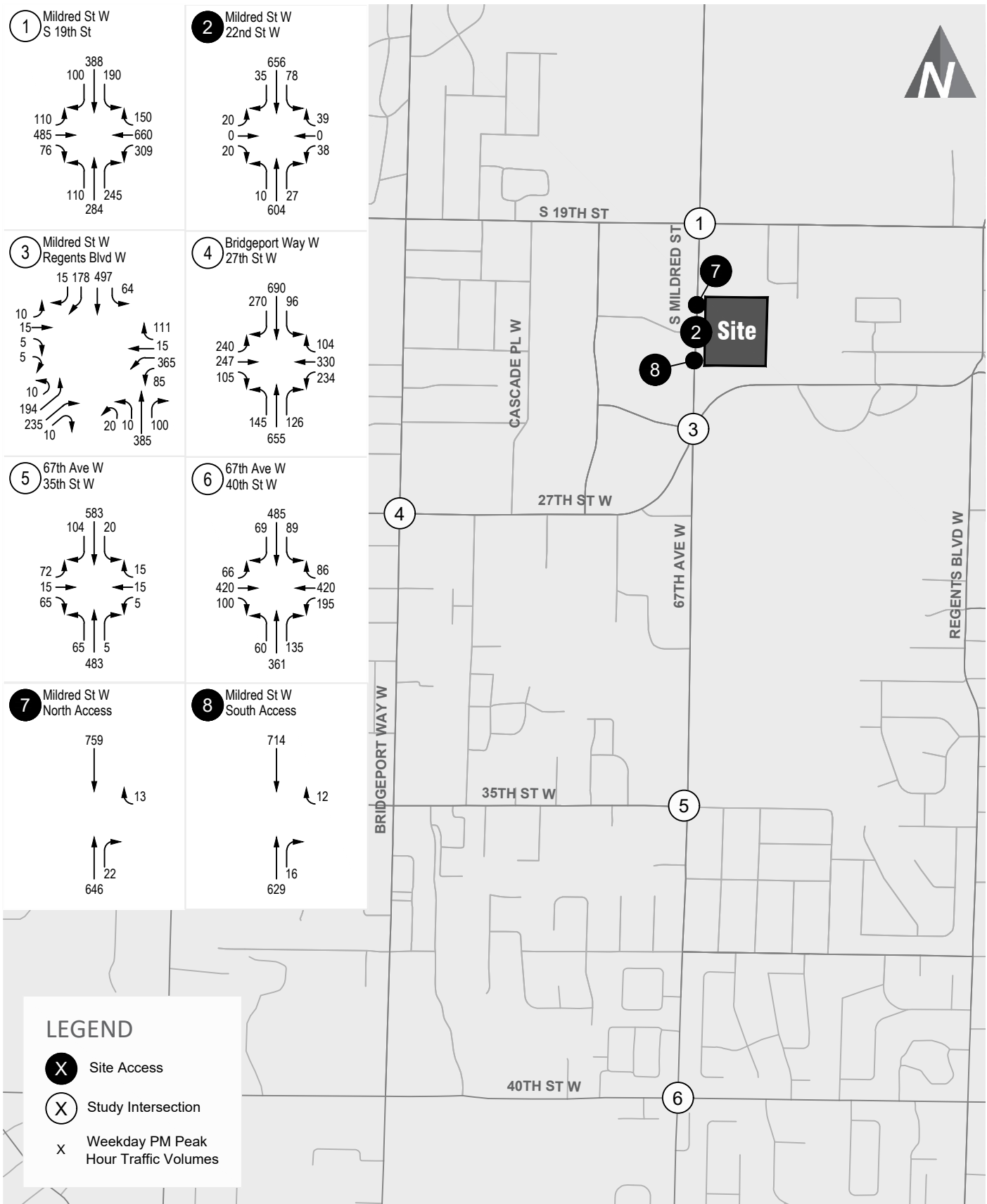
Traffic Volume Impact

Site-generated weekday peak hour traffic volumes were added to future without-project volumes at study intersections. The resulting future (2026) with-project peak hour traffic volumes are illustrated on Figure 6. 5 summarizes the anticipated increase in total entering traffic at the study intersections as well as the percent of future with-project traffic volumes attributable to the proposed project.

Table 5. Traffic Volume Impacts at Study Intersections

Intersection	Total Entering Vehicles			Percent Project Share
	2026 Without-Project	New Project Trips	2026 With-Project	
<u>Weekday PM Peak Hour</u>				
1. Mildred St W/S 19th St	2,980	127	3,107	4.1%
2. Mildred St W/22nd St W	1,330	197	1,527	12.9%
3. Mildred St W/Regents Blvd	2,245	84	2,329	3.6%
4. Bridgeport Way W/27th St W	3,210	32	3,242	1.0%
5. 67th Ave W/35th St W	1,405	42	1,447	2.9%
6. 67th Ave W/40th St W	2,455	31	2,486	1.2%

As shown in Table 5, the project generated traffic volumes are anticipated to be minimal (approximately 4 percent or less) at the study intersections under future conditions with the exception of Mildred Street W/22nd Street W, which will function as the primary site access with 12.9 percent project share of trips.



Future (2026) With-Project Weekday Peak Hour Traffic Volumes **FIGURE**

Traffic Operations Impact

A future (2026) with-project level of service analysis was conducted for the weekday peak hour to analyze traffic impacts of the proposed project. The same methodologies were applied as described for existing and future without-project conditions. All intersection parameters such as channelization and intersection control were consistent with those used in the evaluation of future without-project conditions. A comparison of future (2026) without-project and with-project weekday peak hour traffic operations is summarized in Table 6. Detailed LOS worksheets are provided in Appendix C.

Table 6. Future (2026) Without- and With-Project Weekday Peak Hour LOS Summary

Intersections	Traffic Control	2026 Without-Project			2026 With-Project		
		LOS ¹	Delay ²	WM	LOS	Delay	WM
<u>PM Peak Hour</u>							
1. Mildred St W/ S 19th St	Signal	D	37	-	D	39	-
3. Mildred St W/ Regents Blvd	Signal	D	52	-	D	54	-
4. Bridgeport Way W/ 27th St W	Signal	B	19	-	B	19	-
5. 67th Ave W/ 35th St W	Signal	A	6	-	A	6	-
6. 67th Ave W/ 40th St W	Signal	C	33	-	C	35	-
1. Level of service (LOS), based on <i>Highway Capacity Manual</i> 6th Edition methodology. 2. Average delay in seconds per vehicle.							

As shown in Table 6, under future with-project conditions, all intersections are forecast to operate at LOS D or better, meeting the City of University Place requirements.

Site Access Evaluation

As described above and shown on Figure 2, three vehicular accesses would be provided to the site via Mildred Street W located at the northern corner, central, and southern corner along the western frontage. The operations at the site access along Mildred Street W are reviewed below.

Traffic Operations

Weekday PM peak hour traffic operations were evaluated at the site accesses along Mildred Street W under future (2026) with-project conditions based on the same methodology as noted above for the off-site study intersections. The traffic operations are summarized in Table 7. Detailed LOS worksheets are provided in Appendix C.

Signalization at the Central Access was assumed, along with restriction of movements at the north and south site access points to RIRO only.

Table 7. Existing and Future (2026) Without-Project Weekday PM Peak Hour Level of Service

Intersections	Traffic Control	2026 With-Project		
		LOS ¹	Delay ²	WM ³
2. Mildred St W/22nd St W/Central Access	Signal	A	9	-
7. Mildred St W/North Access	TWSC	B	13	WB
8. Mildred St W/South Access	TWSC	B	13	WB
Note: TWSC = two-way stop-controlled. Note shading indicates intersection is operating below LOS D standard. ^{1.} Level of service (LOS), based on <i>Highway Capacity Manual</i> 6th Edition methodology. ^{2.} Average delay in seconds per vehicle. ^{3.} Worst movement reported for unsignalized intersections where EB = eastbound, WB = westbound.				

As shown in Table 7, all site access points are forecast to operate at LOS B or better, meeting the City of University Place LOS standard which is D.

Signalization of the central access point is proposed in order to provide improved access to areas south of the site. While the site plan includes provisions to connect to the future grid system north, south and east of the site, the timing of these connections are uncertain. As such, in the short term, all access to/from the site is provided via the access points along Mildred St. Several design alternatives were considered with respect to the north and south access points, but in order to address intersection spacing standards and eliminate conflicts with opposing driveways, RIRO restrictions were required by the City of University Place. While full access was considered at the central access point, the distribution of traffic to the south resulted in westbound left-turn operations that did not meet City of UP standards. Restriction of outbound left-turns was considered. However, given limited location to accommodate u-turns north of the site on Mildred, the signalization of the access point was determined to be the most appropriate solution.

Findings and Recommendations

This traffic impact study summarizes the project traffic impacts of the proposed Fircrest Prose mixed-use development. General findings and recommendations include:

- The proposed project, constructing 412 multifamily homes and 12,000 square feet of retail, is estimated to generate approximately 1,976 weekday net new daily trips with 186 occurring in the AM peak hour and 208 occurring in the PM peak hour.
- Project traffic would represent less than approximately 4 percent of the future (2026) weekday peak hour traffic volumes at the study intersections during the weekday PM peak hour with the exception of the main central site access, where it would represent 12.9 percent.
- Traffic operations at each intersection include:
 - All off-site intersections forecast to operate at LOS D or better under future (2026) with-project PM peak hour conditions, meeting the City of University Place standards.
 - All site access points are forecast to operate at LOS B or better under future (2026) with-project PM peak hour conditions, meeting the City of University Place standards. This is under the assumption that access at the northern and southern access points is restricted to right-in right-out movements, and the central access is signalized under with-project conditions.

Appendix A: Traffic Counts



ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

Location: 1 Mildred St W & S 19th St PM

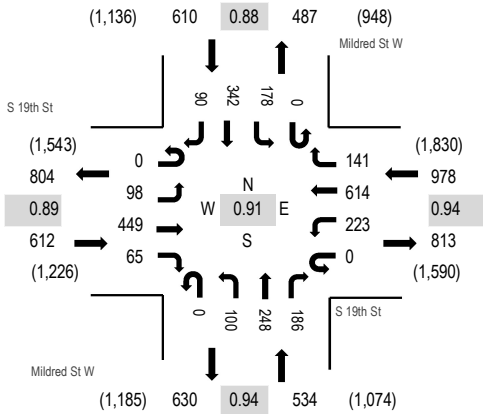
Date: Tuesday, June 14, 2022

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

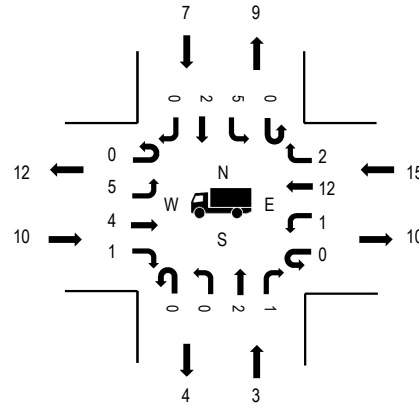
Peak Hour

Motorized Vehicles

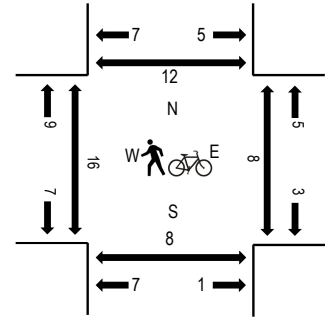


	HV%	PHF
EB	1.6%	0.89
WB	1.5%	0.94
NB	0.6%	0.94
SB	1.1%	0.88
All	1.3%	0.91

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	S 19th St Eastbound				S 19th St Westbound				Mildred St W Northbound				Mildred St W Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	24	113	18	0	46	143	32	0	26	63	44	0	39	79	25	652	2,622
4:15 PM	0	36	102	20	0	55	152	32	0	23	47	58	0	24	80	14	643	2,723
4:30 PM	0	23	112	9	0	62	148	30	0	27	64	56	0	36	71	22	660	2,734
4:45 PM	0	28	95	21	0	42	154	39	0	26	63	46	0	40	87	26	667	2,730
5:00 PM	0	30	132	15	0	61	159	39	0	24	70	47	0	58	102	16	753	2,644
5:15 PM	0	17	110	20	0	58	153	33	0	23	51	37	0	44	82	26	654	
5:30 PM	0	31	122	11	0	50	137	30	0	21	67	45	0	37	71	34	656	
5:45 PM	0	15	106	16	0	35	116	24	0	28	60	58	0	29	74	20	581	
Count Total	0	204	892	130	0	409	1,162	259	0	198	485	391	0	307	646	183	5,266	
Peak Hour	0	98	449	65	0	223	614	141	0	100	248	186	0	178	342	90	2,734	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	0	3	3	10	4:00 PM	0	0	0	0	0	4:00 PM	6	2	5	7	20
4:15 PM	3	1	5	1	10	4:15 PM	0	0	0	0	0	4:15 PM	2	0	0	2	4
4:30 PM	2	0	4	1	7	4:30 PM	0	1	0	1	2	4:30 PM	5	1	2	4	12
4:45 PM	4	2	4	2	12	4:45 PM	0	0	0	0	0	4:45 PM	7	2	4	5	18
5:00 PM	2	0	2	2	6	5:00 PM	0	0	0	0	0	5:00 PM	6	3	2	4	15
5:15 PM	2	1	5	2	10	5:15 PM	0	2	0	0	2	5:15 PM	0	6	0	0	6
5:30 PM	1	0	4	3	8	5:30 PM	0	0	0	0	0	5:30 PM	7	1	3	7	18
5:45 PM	2	2	1	2	7	5:45 PM	0	0	0	0	0	5:45 PM	2	2	0	4	8
Count Total	20	6	28	16	70	Count Total	0	3	0	1	4	Count Total	35	17	16	33	101
Peak Hour	10	3	15	7	35	Peak Hour	0	3	0	1	4	Peak Hour	18	12	8	13	51



