

***Draft***

# 31-57 South B Street TIA

Prepared for:  
City of San Mateo

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SF23-1301

FEHR  PEERS

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# Executive Summary

This transportation impact assessment (TIA) reviews transportation conditions at and adjacent to the mixed-use Project at 31-57 South B Street ("the Project"), in the City of San Mateo. The proposed project will not result in CEQA impacts on VMT, bicycle, pedestrian, or transit circulation, or hazards and emergency access. The project presents no adverse LOS effects or site circulation issues, and the addition of proposed Project trips would not result in adverse effects on traffic operations. The project does not include features that would disrupt nearby roadway facilities nor generate a substantial number of vehicle trips that would worsen or create new traffic issues. The project meets the City's design standards and guidelines, except noted below. The following recommended changes to the site plan would ensure consistency with San Mateo standards and best planning practices.

## Recommendations

**Recommendation 1:** Extend proposed loading zone on B Street to be at least 40 feet and include both parking spaces.

**Recommendation 2:** To be consistent with the recommendations included in the City of San Mateo Pedestrian Guidelines and the San Mateo TOD Pedestrian Access Plan, the project should provide the following facilities:

- Add high visibility crosswalks to the north and west legs at 1<sup>st</sup> Avenue and Transit Center Way to provide an adequate pedestrian connections between the project site and the San Mateo Caltrain station and the Main Street parking garage. For the west leg of this intersection (crossing 1<sup>st</sup> Avenue), evaluate the feasibility of including other pedestrian safety features with City of San Mateo staff, such as a raised crosswalk or a curb extension and a Rectangular Rapid Flashing Beacon (RRFB) per Federal Highway Administration (FHWA) recommendations for uncontrolled crossings.<sup>1</sup>
- Evaluate the feasibility of a pedestrian scramble and curb extensions at the intersection of South B Street and 1<sup>st</sup> Avenue with City of San Mateo staff.

**Recommendation 3:** To be consistent with the recommendations included in the SamTrans Bus Stop Improvement Plan, the project should provide the following transit features:

- Benches/Seating
- Shade Structure with Lighting
- Real-time arrival information
- Trash receptacles

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<sup>1</sup> See page 16 of the FHWA [Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations](#) for recommended countermeasures for uncontrolled crossings.



# Introduction

This transportation impact assessment (TIA) reviews transportation conditions at and adjacent to the mixed-use project located at 31-57 South B Street in the City of San Mateo. Conditions were evaluated for the project site without the proposed project, for near-term conditions with and without the proposed project, and for future conditions with and without the proposed project. The topics presented herein are based on the City of San Mateo's *Transportation Impact Analysis (TIA) Guidelines* (July 2020) and are intended to disclose the transportation related CEQA impacts and local transportation effects of the project. These topics include an assessment of vehicle level of service, vehicle miles traveled (VMT), site access and circulation, driveway site distance and vehicle queuing, parking, hazards and emergency vehicle access, and neighborhood traffic.



## Study Area and Scenarios

The project site consists of a 13,887 square foot (0.32 acre) parcel on the corner of 1<sup>st</sup> Avenue and South B Street. The project site is bounded to the north by retail uses along South B Street, to the east by the San Mateo Caltrain station, to the south by retail uses along 1<sup>st</sup> Avenue and South B Street, and to the west by residential and retail uses along South B Street. The study area, which is shown in **Figure 1** Error! Reference source not found., is located in downtown San Mateo between El Camino Real and U.S. 101. The project site is directly adjacent to the San Mateo Caltrain station.

Based on recent changes to the California Environmental Quality Act (CEQA) guidelines with the implementation of SB 743, and due to guidance provided by OPR, vehicle miles traveled (VMT) is recommended as the appropriate measure of transportation impacts under CEQA. Level of service (LOS) and other similar vehicle delay or capacity metrics can no longer serve as transportation impact metrics for CEQA analysis. As stated in the City's TIA Guidelines, the City of San Mateo shifted to using VMT for CEQA impact evaluation. Additionally, the City's TIA Guidelines continue to require an LOS evaluation for land use development projects through its non-CEQA local transportation analysis requirements. Based on these guidelines, five intersections would qualify as study intersections within the project vicinity:<sup>2</sup>

- Baldwin Ave and South B Street
- 1<sup>st</sup> Avenue and South B Street
- 1<sup>st</sup> Avenue and South Claremont Street
- 2<sup>nd</sup> Avenue and South Ellsworth Avenue
- 2<sup>nd</sup> Avenue and South Claremont Street