ALL TRAFFIC DATA SERVICES

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Location: 2 Mildred St W & 22nd St W PM

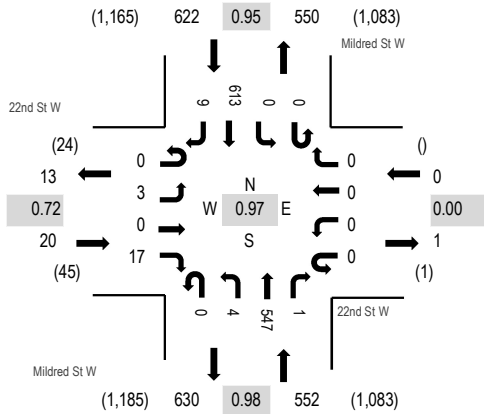
Date: Tuesday, June 14, 2022

Peak Hour: 04:15 PM - 05:15 PM

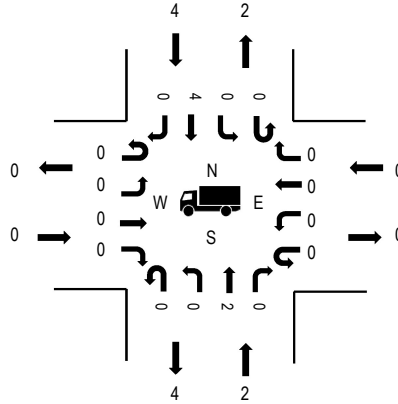
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour

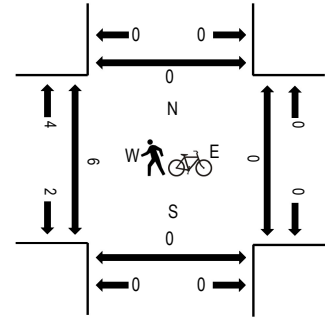
Motorized Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.72
WB	0.0%	0.00
NB	0.4%	0.98
SB	0.6%	0.95
All	0.5%	0.97

Traffic Counts - Motorized Vehicles

Interval Start Time	22nd St W Eastbound				22nd St W Westbound				Mildred St W Northbound				Mildred St W Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	1	0	6	0	0	0	0	0	1	137	0	0	0	126	2	273	1,160
4:15 PM	0	0	0	4	0	0	0	0	0	2	139	0	0	0	148	0	293	1,194
4:30 PM	0	2	0	6	0	0	0	0	0	1	135	1	0	0	144	4	293	1,177
4:45 PM	0	0	0	3	0	0	0	0	0	0	139	0	0	0	158	1	301	1,151
5:00 PM	0	1	0	4	0	0	0	0	0	1	134	0	0	0	163	4	307	1,133
5:15 PM	0	2	0	5	0	0	0	0	0	1	109	0	0	0	157	2	276	
5:30 PM	0	3	0	5	0	0	0	0	0	0	132	0	0	0	125	2	267	
5:45 PM	0	0	0	3	0	0	0	0	0	2	149	0	0	0	128	1	283	
Count Total	0	9	0	36	0	0	0	0	0	8	1,074	1	0	0	1,149	16	2,293	
Peak Hour	0	3	0	17	0	0	0	0	0	4	547	1	0	0	613	9	1,194	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	2	2	4:00 PM	0	0	0	0	0	4:00 PM	2	0	0	0	2
4:15 PM	0	1	0	1	2	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	2	0	0	0	2
4:45 PM	0	1	0	1	2	4:45 PM	0	0	0	0	0	4:45 PM	4	0	0	0	4
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	2	0	0	0	2
5:15 PM	0	1	0	1	2	5:15 PM	0	2	0	0	2	5:15 PM	1	0	0	0	1
5:30 PM	0	2	0	3	5	5:30 PM	0	0	0	0	0	5:30 PM	6	0	0	0	6
5:45 PM	0	2	0	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	0	7	0	10	17	Count Total	0	2	0	0	2	Count Total	17	0	0	0	17
Peak Hour	0	2	0	4	6	Peak Hour	0	0	0	0	0	Peak Hour	8	0	0	0	8

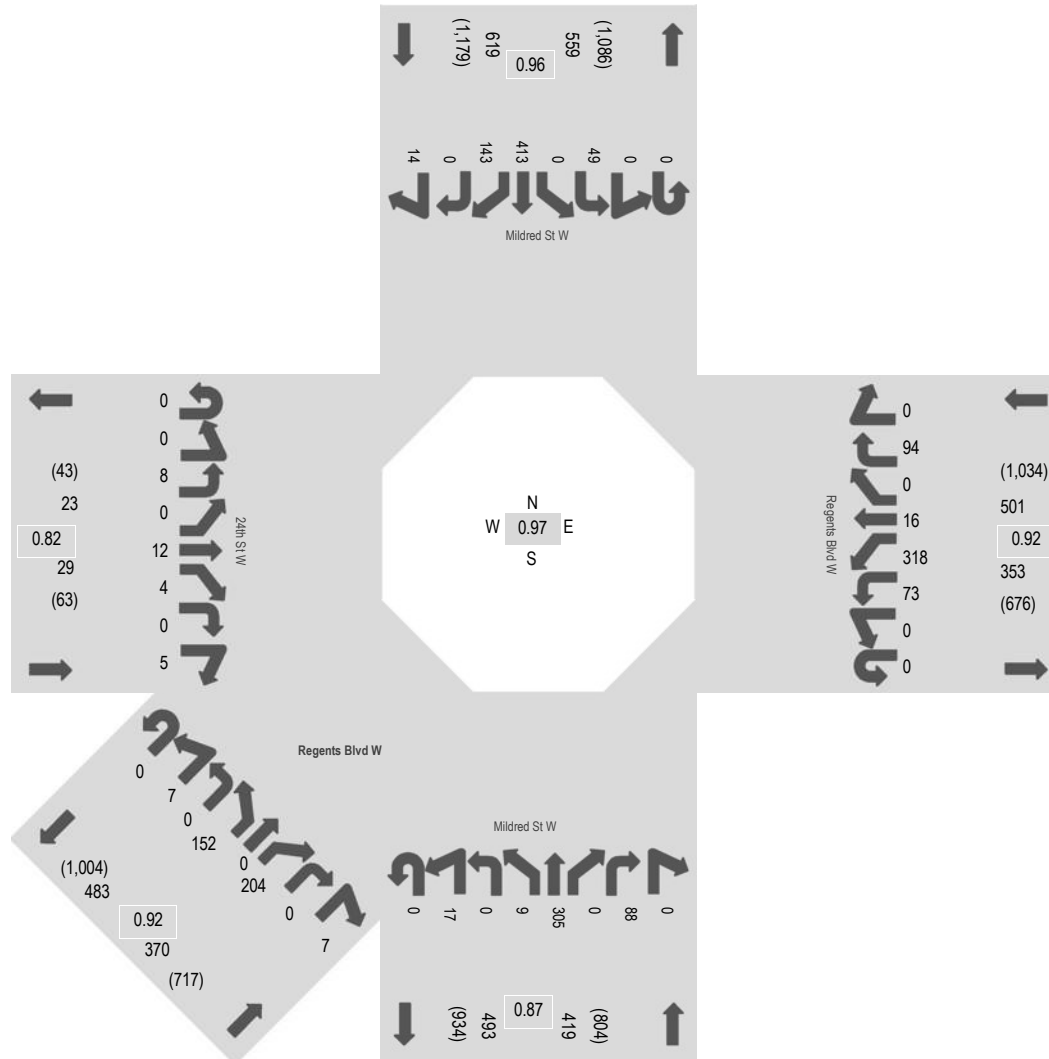
Location: 3 Mildred St W & Regents Blvd W PM

Date: Tuesday, June 14, 2022

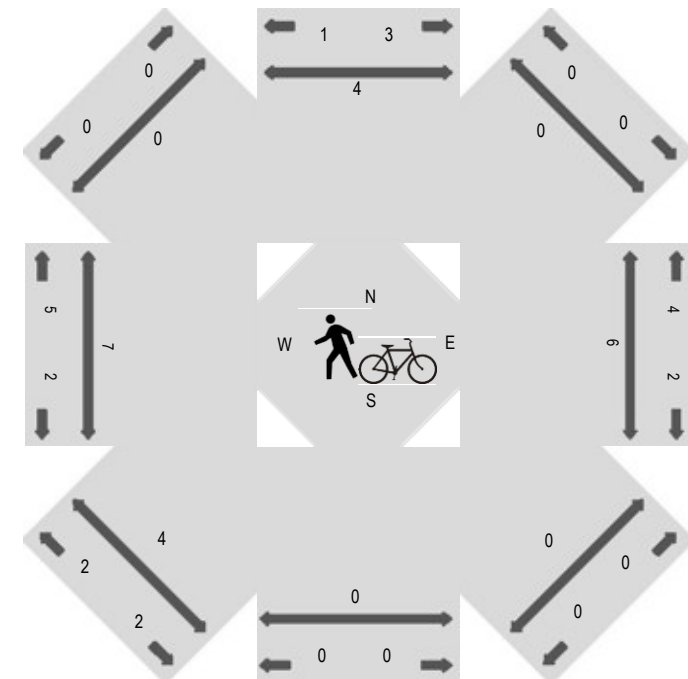
Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - Motorized Vehicles

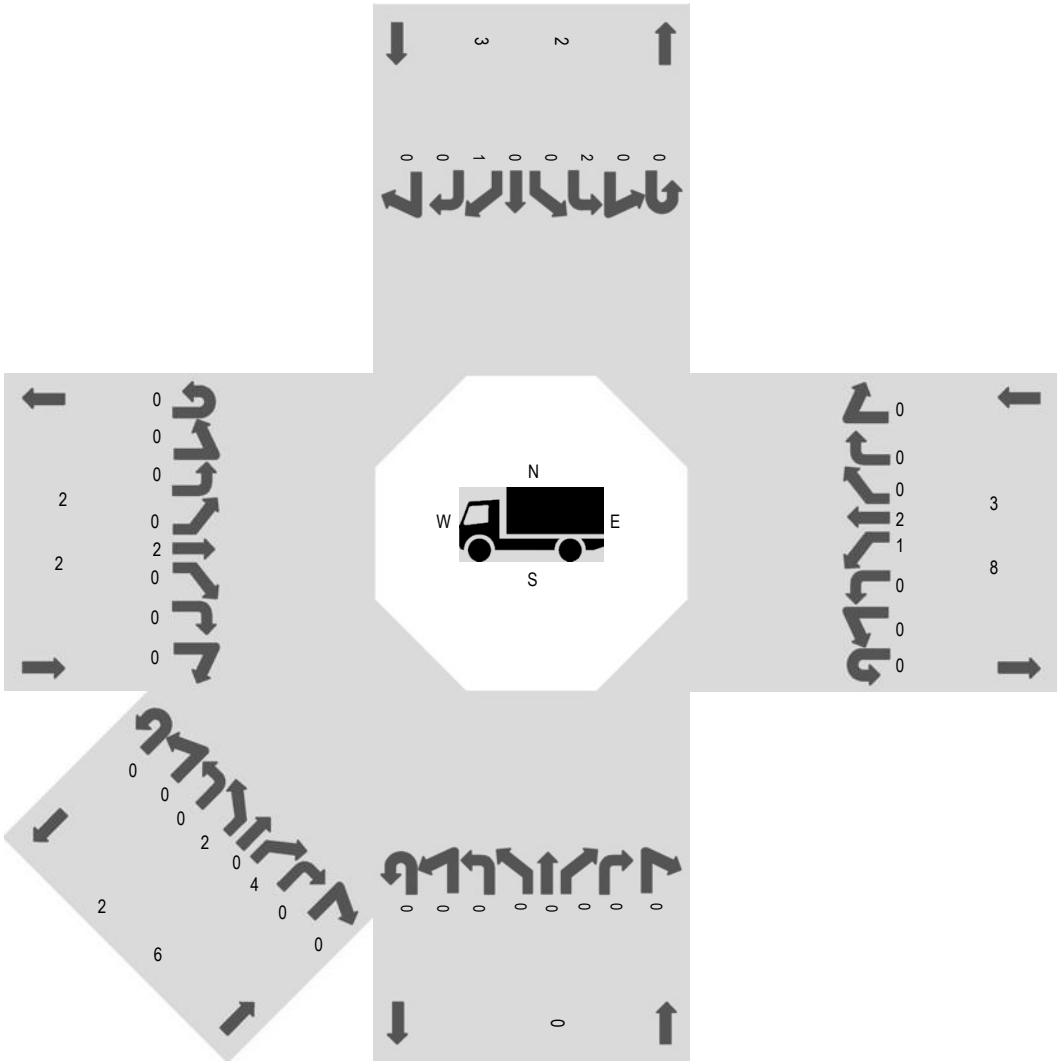


Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Peak Hour - Heavy Vehicles



	HV%	PHF
WB	0.6%	0.92
NWB	0.0%	0.00
NB	0.0%	0.87
NEB	1.6%	0.92
EB	6.9%	0.82
SEB	0.0%	0.00
SB	0.5%	0.96
SWB	0.0%	0.00
All	0.7%	0.97

Traffic Counts - Motorized Vehicles

Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
4:00 PM	0	0	19	82	4	0	23	0									0	3	0	0	70	0	19	0	0	1	0	44	0	52	0	0
4:15 PM	0	0	17	83	5	0	27	0									0	4	0	5	71	0	25	0	0	3	0	45	0	52	0	3
4:30 PM	0	0	16	86	5	0	21	0									0	4	0	3	80	0	34	0	0	3	0	36	0	52	0	3
4:45 PM	0	0	23	79	3	0	20	0									0	6	0	1	78	0	13	0	0	1	0	35	0	51	0	0
5:00 PM	0	0	17	70	3	0	26	0									0	3	0	0	76	0	16	0	0	0	0	36	0	49	0	1
5:15 PM	0	0	27	93	1	0	20	0									0	2	0	1	61	0	13	0	0	3	0	30	0	52	0	0
5:30 PM	0	0	25	87	4	0	21	0									0	6	0	0	75	0	16	0	0	1	0	30	0	45	0	0
5:45 PM	0	0	18	81	6	0	22	0									0	9	0	3	87	0	20	0	0	0	0	40	0	48	0	1
Count Total	0	0	162	661	31	0	180	0									0	37	0	13	598	0	156	0	0	12	0	296	0	401	0	8
Peak Hour	0	0	73	318	16	0	94	0									0	17	0	9	305	0	88	0	0	7	0	152	0	204	0	7

[illegible]

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles									Interval Start Time	Bicycles on Roadway									Interval Start Time	Pedestrians/Bicycles on Crosswalk								
	WB	NWB	NB	NEB	EB	SEB	SB	SWB	Total		WB	NWB	NB	NEB	EB	SEB	SB	SWB	Total		WB	NWB	NB	NEB	EB	SEB	SB	SWB	Total
4:00 PM	4	0	0	0	1	0	1	0	6	4:00 PM	0	0	0	0	0	0	0	0	0	4:00 PM	2	0	0	0	0	0	0	0	2
4:15 PM	2	0	0	2	1	0	1	0	6	4:15 PM	0	0	0	0	0	0	0	0	0	4:15 PM	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	2	0	0	0	0	2	4:30 PM	0	0	0	0	0	0	0	0	0	4:30 PM	0	0	0	0	0	0	2	0	2
4:45 PM	0	0	0	1	1	0	1	0	3	4:45 PM	0	0	0	0	0	0	0	0	0	4:45 PM	4	0	0	3	4	0	1	0	12
5:00 PM	1	0	0	1	0	0	1	0	3	5:00 PM	0	0	0	0	0	0	0	0	0	5:00 PM	2	0	0	1	3	0	0	0	6
5:15 PM	2	0	0	1	1	0	1	0	5	5:15 PM	0	0	2	0	0	0	0	0	2	5:15 PM	0	0	0	2	4	0	0	0	6
5:30 PM	3	0	1	1	0	0	3	0	8	5:30 PM	0	0	0	0	0	0	0	0	0	5:30 PM	0	0	0	1	2	0	0	0	3
5:45 PM	2	0	0	1	1	0	0	0	4	5:45 PM	0	0	0	0	0	0	0	0	0	5:45 PM	0	0	0	0	1	0	0	0	1
Count Total	14	0	1	9	5	0	8	0	37	Count Total	0	0	2	0	0	0	0	0	2	Count Total	8	0	0	7	14	0	4	0	33
Peak Hour	3	0	0	6	2	0	3	0	14	Peak Hour	0	0	0	0	0	0	0	0	0	Peak Hour	6	0	0	4	7	0	4	0	21



ALL TRAFFIC DATA SERVICES

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Location: 4 Bridgeport Way W & 27th St W PM

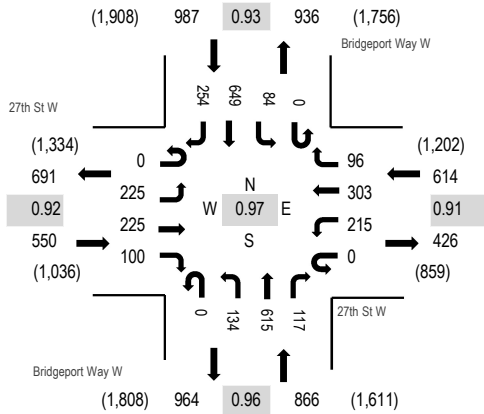
Date: Tuesday, June 14, 2022

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour

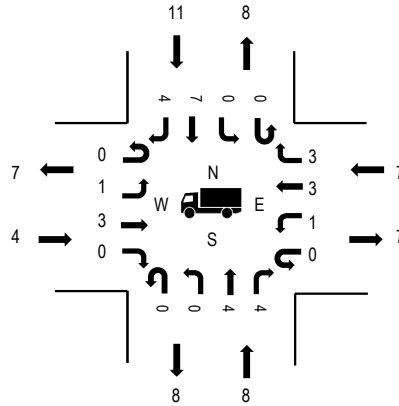
Motorized Vehicles



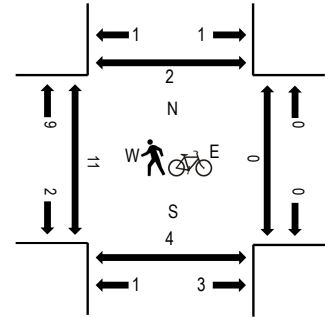
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.7%	0.92
WB	1.1%	0.91
NB	0.9%	0.96
SB	1.1%	0.93
All	1.0%	0.97

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	27th St W Eastbound				27th St W Westbound				Bridgeport Way W Northbound				Bridgeport Way W Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	42	51	19	0	34	86	34	2	31	125	23	0	23	155	56	681	2,906
4:15 PM	0	54	69	15	0	39	78	29	0	39	139	35	0	20	157	51	725	2,968
4:30 PM	0	63	56	31	0	44	74	29	0	40	142	32	0	22	154	54	741	3,017
4:45 PM	0	62	59	17	0	58	79	22	0	25	172	25	0	23	154	63	759	2,952
5:00 PM	0	51	46	27	0	56	62	21	0	31	172	26	0	23	167	61	743	2,851
5:15 PM	0	49	64	25	0	57	88	24	0	38	129	34	0	16	174	76	774	
5:30 PM	0	56	51	13	0	49	81	18	2	29	121	23	0	32	153	48	676	
5:45 PM	0	49	53	14	0	48	66	26	0	21	127	28	0	25	144	57	658	
Count Total	0	426	449	161	0	385	614	203	4	254	1,127	226	0	184	1,258	466	5,757	
Peak Hour	0	225	225	100	0	215	303	96	0	134	615	117	0	84	649	254	3,017	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	2	2	0	5	4:00 PM	1	0	0	0	1	4:00 PM	0	3	1	1	5
4:15 PM	3	1	0	3	7	4:15 PM	0	0	0	0	0	4:15 PM	5	1	1	5	12
4:30 PM	1	3	2	2	8	4:30 PM	0	0	0	0	0	4:30 PM	3	0	0	0	3
4:45 PM	2	2	2	2	8	4:45 PM	0	0	0	1	1	4:45 PM	1	2	0	0	3
5:00 PM	0	2	2	5	9	5:00 PM	1	0	0	1	2	5:00 PM	3	1	1	2	7
5:15 PM	1	1	1	2	5	5:15 PM	0	0	0	0	0	5:15 PM	4	1	0	2	7
5:30 PM	1	0	2	1	4	5:30 PM	0	0	0	0	0	5:30 PM	1	1	0	2	4
5:45 PM	2	1	0	1	4	5:45 PM	0	0	0	0	0	5:45 PM	0	3	0	5	8
Count Total	11	12	11	16	50	Count Total	2	0	0	2	4	Count Total	17	12	3	17	49
Peak Hour	4	8	7	11	30	Peak Hour	1	0	0	2	3	Peak Hour	11	4	1	4	20



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Location: 5 67th Ave W & 35th St W PM

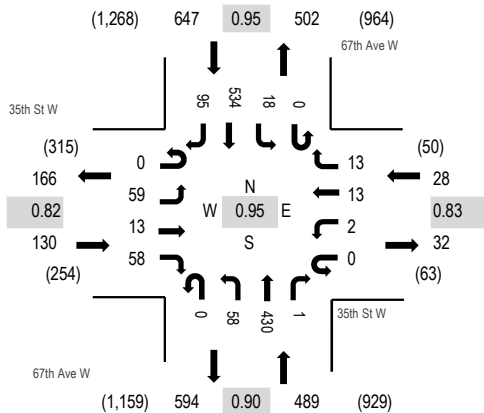
Date: Tuesday, June 14, 2022

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour

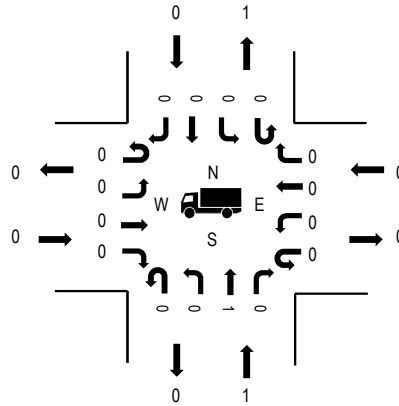
Motorized Vehicles



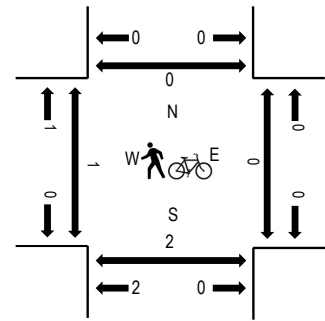
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.82
WB	0.0%	0.83
NB	0.2%	0.90
SB	0.0%	0.95
All	0.1%	0.95