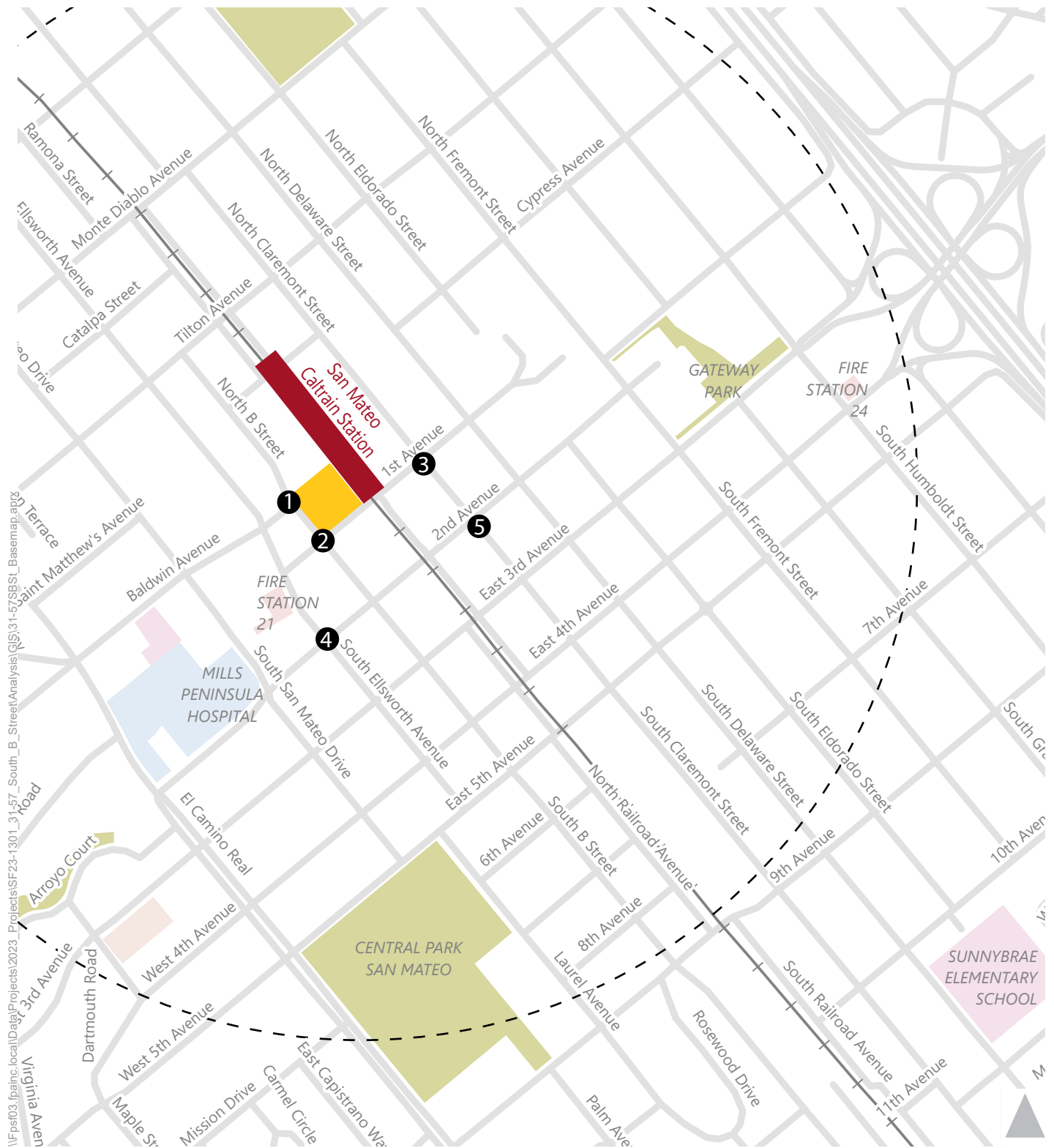
Transportation conditions were evaluated for the weekday peak periods of 7:00-9:00 AM and 4:00-6:00 PM in a manner consistent with the TIA Guidelines. Traffic conditions were evaluated for the following scenarios:

- Existing Conditions: Existing traffic volumes were based on in-person vehicle counts collected at the five study intersections on Wednesday, May 24, 2023.
- Opening Year Conditions: Existing traffic volumes plus traffic generated by approved but not yet completed or occupied developments near the project site.
- Opening Year Plus Project Conditions: Project generated trips added to opening year traffic volumes.
- Cumulative No Project Conditions: Cumulative no project conditions reflect estimated future traffic volumes with the project trips removed from the study intersections.
- Cumulative Plus Project Conditions: Cumulative plus project conditions reflect estimated future traffic volumes for the year 2040, including the project-generated vehicle trips.

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<sup>2</sup> The intersections on South Ellsworth Avenue and South Claremont Street were selected as they are the nearest intersections that meet the City's TIA guidelines due to the closure of B Street to vehicle traffic between 1<sup>st</sup> Avenue and 2<sup>nd</sup> Avenue, the lack of through access for project trips on Railroad Avenue, and the location of the parking garages that would be used by the project.





- 31-57 S B Street Project Location
- Caltrain Station - 0.5 Mile Radius
- # Study Intersections



Figure 1  
Project Location

# Project Description

The project site includes a 13,887 square foot (0.32 acre) parcel on the corner of South B Street and 1<sup>st</sup> Avenue. The proposed project consists of five parcels that currently include a donut shop and several vacant commercial uses. The project site is bounded to the north by retail uses along South B Street, to the east by the San Mateo Caltrain station, to the south by retail uses along 1<sup>st</sup> Avenue and South B Street, and to the west by residential and retail uses along South B Street. The project site has a General Plan Designation of Downtown Retail Core Support and a zoning designation of CBD. The purpose of the CBD District “to encourage the development and re-use of existing downtown structures as a center for retail, cultural, entertainment, and community service uses.”<sup>3</sup>

The project proposes to demolish all existing project site structures and would redevelop the site with a new four-story 41,190 square-foot mixed-use building. The building would be approximately 55 feet high and would include 33,472 square feet of office space and 4,945 square feet of retail space. The building’s ground level would include retail, a lobby, and office space. The second, third, and fourth floors would consist entirely of office space.

The building’s primary pedestrian entrance, which includes a lobby, would be located on South B Street and would provide access to pedestrians coming from Downtown San Mateo and the Caltrain. In addition to the main pedestrian entrance on South B Street, the project proposes secondary pedestrian entrances along 1<sup>st</sup> Avenue and South B Street for the ground floor retail and office uses.

The proposed project will not include on-site automobile parking. Due to passage of AB 2097, the City of San Mateo cannot enforce minimum parking requirements on the proposed project because the project is located within ½ mile of a major transit stop.<sup>4</sup> The project proposes to designate a single on-street passenger and commercial loading space on South B Street. The project will include bicycle parking in accordance with City standards. The project is required to provide 11 total bicycle parking spaces, including six short term spaces and five long term spaces. The project proposes 24 total bicycle parking spaces, which includes six short term spaces and 18 long term spaces.

The project proposes to provide wider sidewalks, street furnishings, plant street trees, and add pedestrian scale lighting along project frontages to meet City of San Mateo standards, and to promote connectivity and pedestrian safety in the project area.

The Project will include a Transportation Demand Management (TDM) Plan that would result in a decrease in the number of trips generated and parking demand compared to typical Projects of this use and size.

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<sup>3</sup> City of San Mateo Municipal Code, <https://law.cityofsanmateo.org/us/ca/cities/san-mateo/code/27.38>

<sup>4</sup> California Legislative, AB-2097 Residential, commercial, or other development types: parking requirements, 2022, [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=202120220AB2097](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB2097)



# Existing Transportation Conditions

The existing transportation conditions surrounding the project site relating to the following topics are presented below: the roadway network, pedestrian facilities, bicycle facilities, transit service, vehicle volumes and lane configurations, and parking conditions.

## Existing Roadway Network

As shown in **Figure 1**, the project site is located at the corner of 1<sup>st</sup> Avenue and South B Street. El Camino Real (State Route 82) and US 101 are the two primary regional north-south access routes. Drivers will use these regional roadways to reach State Route 92, which provides east-west regional access to the project site. Local streets that provide direct access to the project site are described below.

South B Street is a two-way north-west street with one travel lane in each direction. South B Street is designated as a Class III bike route between Baldwin Avenue in the north and 9<sup>th</sup> Avenue in the south. On-street parking is available along most of the street in the area surrounding the project site. South B Street is designated as a pedestrian-only zone between 1<sup>st</sup> Avenue and 3<sup>rd</sup> Avenue and the road is closed to private automobile traffic in that segment. South B Street is approximately 45 feet wide, and each sidewalk is approximately nine to fifteen feet wide.