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	35th St W Eastbound				35th St W Westbound				67th Ave W Northbound				67th Ave W Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	14	1	11	0	0	1	3	0	15	78	1	0	4	132	18	278	1,252
4:15 PM	0	16	3	17	0	1	1	5	0	20	115	1	0	4	129	27	339	1,294
4:30 PM	0	17	5	15	0	0	3	4	0	13	106	0	0	3	133	25	324	1,276
4:45 PM	0	15	3	16	0	0	4	2	0	12	105	0	0	8	131	15	311	1,264
5:00 PM	0	11	2	10	0	1	5	2	0	13	104	0	0	3	141	28	320	1,249
5:15 PM	0	19	4	18	0	0	1	8	0	8	89	0	0	3	147	24	321	
5:30 PM	0	14	2	11	0	0	2	2	0	12	115	0	1	4	129	20	312	
5:45 PM	0	9	8	13	0	0	2	3	0	15	107	0	0	4	104	31	296	
Count Total	0	115	28	111	0	2	19	29	0	108	819	2	1	33	1,046	188	2,501	
Peak Hour	0	59	13	58	0	2	13	13	0	58	430	1	0	18	534	95	1,294	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	2	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	1	0	0	1
4:30 PM	0	1	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	1	1	0	0	2
5:15 PM	0	0	0	0	0	5:15 PM	0	2	0	0	2	5:15 PM	2	0	0	1	3
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	1	0	0	0	1
Count Total	0	1	0	3	4	Count Total	0	2	0	0	2	Count Total	4	2	0	1	7
Peak Hour	0	1	0	0	1	Peak Hour	0	0	0	0	0	Peak Hour	1	2	0	0	3

Location: 6 67th Ave W & 40th St W PM

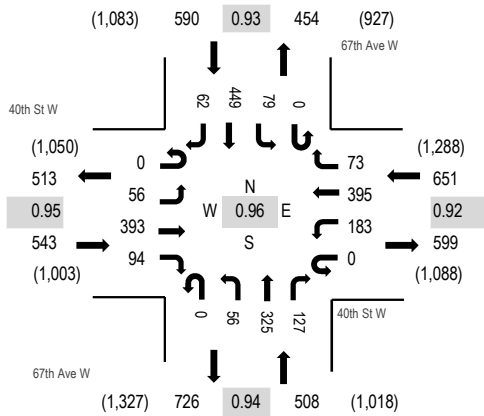
Date: Tuesday, June 14, 2022

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour

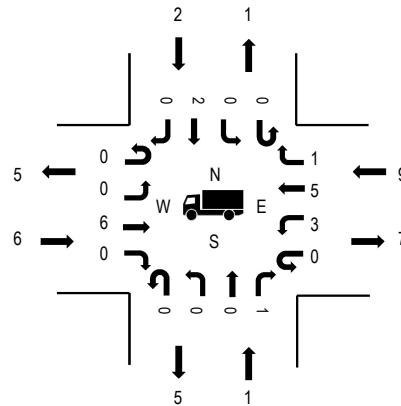
Motorized Vehicles



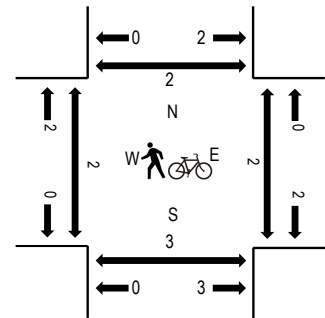
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.1%	0.95
WB	1.4%	0.92
NB	0.2%	0.94
SB	0.3%	0.93
All	0.8%	0.96

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	40th St W Eastbound				40th St W Westbound				67th Ave W Northbound				67th Ave W Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	18	72	19	0	33	100	13	0	15	87	20	0	20	99	13	509	2,199
4:15 PM	0	18	100	19	0	42	111	17	0	16	84	28	0	16	99	12	562	2,287
4:30 PM	0	9	97	20	0	53	89	20	0	12	91	35	0	22	110	6	564	2,292
4:45 PM	0	13	106	23	0	37	93	19	0	17	84	32	0	23	102	15	564	2,261
5:00 PM	0	21	102	22	0	50	114	17	0	11	77	29	0	18	120	16	597	2,193
5:15 PM	0	13	88	29	0	43	99	17	0	16	73	31	0	16	117	25	567	
5:30 PM	0	11	66	20	0	47	108	19	0	16	93	24	0	18	103	8	533	
5:45 PM	0	11	89	17	0	28	102	17	0	17	85	25	0	11	75	19	496	
Count Total	0	114	720	169	0	333	816	139	0	120	674	224	0	144	825	114	4,392	
Peak Hour	0	56	393	94	0	183	395	73	0	56	325	127	0	79	449	62	2,292	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	1	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	6	1	1	0	8	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:30 PM	3	0	4	1	8	4:30 PM	0	0	0	0	0	4:30 PM	0	0	1	0	1
4:45 PM	1	0	2	0	3	4:45 PM	0	0	0	0	0	4:45 PM	1	2	0	1	4
5:00 PM	0	1	1	0	2	5:00 PM	0	2	0	0	2	5:00 PM	1	1	0	1	3
5:15 PM	2	0	2	1	5	5:15 PM	0	0	0	0	0	5:15 PM	0	0	1	0	1
5:30 PM	1	0	2	1	4	5:30 PM	0	0	0	0	0	5:30 PM	2	0	1	2	5
5:45 PM	2	0	0	0	2	5:45 PM	0	0	0	0	0	5:45 PM	1	0	0	0	1
Count Total	15	2	13	4	34	Count Total	0	2	0	0	2	Count Total	5	3	3	5	16
Peak Hour	6	1	9	2	18	Peak Hour	0	2	0	0	2	Peak Hour	2	3	2	2	9

Appendix B: LOS Definitions

Highway Capacity Manual 2010/6th Edition

Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 1 summarizes the LOS criteria for signalized intersections, as described in the *Highway Capacity Manual 2010* and 6th Edition (Transportation Research Board, 2010 and 2016, respectively).

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F ¹	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Unsignalized intersection LOS criteria can be further reduced into two intersection types: all-way stop and two-way stop control. All-way stop control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 2 shows LOS criteria for unsignalized intersections.

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F ¹	>50

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

1. If the volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.























Appendix C: LOS Worksheets

HCM Signalized Intersection Capacity Analysis

1: Mildred St SW & 19th St W

Fircrest Prose

Existing PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	100	450	65	225	615	140	100	250	185	180	340	90	
Future Volume (vph)	100	450	65	225	615	140	100	250	185	180	340	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.99		
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1770	3458		1770	3539	1517	1787	1881	1566	1787	3441		
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1770	3458		1770	3539	1517	1787	1881	1566	1787	3441		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	110	495	71	247	676	154	110	275	203	198	374	99	
RTOR Reduction (vph)	0	13	0	0	0	102	0	0	153	0	28	0	
Lane Group Flow (vph)	110	553	0	247	676	52	110	275	50	198	445	0	
Confl. Peds. (#/hr)	12		8	8		12	16		8	8		16	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA		
Protected Phases	7	4		3	8		1	6		5	2		
Permitted Phases						8			6				
Actuated Green, G (s)	9.8	20.9		21.9	33.0	33.0	8.9	19.1	19.1	15.1	25.3		
Effective Green, g (s)	9.8	20.9		21.9	33.0	33.0	8.9	19.1	19.1	15.1	25.3		
Actuated g/C Ratio	0.10	0.22		0.23	0.34	0.34	0.09	0.20	0.20	0.16	0.26		
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Lane Grp Cap (vph)	178	745		399	1203	516	163	370	308	278	897		
v/s Ratio Prot	0.06	c0.16		c0.14	0.19		0.06	c0.15		c0.11	0.13		
v/s Ratio Perm						0.03			0.03				
v/c Ratio	0.62	0.74		0.62	0.56	0.10	0.67	0.74	0.16	0.71	0.50		
Uniform Delay, d1	41.8	35.5		33.8	26.1	21.9	42.6	36.6	32.3	38.9	30.4		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	4.4	3.5		2.0	1.9	0.4	8.4	6.9	0.1	7.0	0.2		
Delay (s)	46.2	39.1		35.8	28.0	22.3	51.0	43.6	32.4	45.9	30.6		
Level of Service	D	D		D	C	C	D	D	C	D	C		
Approach Delay (s)		40.2			29.0			41.1			35.1		
Approach LOS		D			C			D			D		
Intersection Summary													
HCM 2000 Control Delay			35.2		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.73										
Actuated Cycle Length (s)			97.0		Sum of lost time (s)					23.0			
Intersection Capacity Utilization			70.5%		ICU Level of Service					C			
Analysis Period (min)			15										
c Critical Lane Group													

c Critical Lane Group

HCM 6th TWSC
2: Mildred St SW & 22nd St W

Fircrest Prose
Existing PM Peak Hour






















Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↗	↗	↗	↗	↗
Traffic Vol, veh/h	5	0	15	0	0	0	5	545	5	0	615	10
Future Vol, veh/h	5	0	15	0	0	0	5	545	5	0	615	10
Conflicting Peds, #/hr	6	0	6	0	0	0	6	0	0	0	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	100	100	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	5	0	15	0	0	0	5	562	5	0	634	10
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1221	1217	646	1225	1222	568	650	0	0	567	0	0
Stage 1	640	640	-	572	572	-	-	-	-	-	-	-
Stage 2	581	577	-	653	650	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	158	182	475	157	181	526	946	-	-	1010	-	-
Stage 1	467	473	-	509	508	-	-	-	-	-	-	-
Stage 2	503	505	-	460	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	156	180	470	150	179	523	941	-	-	1010	-	-
Mov Cap-2 Maneuver	156	180	-	150	179	-	-	-	-	-	-	-
Stage 1	462	470	-	506	505	-	-	-	-	-	-	-
Stage 2	497	502	-	442	465	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	17.3		0		0.1		0					
HCM LOS	C		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	941	-	-	313	-	1010	-	-	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	0.066	-	-	-	-	-	-	-	-
HCM Control Delay (s)	8.8	-	-	17.3	0	0	-	-	-	-	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis

3: Regents Blvd W & 67th Ave W/Mildred St SW & 24th St W/Regents Blvd

Fircrest Prose

Existing PM Peak Hour














												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	10	15	5	5	80	345	15	100	20	10	330	95
Future Volume (vph)	10	15	5	5	80	345	15	100	20	10	330	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		8.0	8.0	8.0	8.0		7.0	8.0	8.0
Lane Util. Factor		1.00	1.00		1.00	0.95	0.95	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.97		1.00	1.00	1.00	0.97		1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.95	0.95	0.96	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1736	1466		1787	1698	1709	1548		1805	1900	1556
Flt Permitted		0.36	1.00		0.74	0.95	0.96	1.00		0.95	1.00	1.00
Satd. Flow (perm)		644	1466		1394	1698	1709	1548		1805	1900	1556
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	15	5	5	82	356	15	103	21	10	340	98
RTOR Reduction (vph)	0	0	9	0	0	0	0	88	0	0	0	71
Lane Group Flow (vph)	0	25	1	0	82	185	186	15	0	31	340	27
Confl. Peds. (#/hr)	4			4		4		4	4	7		6
Heavy Vehicles (%)	7%	7%	7%	7%	1%	1%	1%	1%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm		Perm	Split	NA	Perm	Prot	Prot	NA	Perm
Protected Phases		7				8	8		1	1	6	
Permitted Phases	7		7		8			8				6
Actuated Green, G (s)		7.7	7.7		18.4	18.4	18.4	18.4		2.9	33.4	33.4
Effective Green, g (s)		7.7	7.7		18.4	18.4	18.4	18.4		2.9	33.4	33.4
Actuated g/C Ratio		0.06	0.06		0.15	0.15	0.15	0.15		0.02	0.27	0.27
Clearance Time (s)		6.5	6.5		8.0	8.0	8.0	8.0		7.0	8.0	8.0
Vehicle Extension (s)		1.0	1.0		3.0	3.0	3.0	3.0		1.0	3.0	3.0
Lane Grp Cap (vph)		40	92		209	255	257	232		42	518	424
v/s Ratio Prot						c0.11	0.11			0.02	c0.18	
v/s Ratio Perm		c0.04	0.00		0.06			0.01				0.02
v/c Ratio		0.62	0.01		0.39	0.73	0.72	0.07		0.74	0.66	0.06
Uniform Delay, d1		55.9	53.7		46.9	49.5	49.5	44.6		59.3	39.4	32.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		19.9	0.0		1.2	9.8	9.7	0.1		44.0	3.0	0.1
Delay (s)		75.8	53.7		48.1	59.4	59.2	44.7		103.3	42.4	32.9
Level of Service		E	D		D	E	E	D		F	D	C
Approach Delay (s)		69.5					54.9				44.4	
Approach LOS		E					D				D	
Intersection Summary												
HCM 2000 Control Delay			49.4			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			122.3			Sum of lost time (s)				39.0		
Intersection Capacity Utilization			91.5%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Regents Blvd W & 67th Ave W/Mildred St SW & 24th St W/Regents Blvd

Fircrest Prose
























Existing PM Peak Hour

								
Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	55	445	155	15	10	165	220	10
Future Volume (vph)	55	445	155	15	10	165	220	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	8.0	8.0			9.5	9.5	
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.95			1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00			0.98	1.00	
Frt	1.00	1.00	0.85			1.00	0.85	
Flt Protected	0.95	1.00	1.00			0.95	1.00	
Satd. Flow (prot)	1787	1881	1521			1729	1527	
Flt Permitted	0.95	1.00	1.00			0.97	1.00	
Satd. Flow (perm)	1787	1881	1521			1763	1527	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	459	160	15	10	170	227	10
RTOR Reduction (vph)	0	0	123	0	0	0	203	0
Lane Group Flow (vph)	57	459	52	0	0	180	34	0
Confl. Peds. (#/hr)	6		4	7	7	4	6	
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm		Perm	Perm	Perm	
Protected Phases	5	2						
Permitted Phases			2		4	4	4	
Actuated Green, G (s)	6.0	36.5	36.5			17.8	17.8	
Effective Green, g (s)	6.0	36.5	36.5			17.8	17.8	
Actuated g/C Ratio	0.05	0.30	0.30			0.15	0.15	
Clearance Time (s)	7.0	8.0	8.0			9.5	9.5	
Vehicle Extension (s)	1.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	87	561	453			256	222	
v/s Ratio Prot	0.03	c0.24						
v/s Ratio Perm			0.03			c0.10	0.02	
v/c Ratio	0.66	0.82	0.12			0.70	0.16	
Uniform Delay, d1	57.1	39.8	31.2			49.7	45.7	
Progression Factor	1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	12.7	9.0	0.1			8.5	0.3	
Delay (s)	69.9	48.9	31.3			58.2	46.0	
Level of Service	E	D	C			E	D	
Approach Delay (s)		46.1				51.3		
Approach LOS		D				D		
Intersection Summary								

HCM 6th Signalized Intersection Summary

4: Bridgeport Way W & 27th St W





















Fircrest Prose
Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	225	100	215	305	95	135	615	115	85	650	255
Future Volume (veh/h)	225	225	100	215	305	95	135	615	115	85	650	255
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		0.99	1.00		0.98	1.00		0.98
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	232	232	103	222	314	98	139	634	119	88	670	263
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	1	1	1	1	1	1	1	1	1
Cap, veh/h	419	422	483	469	412	430	335	918	172	302	996	643
Arrive On Green	0.13	0.22	0.22	0.12	0.22	0.22	0.08	0.31	0.31	0.05	0.28	0.28
Sat Flow, veh/h	1795	1885	1589	1795	1885	1589	1795	3001	562	1795	3582	1566
Grp Volume(v), veh/h	232	232	103	222	314	98	139	378	375	88	670	263
Grp Sat Flow(s),veh/h/ln	1795	1885	1589	1795	1885	1589	1795	1791	1772	1795	1791	1566
Q Serve(g_s), s	5.6	6.3	2.8	5.3	9.0	2.8	3.1	10.7	10.8	1.9	9.6	6.9
Cycle Q Clear(g_c), s	5.6	6.3	2.8	5.3	9.0	2.8	3.1	10.7	10.8	1.9	9.6	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	419	422	483	469	412	430	335	548	542	302	996	643
V/C Ratio(X)	0.55	0.55	0.21	0.47	0.76	0.23	0.41	0.69	0.69	0.29	0.67	0.41
Avail Cap(c_a), veh/h	1304	897	883	1363	897	838	689	1100	1088	831	2199	1169
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	1.00	1.00
Uniform Delay (d), s/veh	15.0	19.9	15.0	14.4	21.2	16.4	14.0	17.6	17.7	13.7	18.5	12.2
Incr Delay (d2), s/veh	0.4	0.4	0.1	0.3	1.1	0.1	0.3	0.6	0.6	0.2	0.3	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	2.1	2.6	0.9	1.9	3.8	0.9	1.1	4.0	4.0	0.7	3.6	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	20.3	15.1	14.7	22.3	16.5	14.3	18.2	18.3	13.9	18.8	12.3
LnGrp LOS	B	C	B	B	C	B	B	B	B	B	B	B
Approach Vol, veh/h	567			634			892			1021		
Approach Delay, s/veh	17.4			18.7			17.6			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	8.6	20.6	11.2	17.4	7.0	22.2	11.5	17.1				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	16.0	35.5	36.0	27.5	20.0	35.5	36.0	27.5				
Max Q Clear Time (g_c+I1), s	5.1	11.6	7.3	8.3	3.9	12.8	7.6	11.0				
Green Ext Time (p_c), s	0.0	3.7	0.1	1.0	0.0	3.2	0.1	1.2				
Intersection Summary												
HCM 6th Ctrl Delay	17.5											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary
























5: 67th Ave W & 35th St SW

Fircrest Prose
Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	15	60	5	15	15	60	430	5	20	535	95
Future Volume (veh/h)	60	15	60	5	15	15	60	430	5	20	535	95
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	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	63	16	63	5	16	16	63	453	5	21	563	100
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	0	0	0	0	0	0	0	0	0
Cap, veh/h	320	52	125	192	153	134	489	886	750	583	886	750
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	579	291	693	126	846	740	784	1900	1608	948	1900	1608
Grp Volume(v), veh/h	142	0	0	37	0	0	63	453	5	21	563	100
Grp Sat Flow(s),veh/h/ln	1562	0	0	1712	0	0	784	1900	1608	948	1900	1608
Q Serve(g_s), s	1.3	0.0	0.0	0.0	0.0	0.0	1.6	4.0	0.0	0.4	5.4	0.9
Cycle Q Clear(g_c), s	1.9	0.0	0.0	0.4	0.0	0.0	7.0	4.0	0.0	4.4	5.4	0.9
Prop In Lane	0.44		0.44	0.14		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	498	0	0	479	0	0	489	886	750	583	886	750
V/C Ratio(X)	0.29	0.00	0.00	0.08	0.00	0.00	0.13	0.51	0.01	0.04	0.64	0.13
Avail Cap(c_a), veh/h	1238	0	0	1288	0	0	1279	2801	2371	1538	2801	2371
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	0.0	0.0	8.3	0.0	0.0	7.5	4.5	3.4	6.0	4.9	3.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	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	0.4	0.0	0.0	0.1	0.0	0.0	0.2	0.4	0.0	0.0	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	0.0	0.0	8.3	0.0	0.0	7.6	4.7	3.4	6.1	5.2	3.7
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		142			37			521			684	
Approach Delay, s/veh		9.0			8.3			5.0			5.0	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.7		8.3		15.7		8.3				
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0				
Max Green Setting (Gmax), s		35.5		16.0		35.5		16.0				
Max Q Clear Time (g_c+I1), s		7.4		2.4		9.0		3.9				
Green Ext Time (p_c), s		2.7		0.1		2.2		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			5.5									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary 6: 67th Ave W & 40th St W/Emerson St

Fircrest Prose
Existing PM Peak Hour
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	395	95	185	395	75	55	325	125	80	450	60
Future Volume (veh/h)	55	395	95	185	395	75	55	325	125	80	450	60
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	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	57	411	99	193	411	78	57	339	130	83	469	62
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	0	0	0	0	0	0
Cap, veh/h	74	509	429	184	509	97	72	529	447	107	566	478
Arrive On Green	0.04	0.27	0.27	0.10	0.33	0.33	0.04	0.28	0.28	0.06	0.30	0.30
Sat Flow, veh/h	1795	1885	1589	1795	1539	292	1810	1900	1604	1810	1900	1605
Grp Volume(v), veh/h	57	411	99	193	0	489	57	339	130	83	469	62
Grp Sat Flow(s),veh/h/ln	1795	1885	1589	1795	0	1831	1810	1900	1604	1810	1900	1605
Q Serve(g_s), s	1.8	11.9	2.8	6.0	0.0	14.3	1.8	9.2	3.7	2.7	13.5	1.7
Cycle Q Clear(g_c), s	1.8	11.9	2.8	6.0	0.0	14.3	1.8	9.2	3.7	2.7	13.5	1.7
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	509	429	184	0	606	72	529	447	107	566	478
V/C Ratio(X)	0.77	0.81	0.23	1.05	0.00	0.81	0.79	0.64	0.29	0.78	0.83	0.13
Avail Cap(c_a), veh/h	184	1303	1098	184	0	1265	648	1151	972	648	1151	972
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	20.0	16.7	26.3	0.0	17.9	27.9	18.6	16.6	27.2	19.2	15.0
Incr Delay (d2), s/veh	6.1	1.2	0.1	80.2	0.0	1.0	7.2	0.5	0.1	4.5	1.2	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	0.9	4.9	1.0	6.5	0.0	5.5	0.9	3.7	1.3	1.2	5.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	21.2	16.8	106.5	0.0	18.9	35.1	19.0	16.7	31.6	20.4	15.1
LnGrp LOS	C	C	B	F	A	B	D	B	B	C	C	B
Approach Vol, veh/h	567			682			526			614		
Approach Delay, s/veh	21.7			43.7			20.2			21.4		
Approach LOS	C			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	20.8	6.4	23.9	6.3	22.0	10.0	20.3				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	21.0	35.5	6.0	40.5	21.0	35.5	6.0	40.5				
Max Q Clear Time (g_c+l1), s	4.7	11.2	3.8	16.3	3.8	15.5	8.0	13.9				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.1	0.0	2.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	27.6											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

1: Mildred St W & 19th St W

Fircrest Prose

Future (2026) Without-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	485	70	260	660	150	105	270	210	190	370	100
Future Volume (vph)	110	485	70	260	660	150	105	270	210	190	370	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3457		1770	3539	1517	1787	1881	1566	1787	3438	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3457		1770	3539	1517	1787	1881	1566	1787	3438	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	121	533	77	286	725	165	115	297	231	209	407	110
RTOR Reduction (vph)	0	13	0	0	0	111	0	0	159	0	29	0
Lane Group Flow (vph)	121	597	0	286	725	54	115	297	72	209	488	0
Confl. Peds. (#/hr)	12		8	8		12	16		8	8		16
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	10.5	21.2		21.2	31.9	31.9	9.5	19.8	19.8	14.8	25.1	
Effective Green, g (s)	10.5	21.2		21.2	31.9	31.9	9.5	19.8	19.8	14.8	25.1	
Actuated g/C Ratio	0.11	0.22		0.22	0.33	0.33	0.10	0.20	0.20	0.15	0.26	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lane Grp Cap (vph)	191	755		386	1163	498	175	383	319	272	889	
v/s Ratio Prot	0.07	c0.17		c0.16	0.20		0.06	c0.16		c0.12	0.14	
v/s Ratio Perm						0.04			0.05			
v/c Ratio	0.63	0.79		0.74	0.62	0.11	0.66	0.78	0.23	0.77	0.55	
Uniform Delay, d1	41.4	35.8		35.3	27.5	22.7	42.2	36.5	32.2	39.5	31.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.0	5.3		6.6	2.5	0.4	6.6	8.7	0.1	11.1	0.4	
Delay (s)	46.4	41.1		41.9	30.0	23.1	48.8	45.2	32.3	50.6	31.4	
Level of Service	D	D		D	C	C	D	D	C	D	C	
Approach Delay (s)		42.0			31.9			41.2			36.9	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			37.1				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			97.0				Sum of lost time (s)			23.0		
Intersection Capacity Utilization			74.7%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
2: Mildred St W & 22nd St W/Central Site Access