1<sup>st</sup> Avenue is a two-way east-west street with one travel lane in each direction. The street spans from South Ellsworth Street in the west to the San Mateo Creek in the east. On-street parking is prohibited on the block of 1<sup>st</sup> Avenue that fronts the project site, but on-street parking is available along most of the street. Between South B Street and South Claremont Avenue, 1<sup>st</sup> Avenue includes an at-grade railroad crossing which allows for pedestrian access. The roadway adjacent to the proposed project site is approximately 45 feet in width and the sidewalks are each approximately twelve feet wide.

Baldwin Avenue is a two-way north-west street with one travel lane in each direction. The street spans from El Camino Real in the west to South B Street in the east. On-street parking is available along most of the street. The roadway is a Class III bike route from San Mateo Drive to South B Street. The roadway adjacent to the proposed project site is approximately 65 feet in width and the sidewalks are approximately ten to twenty feet wide.

South Ellsworth Avenue is a two-way east-west street with one travel lane in each direction. On-street parking is available on a majority of the street, in the area surrounding the project site. The roadway near the proposed project site is approximately 50 feet wide and the sidewalks are approximately ten to fifteen feet wide.

## Existing Pedestrian Facilities

All streets in the vicinity of the project site have sidewalks. The project site is adjacent to the signalized study intersection of 1<sup>st</sup> Avenue and South B Street and the unsignalized study intersection of Baldwin Ave



and South B Street, both of which have standard crosswalks on each leg. The unsignalized intersection of 1<sup>st</sup> Avenue and Transit Center Way directly to the east of the project site serves as a driveway for the San Mateo Caltrain station parking lot and does not have marked crosswalks across Transit Center Way or 1<sup>st</sup> Avenue. The sidewalks in the vicinity of the project site are generally in good condition, and range from nine- to twenty-feet wide. With respect to ADA accessibility, the curb ramps at 1<sup>st</sup> Avenue and South B Street do not include truncated domes or directional curb ramps. Thus, the intersection does not comply with current ADA standards, unless it is technically infeasible to add directional curb ramps.<sup>5</sup>

In the last four years, there have been three pedestrian/vehicle collisions reported at the five study intersections as a result of vehicles colliding with pedestrians while crossing at the crosswalk<sup>6</sup>:

- 1st Avenue and South B Street: two collisions
- 2nd Avenue and South Ellsworth Avenue: one collision

The City of San Mateo, through its 2022 Transit-Oriented Development (TOD) Pedestrian Access Plan, has proposed several improvements to the public right of way, including adding high visibility crosswalks on the north and west legs of 1<sup>st</sup> Avenue and Transit Center Way, ensuring the sidewalk minimum meets City pedestrian design guidelines on 1<sup>st</sup> Avenue and Transit Center Way, and adding a pedestrian scramble and curb extensions at the intersection of South B Street and 1<sup>st</sup> Avenue.

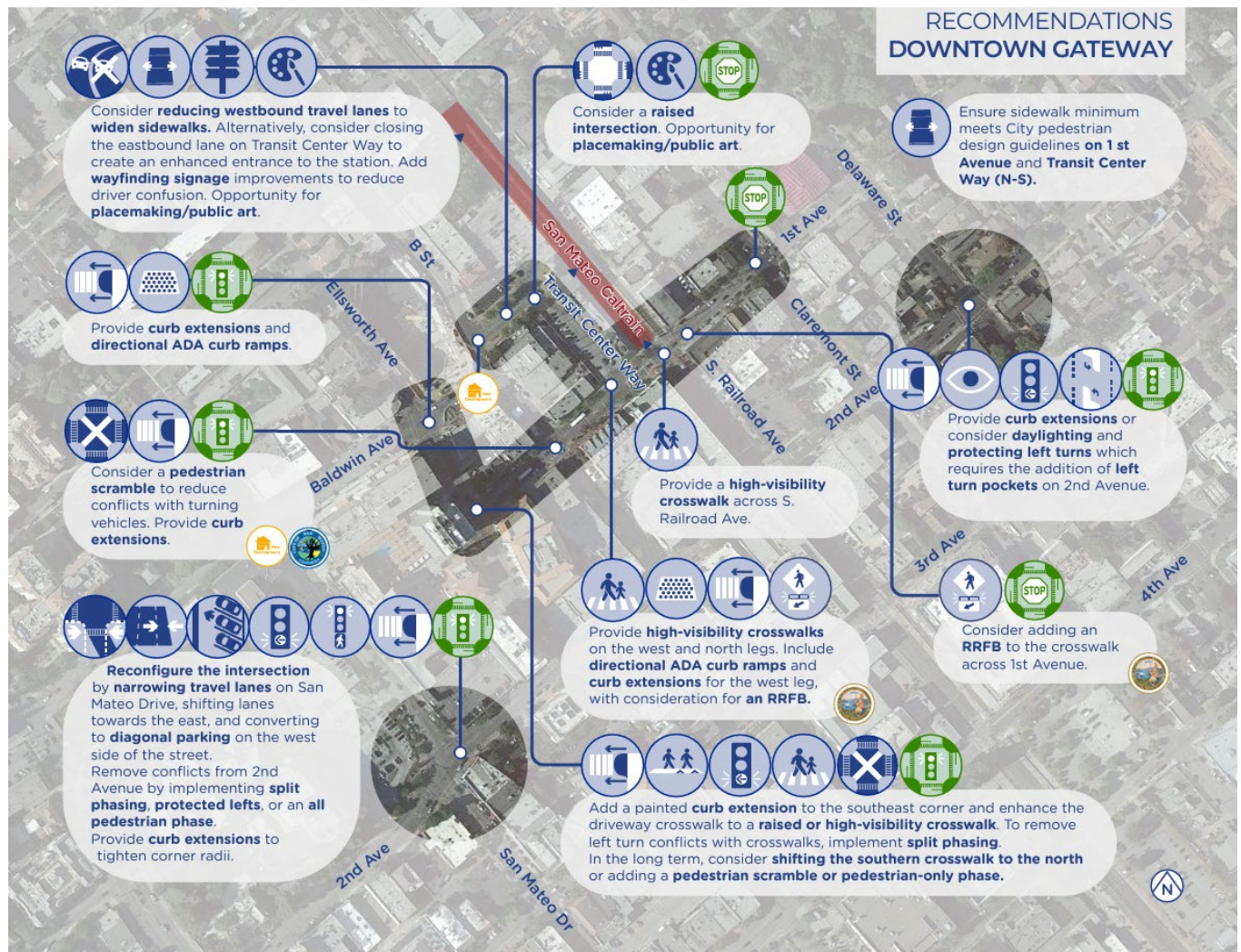
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<sup>5</sup> As noted in section R203.6.1.1 of the *Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way Crosswalks* (September 2023), one curb ramp shall be provided for each crosswalk (e.g., a curb ramp that aligns with the crosswalks as a “directional curb ramp”. Accessible at <https://www.access-board.gov/prowag/scoping.html#r203611-crosswalks-at-an-intersection>.

<sup>6</sup> City of San Mateo Collision Data, 2022, [https://experience.arcgis.com/experience/8a9f7321d1ce46ffbc0e1f04757efb5f/page/Maps/?data\\_id=dataSource\\_8-Traffic\\_Data\\_Public\\_6061\\_807%3A72208&views=Pedestrian-Collisions](https://experience.arcgis.com/experience/8a9f7321d1ce46ffbc0e1f04757efb5f/page/Maps/?data_id=dataSource_8-Traffic_Data_Public_6061_807%3A72208&views=Pedestrian-Collisions)







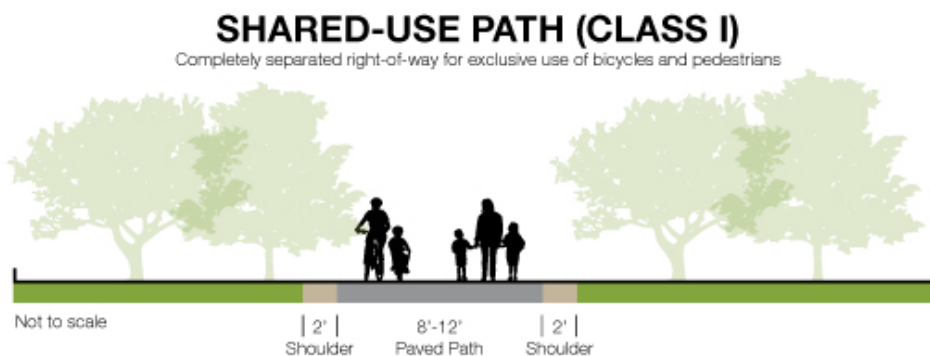
**Inset 1: Recommendations for Access Improvements for San Mateo Caltrain Station from 2022 San Mateo TOD Pedestrian Access Plan**