Fircrest Prose
Future (2026) Without-Project PM Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑	↕	↕	↑	↕
Traffic Vol, veh/h	20	0	20	0	0	0	10	580	5	0	660	35
Future Vol, veh/h	20	0	20	0	0	0	10	580	5	0	660	35
Conflicting Peds, #/hr	6	0	6	0	0	0	6	0	0	0	0	6
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	100	100	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	21	0	21	0	0	0	10	598	5	0	680	36

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1313	1309	692	1333	1340	604	722	0	0	603	0	0
Stage 1	686	686	-	618	618	-	-	-	-	-	-	-
Stage 2	627	623	-	715	722	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	137	161	447	132	154	502	889	-	-	979	-	-
Stage 1	441	451	-	480	484	-	-	-	-	-	-	-
Stage 2	475	481	-	425	434	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	134	158	442	124	151	499	884	-	-	979	-	-
Mov Cap-2 Maneuver	134	158	-	124	151	-	-	-	-	-	-	-
Stage 1	434	448	-	475	479	-	-	-	-	-	-	-
Stage 2	467	476	-	403	431	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.8	0	0.2	0
HCM LOS	D	A		

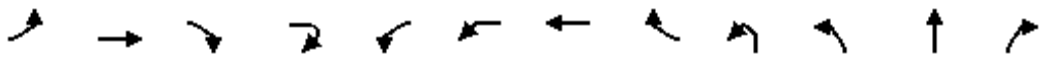
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	884	-	-	206	-	979	-
HCM Lane V/C Ratio	0.012	-	-	0.2	-	-	-
HCM Control Delay (s)	9.1	-	-	26.8	0	0	-
HCM Lane LOS	A	-	-	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	-	0	-

HCM Signalized Intersection Capacity Analysis

Fircrest Prose

3: Regents Blvd W & 67th Ave W/Mildred St W & 24th St W/Regents Blvd W

Ents B200 Without-Project PM Peak Hour














												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations		↰	↱		↰	↱	↰	↱		↰	↱	↰
Traffic Volume (vph)	10	15	5	5	85	365	15	105	20	10	360	100
Future Volume (vph)	10	15	5	5	85	365	15	105	20	10	360	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		8.0	8.0	8.0	8.0		7.0	8.0	8.0
Lane Util. Factor		1.00	1.00		1.00	0.95	0.95	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.97		1.00	1.00	1.00	0.97		1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.95	0.95	0.96	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1735	1465		1787	1698	1708	1547		1805	1900	1555
Flt Permitted		0.35	1.00		0.74	0.95	0.96	1.00		0.95	1.00	1.00
Satd. Flow (perm)		612	1465		1394	1698	1708	1547		1805	1900	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	15	5	5	88	376	15	108	21	10	371	103
RTOR Reduction (vph)	0	0	9	0	0	0	0	92	0	0	0	72
Lane Group Flow (vph)	0	25	1	0	88	196	195	16	0	31	371	31
Confl. Peds. (#/hr)	4			4		4		4	4	7		6
Heavy Vehicles (%)	7%	7%	7%	7%	1%	1%	1%	1%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm		Perm	Split	NA	Perm	Prot	Prot	NA	Perm
Protected Phases		7				8	8		1	1	6	
Permitted Phases	7		7		8			8				6
Actuated Green, G (s)		8.1	8.1		19.0	19.0	19.0	19.0		3.1	38.5	38.5
Effective Green, g (s)		8.1	8.1		19.0	19.0	19.0	19.0		3.1	38.5	38.5
Actuated g/C Ratio		0.06	0.06		0.15	0.15	0.15	0.15		0.02	0.30	0.30
Clearance Time (s)		6.5	6.5		8.0	8.0	8.0	8.0		7.0	8.0	8.0
Vehicle Extension (s)		1.0	1.0		3.0	3.0	3.0	3.0		1.0	3.0	3.0
Lane Grp Cap (vph)		38	91		204	249	250	227		43	565	463
v/s Ratio Prot						c0.12	0.11			0.02	c0.20	
v/s Ratio Perm		c0.04	0.00		0.06			0.01				0.02
v/c Ratio		0.66	0.01		0.43	0.79	0.78	0.07		0.72	0.66	0.07
Uniform Delay, d1		59.2	56.8		50.2	53.2	53.1	47.5		62.7	39.6	32.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		27.1	0.0		1.5	15.1	14.5	0.1		39.5	2.8	0.1
Delay (s)		86.4	56.8		51.7	68.3	67.7	47.7		102.2	42.4	32.6
Level of Service		F	E		D	E	E	D		F	D	C
Approach Delay (s)		77.9					61.8				44.1	
Approach LOS		E					E				D	
Intersection Summary												
HCM 2000 Control Delay		52.4			HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio		0.79										
Actuated Cycle Length (s)		129.3			Sum of lost time (s)					39.0		
Intersection Capacity Utilization		94.6%			ICU Level of Service					F		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Fircrest Prose

3: Regents Blvd W & 67th Ave W/Mildred St W & 24th St W/Regents Blvd W

Ents 2020 Without-Project PM Peak Hour
























								
Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	60	480	165	15	10	175	235	10
Future Volume (vph)	60	480	165	15	10	175	235	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	8.0	8.0			9.5	9.5	
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.95			1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00			0.98	1.00	
Frt	1.00	1.00	0.85			1.00	0.85	
Flt Protected	0.95	1.00	1.00			0.95	1.00	
Satd. Flow (prot)	1787	1881	1519			1727	1525	
Flt Permitted	0.95	1.00	1.00			0.97	1.00	
Satd. Flow (perm)	1787	1881	1519			1764	1525	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	495	170	15	10	180	242	10
RTOR Reduction (vph)	0	0	125	0	0	0	206	0
Lane Group Flow (vph)	62	495	60	0	0	190	46	0
Confl. Peds. (#/hr)	6		4	7	7	4	6	
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm		Perm	Perm	Perm	
Protected Phases	5	2						
Permitted Phases			2		4	4	4	
Actuated Green, G (s)	6.3	41.7	41.7			18.4	18.4	
Effective Green, g (s)	6.3	41.7	41.7			18.4	18.4	
Actuated g/C Ratio	0.05	0.32	0.32			0.14	0.14	
Clearance Time (s)	7.0	8.0	8.0			9.5	9.5	
Vehicle Extension (s)	1.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	87	606	489			251	217	
v/s Ratio Prot	0.03	c0.26						
v/s Ratio Perm			0.04			c0.11	0.03	
v/c Ratio	0.71	0.82	0.12			0.76	0.21	
Uniform Delay, d1	60.6	40.3	30.9			53.3	49.0	
Progression Factor	1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	20.4	8.4	0.1			12.3	0.5	
Delay (s)	81.0	48.7	31.0			65.6	49.5	
Level of Service	F	D	C			E	D	
Approach Delay (s)		47.0				56.4		
Approach LOS		D				E		
Intersection Summary								

HCM 6th Signalized Intersection Summary

4: Bridgeport Way W & 27th St W





















Fircrest Prose

Future (2026) Without-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	240	105	230	325	100	145	655	120	90	690	270
Future Volume (veh/h)	240	240	105	230	325	100	145	655	120	90	690	270
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		0.99	1.00		0.98	1.00		0.98
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	247	247	108	237	335	103	149	675	124	93	711	278
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	1	1	1	1	1	1	1	1	1
Cap, veh/h	413	435	500	466	425	444	326	939	172	290	1011	656
Arrive On Green	0.13	0.23	0.23	0.13	0.23	0.23	0.08	0.31	0.31	0.05	0.28	0.28
Sat Flow, veh/h	1795	1885	1589	1795	1885	1589	1795	3012	553	1795	3582	1566
Grp Volume(v), veh/h	247	247	108	237	335	103	149	401	398	93	711	278
Grp Sat Flow(s),veh/h/ln	1795	1885	1589	1795	1885	1589	1795	1791	1774	1795	1791	1566
Q Serve(g_s), s	6.3	7.2	3.1	6.0	10.4	3.1	3.6	12.3	12.3	2.1	11.0	7.8
Cycle Q Clear(g_c), s	6.3	7.2	3.1	6.0	10.4	3.1	3.6	12.3	12.3	2.1	11.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	413	435	500	466	425	444	326	559	553	290	1011	656
V/C Ratio(X)	0.60	0.57	0.22	0.51	0.79	0.23	0.46	0.72	0.72	0.32	0.70	0.42
Avail Cap(c_a), veh/h	1216	838	839	1279	838	792	640	1027	1017	774	2054	1113
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	1.00	1.00
Uniform Delay (d), s/veh	15.9	21.1	15.6	15.2	22.6	17.2	14.9	18.9	18.9	14.6	19.9	12.8
Incr Delay (d2), s/veh	0.5	0.4	0.1	0.3	1.2	0.1	0.4	0.7	0.7	0.2	0.3	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	2.4	3.0	1.0	2.3	4.4	1.1	1.3	4.7	4.7	0.8	4.2	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	21.5	15.7	15.5	23.8	17.3	15.3	19.5	19.6	14.8	20.2	13.0
LnGrp LOS	B	C	B	B	C	B	B	B	B	B	C	B
Approach Vol, veh/h	602			675			948			1082		
Approach Delay, s/veh	18.4			19.9			18.9			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	9.2	22.0	12.0	18.8	7.3	23.8	12.3	18.5				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	16.0	35.5	36.0	27.5	20.0	35.5	36.0	27.5				
Max Q Clear Time (g_c+I1), s	5.6	13.0	8.0	9.2	4.1	14.3	8.3	12.4				
Green Ext Time (p_c), s	0.0	3.9	0.1	1.0	0.0	3.4	0.1	1.3				
Intersection Summary												
HCM 6th Ctrl Delay	18.7											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 5: 67th Ave W & 35th St SW
























Fircrest Prose
Future (2026) Without-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	15	65	5	15	15	65	465	5	20	570	100
Future Volume (veh/h)	65	15	65	5	15	15	65	465	5	20	570	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	68	16	68	5	16	16	68	489	5	21	600	105
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	0	0	0	0	0	0	0	0	0
Cap, veh/h	310	50	126	182	154	134	470	924	782	565	924	782
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	584	278	698	121	852	742	754	1900	1609	917	1900	1609
Grp Volume(v), veh/h	152	0	0	37	0	0	68	489	5	21	600	105
Grp Sat Flow(s),veh/h/ln	1560	0	0	1716	0	0	754	1900	1609	917	1900	1609
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	1.9	4.5	0.0	0.4	6.0	0.9
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.4	0.0	0.0	7.9	4.5	0.0	5.0	6.0	0.9
Prop In Lane	0.45		0.45	0.14		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	486	0	0	470	0	0	470	924	782	565	924	782
V/C Ratio(X)	0.31	0.00	0.00	0.08	0.00	0.00	0.14	0.53	0.01	0.04	0.65	0.13
Avail Cap(c_a), veh/h	1169	0	0	1218	0	0	1155	2647	2241	1397	2647	2241
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	8.7	0.0	0.0	7.9	4.5	3.4	6.2	4.9	3.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	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	0.5	0.0	0.0	0.1	0.0	0.0	0.2	0.5	0.0	0.0	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	0.0	0.0	8.8	0.0	0.0	7.9	4.7	3.4	6.3	5.2	3.6
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		152			37			562			726	
Approach Delay, s/veh		9.6			8.8			5.1			5.0	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.9		8.6		16.9		8.6				
Change Period (Y+Rc), s		4.5		4.0		4.5		4.0				
Max Green Setting (Gmax), s		35.5		16.0		35.5		16.0				
Max Q Clear Time (g_c+I1), s		8.0		2.4		9.9		4.2				
Green Ext Time (p_c), s		3.0		0.1		2.4		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			5.6									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

6: 67th Ave W & 40th St W/Emerson St

Fircrest Prose
Future (2026) Without-Project PM Peak Hour























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	420	100	195	420	80	60	355	135	85	480	65
Future Volume (veh/h)	60	420	100	195	420	80	60	355	135	85	480	65
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	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	438	104	203	438	83	62	370	141	89	500	68
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	0	0	0	0	0	0
Cap, veh/h	78	530	447	171	512	97	79	552	467	115	590	499
Arrive On Green	0.04	0.28	0.28	0.10	0.33	0.33	0.04	0.29	0.29	0.06	0.31	0.31
Sat Flow, veh/h	1795	1885	1589	1795	1539	292	1810	1900	1605	1810	1900	1605
Grp Volume(v), veh/h	62	438	104	203	0	521	62	370	141	89	500	68
Grp Sat Flow(s),veh/h/ln	1795	1885	1589	1795	0	1831	1810	1900	1605	1810	1900	1605
Q Serve(g_s), s	2.2	13.7	3.2	6.0	0.0	16.8	2.1	10.8	4.3	3.1	15.5	1.9
Cycle Q Clear(g_c), s	2.2	13.7	3.2	6.0	0.0	16.8	2.1	10.8	4.3	3.1	15.5	1.9
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	530	447	171	0	609	79	552	467	115	590	499
V/C Ratio(X)	0.79	0.83	0.23	1.19	0.00	0.86	0.78	0.67	0.30	0.77	0.85	0.14
Avail Cap(c_a), veh/h	171	1210	1020	171	0	1175	602	1069	903	602	1069	903
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	21.2	17.4	28.6	0.0	19.6	29.9	19.7	17.4	29.1	20.3	15.7
Incr Delay (d2), s/veh	6.5	1.3	0.1	128.9	0.0	1.4	6.2	0.5	0.1	4.1	1.3	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	1.0	5.7	1.1	8.6	0.0	6.7	1.0	4.5	1.5	1.4	6.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	22.5	17.5	157.5	0.0	21.0	36.1	20.2	17.5	33.2	21.7	15.7
LnGrp LOS	D	C	B	F	A	C	D	C	B	C	C	B
Approach Vol, veh/h		604			724			573			657	
Approach Delay, s/veh		23.1			59.3			21.3			22.6	
Approach LOS		C			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	22.8	6.8	25.5	6.8	24.1	10.0	22.2				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	21.0	35.5	6.0	40.5	21.0	35.5	6.0	40.5				
Max Q Clear Time (g_c+I1), s	5.1	12.8	4.2	18.8	4.1	17.5	8.0	15.7				
Green Ext Time (p_c), s	0.0	1.7	0.0	2.2	0.0	2.1	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			C									

HCM Signalized Intersection Capacity Analysis

1: Mildred St W & 19th St W

Fircrest Prose

Future (2026) With-Project PM Peak Hour





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	485	76	309	660	150	110	284	245	190	388	100
Future Volume (vph)	110	485	76	309	660	150	110	284	245	190	388	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3451		1770	3539	1517	1787	1881	1566	1787	3443	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3451		1770	3539	1517	1787	1881	1566	1787	3443	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	121	533	84	340	725	165	121	312	269	209	426	110
RTOR Reduction (vph)	0	14	0	0	0	111	0	0	175	0	27	0
Lane Group Flow (vph)	121	603	0	340	725	54	121	312	94	209	509	0
Confl. Peds. (#/hr)	12		8	8		12	16		8	8		16
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8			6			
Actuated Green, G (s)	10.3	21.3		20.6	31.6	31.6	9.9	20.4	20.4	14.7	25.2	
Effective Green, g (s)	10.3	21.3		20.6	31.6	31.6	9.9	20.4	20.4	14.7	25.2	
Actuated g/C Ratio	0.11	0.22		0.21	0.33	0.33	0.10	0.21	0.21	0.15	0.26	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lane Grp Cap (vph)	187	757		375	1152	494	182	395	329	270	894	
v/s Ratio Prot	0.07	c0.17		c0.19	0.20		0.07	c0.17		c0.12	c0.15	
v/s Ratio Perm						0.04			0.06			
v/c Ratio	0.65	0.80		0.91	0.63	0.11	0.66	0.79	0.28	0.77	0.57	
Uniform Delay, d1	41.6	35.8		37.3	27.7	22.9	42.0	36.3	32.2	39.6	31.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.7	5.4		24.2	2.6	0.4	6.9	9.4	0.2	11.9	0.5	
Delay (s)	47.3	41.2		61.5	30.3	23.3	48.9	45.6	32.3	51.4	31.7	
Level of Service	D	D		E	C	C	D	D	C	D	C	
Approach Delay (s)		42.2			38.0			41.1			37.2	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			39.4				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			97.0				Sum of lost time (s)			23.0		
Intersection Capacity Utilization			78.1%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

2: Mildred St W & 22nd St W/Central Site Access






















Fircrest Prose
Future (2026) With-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	20	38	0	39	10	604	27	78	656	35
Future Volume (veh/h)	20	0	20	38	0	39	10	604	27	78	656	35
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	0.98		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	21	0	21	39	0	40	10	623	28	80	676	36
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	0	0	0	1	1	1
Cap, veh/h	220	20	88	225	11	86	387	822	691	463	935	788
Arrive On Green	0.11	0.00	0.11	0.11	0.00	0.11	0.01	0.43	0.43	0.08	0.50	0.50
Sat Flow, veh/h	616	186	802	666	97	783	1810	1900	1599	1795	1885	1588
Grp Volume(v), veh/h	42	0	0	79	0	0	10	623	28	80	676	36
Grp Sat Flow(s),veh/h/ln	1603	0	0	1546	0	0	1810	1900	1599	1795	1885	1588
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	0.1	9.8	0.4	0.8	10.0	0.4
Cycle Q Clear(g_c), s	0.8	0.0	0.0	1.6	0.0	0.0	0.1	9.8	0.4	0.8	10.0	0.4
Prop In Lane	0.50		0.50	0.49		0.51	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	329	0	0	322	0	0	387	822	691	463	935	788
V/C Ratio(X)	0.13	0.00	0.00	0.25	0.00	0.00	0.03	0.76	0.04	0.17	0.72	0.05
Avail Cap(c_a), veh/h	915	0	0	912	0	0	618	1258	1059	578	1248	1052
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	0.0	14.7	0.0	0.0	6.3	8.5	5.8	6.0	7.0	4.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.0	0.0	0.0	1.5	0.0	0.2	1.4	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	0.3	0.0	0.0	0.5	0.0	0.0	0.0	2.8	0.1	0.2	2.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	0.0	0.0	15.1	0.0	0.0	6.4	10.0	5.8	6.2	8.4	4.6
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h	42			79			661			792		
Approach Delay, s/veh	14.6			15.1			9.7			8.0		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	19.8		8.4	5.0	22.1		8.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	23.5		18.0	5.0	23.5		18.0				
Max Q Clear Time (g_c+I1), s	2.8	11.8		2.8	2.1	12.0		3.6				
Green Ext Time (p_c), s	0.0	3.4		0.1	0.0	3.7		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				9.3								
HCM 6th LOS				A								

HCM Signalized Intersection Capacity Analysis

Fircrest Prose














3: Regents Blvd W & 67th Ave W/Mildred St W & 24th St W/Regents Blvd W (2026) With-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	10	15	5	5	85	365	15	111	20	10	385	100
Future Volume (vph)	10	15	5	5	85	365	15	111	20	10	385	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5		8.0	8.0	8.0	8.0		7.0	8.0	8.0
Lane Util. Factor		1.00	1.00		1.00	0.95	0.95	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.97		1.00	1.00	1.00	0.97		1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85		1.00	1.00	0.85
Flt Protected		0.98	1.00		0.95	0.95	0.96	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1735	1465		1787	1698	1708	1547		1805	1900	1554
Flt Permitted		0.35	1.00		0.74	0.95	0.96	1.00		0.95	1.00	1.00
Satd. Flow (perm)		612	1465		1394	1698	1708	1547		1805	1900	1554
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	15	5	5	88	376	15	114	21	10	397	103
RTOR Reduction (vph)	0	0	9	0	0	0	0	97	0	0	0	73
Lane Group Flow (vph)	0	25	1	0	88	196	195	17	0	31	397	30
Confl. Peds. (#/hr)	4			4		4		4	4	7		6
Heavy Vehicles (%)	7%	7%	7%	7%	1%	1%	1%	1%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm		Perm	Split	NA	Perm	Prot	Prot	NA	Perm
Protected Phases		7				8	8		1	1	6	
Permitted Phases	7		7		8			8				6
Actuated Green, G (s)		8.1	8.1		19.1	19.1	19.1	19.1		3.1	38.3	38.3
Effective Green, g (s)		8.1	8.1		19.1	19.1	19.1	19.1		3.1	38.3	38.3
Actuated g/C Ratio		0.06	0.06		0.15	0.15	0.15	0.15		0.02	0.29	0.29
Clearance Time (s)		6.5	6.5		8.0	8.0	8.0	8.0		7.0	8.0	8.0
Vehicle Extension (s)		1.0	1.0		3.0	3.0	3.0	3.0		1.0	3.0	3.0
Lane Grp Cap (vph)		37	90		203	248	249	226		42	556	455
v/s Ratio Prot						c0.12	0.11			0.02	c0.21	
v/s Ratio Perm		c0.04	0.00		0.06			0.01				0.02
v/c Ratio		0.68	0.01		0.43	0.79	0.78	0.07		0.74	0.71	0.07
Uniform Delay, d1		60.0	57.5		50.9	53.9	53.8	48.2		63.4	41.3	33.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		32.1	0.0		1.5	15.6	14.8	0.1		44.0	4.3	0.1
Delay (s)		92.1	57.5		52.4	69.5	68.6	48.3		107.4	45.6	33.4
Level of Service		F	E		D	E	E	D		F	D	C
Approach Delay (s)		82.2					62.6				46.9	
Approach LOS		F					E				D	
Intersection Summary												
HCM 2000 Control Delay			54.4									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			130.7									Sum of lost time (s) 39.0
Intersection Capacity Utilization			95.5%									ICU Level of Service F
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Fircrest Prose
























3: Regents Blvd W & 67th Ave W/Mildred St W & 24th St W/Regents Blvd W (2026) With-Project PM Peak Hour

								
Movement	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations								
Traffic Volume (vph)	64	497	178	15	10	194	235	10
Future Volume (vph)	64	497	178	15	10	194	235	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	8.0	8.0			9.5	9.5	
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.95			1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00			0.98	1.00	
Frt	1.00	1.00	0.85			1.00	0.85	
Flt Protected	0.95	1.00	1.00			0.95	1.00	
Satd. Flow (prot)	1787	1881	1518			1728	1525	
Flt Permitted	0.95	1.00	1.00			0.97	1.00	
Satd. Flow (perm)	1787	1881	1518			1769	1525	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	66	512	184	15	10	200	242	10
RTOR Reduction (vph)	0	0	135	0	0	0	204	0
Lane Group Flow (vph)	66	512	64	0	0	210	48	0
Confl. Peds. (#/hr)	6		4	7	7	4	6	
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm		Perm	Perm	Perm	
Protected Phases	5	2						
Permitted Phases			2		4	4	4	
Actuated Green, G (s)	6.6	41.8	41.8			19.6	19.6	
Effective Green, g (s)	6.6	41.8	41.8			19.6	19.6	
Actuated g/C Ratio	0.05	0.32	0.32			0.15	0.15	
Clearance Time (s)	7.0	8.0	8.0			9.5	9.5	
Vehicle Extension (s)	1.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	90	601	485			265	228	
v/s Ratio Prot	0.04	c0.27						
v/s Ratio Perm			0.04			c0.12	0.03	
v/c Ratio	0.73	0.85	0.13			0.79	0.21	
Uniform Delay, d1	61.2	41.6	31.6			53.6	48.8	
Progression Factor	1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	23.1	11.2	0.1			14.9	0.5	
Delay (s)	84.2	52.8	31.7			68.5	49.2	
Level of Service	F	D	C			E	D	
Approach Delay (s)		50.0				58.0		
Approach LOS		D				E		
Intersection Summary								

HCM 6th Signalized Intersection Summary

4: Bridgeport Way W & 27th St W



















Fircrest Prose
Future (2026) With-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	247	105	234	330	104	145	655	126	96	690	270
Future Volume (veh/h)	240	247	105	234	330	104	145	655	126	96	690	270
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		0.99	1.00		0.98	1.00		0.98
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	247	255	108	241	340	107	149	675	130	99	711	278
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	1	1	1	1	1	1	1	1	1
Cap, veh/h	411	435	500	464	430	453	325	920	177	290	1009	655
Arrive On Green	0.13	0.23	0.23	0.13	0.23	0.23	0.08	0.31	0.31	0.06	0.28	0.28
Sat Flow, veh/h	1795	1885	1589	1795	1885	1589	1795	2986	574	1795	3582	1566
Grp Volume(v), veh/h	247	255	108	241	340	107	149	405	400	99	711	278
Grp Sat Flow(s),veh/h/ln	1795	1885	1589	1795	1885	1589	1795	1791	1769	1795	1791	1566
Q Serve(g_s), s	6.3	7.5	3.1	6.2	10.6	3.2	3.6	12.6	12.6	2.3	11.1	7.8
Cycle Q Clear(g_c), s	6.3	7.5	3.1	6.2	10.6	3.2	3.6	12.6	12.6	2.3	11.1	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	411	435	500	464	430	453	325	552	545	290	1009	655
V/C Ratio(X)	0.60	0.59	0.22	0.52	0.79	0.24	0.46	0.73	0.73	0.34	0.70	0.42
Avail Cap(c_a), veh/h	1210	833	836	1268	833	794	637	1022	1010	765	2044	1108
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	1.00	1.00
Uniform Delay (d), s/veh	15.9	21.3	15.7	15.2	22.6	17.0	15.0	19.2	19.2	14.8	20.0	12.9
Incr Delay (d2), s/veh	0.5	0.5	0.1	0.3	1.3	0.1	0.4	0.7	0.7	0.3	0.3	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	2.4	3.1	1.0	2.3	4.5	1.1	1.3	4.9	4.8	0.9	4.3	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	21.7	15.8	15.6	23.9	17.1	15.4	20.0	20.0	15.0	20.4	13.1
LnGrp LOS	B	C	B	B	C	B	B	B	B	B	C	B
Approach Vol, veh/h	610			688			954			1088		
Approach Delay, s/veh	18.5			19.9			19.3			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	9.2	22.0	12.1	18.9	7.6	23.7	12.3	18.7				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	16.0	35.5	36.0	27.5	20.0	35.5	36.0	27.5				
Max Q Clear Time (g_c+I1), s	5.6	13.1	8.2	9.5	4.3	14.6	8.3	12.6				
Green Ext Time (p_c), s	0.0	3.9	0.1	1.0	0.0	3.4	0.1	1.3				
Intersection Summary												
HCM 6th Ctrl Delay	18.9											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

5: 67th Ave W & 35th St SW
























Fircrest Prose
Future (2026) With-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	15	65	5	15	15	65	483	5	20	583	104
Future Volume (veh/h)	72	15	65	5	15	15	65	483	5	20	583	104
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	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	76	16	68	5	16	16	68	508	5	21	614	109
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	0	0	0	0	0	0	0	0	0
Cap, veh/h	317	48	120	178	155	135	462	936	792	553	936	792
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	627	265	659	119	857	744	742	1900	1609	901	1900	1609
Grp Volume(v), veh/h	160	0	0	37	0	0	68	508	5	21	614	109
Grp Sat Flow(s),veh/h/ln	1551	0	0	1721	0	0	742	1900	1609	901	1900	1609
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	2.0	4.8	0.0	0.4	6.3	1.0
Cycle Q Clear(g_c), s	2.4	0.0	0.0	0.5	0.0	0.0	8.3	4.8	0.0	5.3	6.3	1.0
Prop In Lane	0.47		0.42	0.14		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	485	0	0	469	0	0	462	936	792	553	936	792
V/C Ratio(X)	0.33	0.00	0.00	0.08	0.00	0.00	0.15	0.54	0.01	0.04	0.66	0.14
Avail Cap(c_a), veh/h	1142	0	0	1191	0	0	1106	2587	2190	1336	2587	2190
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	8.9	0.0	0.0	8.1	4.6	3.4	6.4	5.0	3.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	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	0.6	0.0	0.0	0.1	0.0	0.0	0.2	0.6	0.0	0.0	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.8	0.0	0.0	9.0	0.0	0.0	8.1	4.8	3.4	6.4	5.3	3.6
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h	160			37			581			744		
Approach Delay, s/veh	9.8			9.0			5.1			5.0		
Approach LOS	A			A			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	17.3			8.7			17.3			8.7		
Change Period (Y+Rc), s	4.5			4.0			4.5			4.0		
Max Green Setting (Gmax), s	35.5			16.0			35.5			16.0		
Max Q Clear Time (g_c+I1), s	8.3			2.5			10.3			4.4		
Green Ext Time (p_c), s	3.0			0.1			2.5			0.4		
Intersection Summary												
HCM 6th Ctrl Delay	5.7											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary




6: 67th Ave W & 40th St W/Emerson St

Fircrest Prose
Future (2026) With-Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	420	100	195	420	86	60	361	135	89	485	69
Future Volume (veh/h)	66	420	100	195	420	86	60	361	135	89	485	69
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	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	69	438	104	203	438	90	62	376	141	93	505	72
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	0	0	0	0	0	0
Cap, veh/h	88	551	465	165	508	104	79	549	464	120	592	500
Arrive On Green	0.05	0.29	0.29	0.09	0.34	0.34	0.04	0.29	0.29	0.07	0.31	0.31
Sat Flow, veh/h	1795	1885	1589	1795	1516	311	1810	1900	1605	1810	1900	1605
Grp Volume(v), veh/h	69	438	104	203	0	528	62	376	141	93	505	72
Grp Sat Flow(s),veh/h/ln	1795	1885	1589	1795	0	1827	1810	1900	1605	1810	1900	1605
Q Serve(g_s), s	2.5	14.0	3.2	6.0	0.0	17.6	2.2	11.5	4.5	3.3	16.3	2.1
Cycle Q Clear(g_c), s	2.5	14.0	3.2	6.0	0.0	17.6	2.2	11.5	4.5	3.3	16.3	2.1
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	88	551	465	165	0	613	79	549	464	120	592	500
V/C Ratio(X)	0.78	0.79	0.22	1.23	0.00	0.86	0.78	0.69	0.30	0.77	0.85	0.14
Avail Cap(c_a), veh/h	165	1169	985	165	0	1133	582	1033	872	582	1033	872
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	21.3	17.5	29.7	0.0	20.3	30.9	20.6	18.1	30.0	21.1	16.2
Incr Delay (d2), s/veh	5.6	1.0	0.1	145.5	0.0	1.4	6.2	0.6	0.1	3.9	1.4	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	1.2	5.8	1.1	9.1	0.0	7.1	1.1	4.8	1.6	1.5	6.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	22.3	17.6	175.1	0.0	21.7	37.1	21.2	18.2	33.9	22.5	16.3
LnGrp LOS	D	C	B	F	A	C	D	C	B	C	C	B
Approach Vol, veh/h		611			731			579			670	
Approach Delay, s/veh		23.1			64.3			22.2			23.4	
Approach LOS		C			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	23.4	7.2	26.4	6.9	24.9	10.0	23.6				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	21.0	35.5	6.0	40.5	21.0	35.5	6.0	40.5				
Max Q Clear Time (g_c+I1), s	5.3	13.5	4.5	19.6	4.2	18.3	8.0	16.0				
Green Ext Time (p_c), s	0.0	1.7	0.0	2.3	0.0	2.1	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay				34.6								
HCM 6th LOS				C								




HCM 6th TWSC
7: Mildred St W & Northern Site Access

Fircrest Prose
Future (2026) With-Project PM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	13	646	22	0	759
Future Vol, veh/h	0	13	646	22	0	759
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	0	13	666	23	0	782
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	678	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	456	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	456	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.1	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 456		-		
HCM Lane V/C Ratio	-	- 0.029		-		
HCM Control Delay (s)	-	- 13.1		-		
HCM Lane LOS	-	- B		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

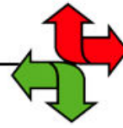
HCM 6th TWSC
8: Mildred St W & Southern Site Access

Fircrest Prose
Future (2026) With-Project PM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	12	629	16	0	714
Future Vol, veh/h	0	12	629	16	0	714
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	0	12	648	16	0	736
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	656	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	469	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	469	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.9	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	- 469		-		
HCM Lane V/C Ratio	-	- 0.026		-		
HCM Control Delay (s)	-	- 12.9		-		
HCM Lane LOS	-	- B		-		
HCM 95th %tile Q(veh)	-	- 0.1		-		

Appendix D: Signal Warrant Analysis

Manual on Uniform Traffic Control Devices (MUTCD)



- A. Existing AM Peak Hour
(615 Major, 345 Minor)
- B. Future (2026) Without-Project AM
Peak Hour
(700 Major, 370 Minor)

MUTCD Home
Site Map

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2009 Edition Part 4 Figure 4C-3. Warrant 3, Peak Hour

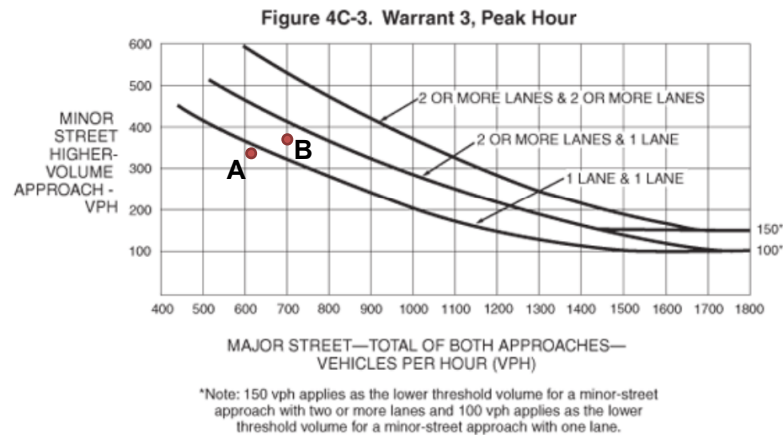


Figure 4C-3. Warrant 3, Peak Hour

This figure shows a graph depicting numerical values for Warrant 3, Peak Hour (see Section 4C.04 for further details).

The table below shows the approximate VPH on the major street and corresponding VPH on the minor street for each

Table for Figure 4C-3

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1800	100	1800	100 or 150*	1800	150
1700	100	1700	100 or 150*	1700	150
1600	100	1600	120 or 150*	1600	170
1500	100	1500	145 or 150*	1500	180
1400	120	1400	155	1400	220
1300	130	1300	190	1300	250
1200	150	1200	220	1200	285
1100	175	1100	250	1100	340
1000	200	1000	285	1000	370
900	245	900	325	900	425
800	285	800	360	800	475
700	325	700	420	700	540
600	360	600	460	600	590
500	420	500	Not available	500	Not available

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Appendix E: Trip Generation

Appendix D: Trip Generation

Fircrest Prose

<u>Proposed Use</u>																		
									Gross Trips			Pass-By ²				Total Net New		
Land Use	Setting	Size	Units	Model	Equation	Rate	Units	Inbound %	Inbound	Outbound	Subtotal	%	In	Out	Total	Inbound	Outbound	Total
Multifamily (Low-Rise) (LU 221)		412 du																
Daily	General Urban/Suburban			Equation (lin)	T= 4.77x-46.46	-	-	50%	960	960	1,920	-	-	-	-	960	960	1,920
AM Peak Hour	General Urban/Suburban			Equation (lin)	T= 0.44x-11.61	-	-	23%	39	131	170	-	-	-	-	39	131	170
PM Peak Hour	General Urban/Suburban			Equation (lin)	T= 0.39x+0.34	-	-	61%	98	63	161	-	-	-	-	98	63	161
Retail (LU 822)		12,000 sf																
Daily	General Urban/Suburban			Rate	-	7.81	per ksf	50%	47	47	94	40%	19	19	38	28	28	56
AM Peak Hour	General Urban/Suburban			Rate	-	2.36	per ksf	60%	17	11	28	40%	6	6	12	11	5	16
PM Peak Hour	General Urban/Suburban			Rate	-	6.59	per ksf	50%	40	39	79	40%	16	16	32	24	23	47
<u>Subtotal</u>																		
Daily									1,007	1,007	2,014		19	19	38	988	988	1,976
AM Peak Hour									56	142	198		6	6	12	50	136	186
PM Peak Hour									138	102	240		16	16	32	122	86	208

<u>Net New Trips</u>																		
Daily																988	988	1976
AM Peak Hour																50	136	186
PM Peak Hour																122	86	208

Notes:

- 1. Trip rates based on Institute of Transportation Engineers' (ITE) *Trip Generation* 11th Edition equation and average trip rate as shown above.
- 2. Passby rates per ITE Trip Generation Manual (11th Edition, 2021).