## Existing Bicycle Facilities

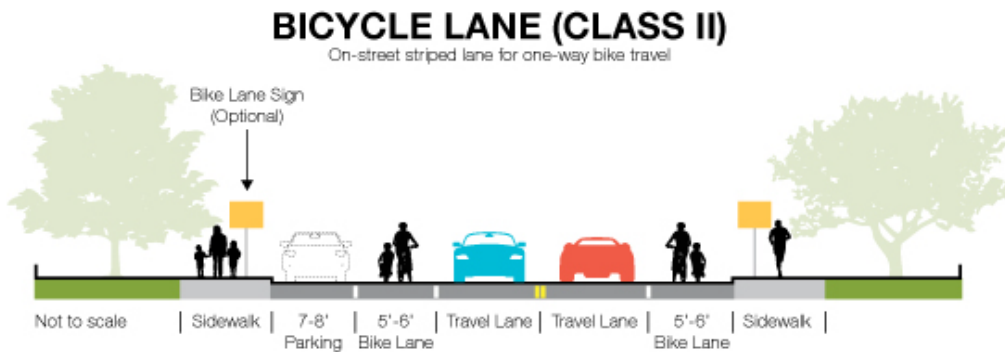
Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the *Highway Design Manual* (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary types of bikeway facilities: Class I, Class II, Class III, and Class IV. These facility types are described below.

Class I Bikeway (Bike Path) provides a completely separate right-of-way, is designated for the exclusive use of bicycles and pedestrians and minimizes vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed.

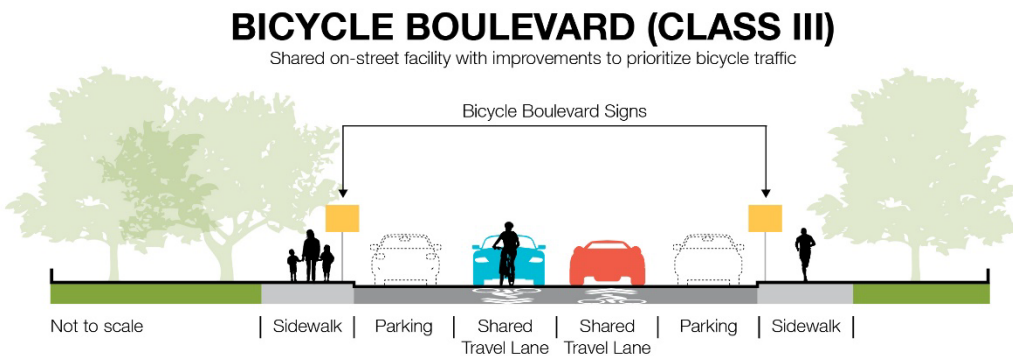


Class II Bikeways (Bike Lanes) are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally five feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. Note that when grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separated Bikeways.

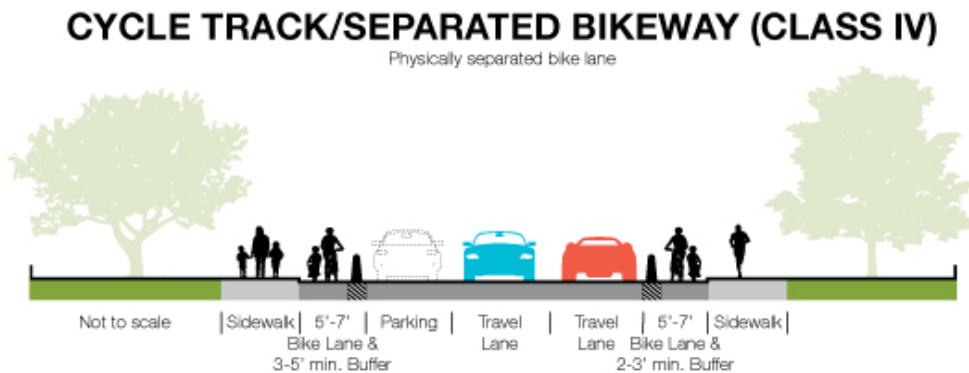




Class III Bikeway (Bicycle Routes/Bicycle Boulevards) are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to a) provide continuity to other bicycle facilities, or b) designate preferred routes through high demand corridors. Bicycle routes are implemented on low-speed (less than 25 mph) and low-volume (less than 3,000 vehicles/day) streets. The San Mateo Bicycle Master Plan also designates a special subset of Bicycle Routes which include traffic calming treatments as Bicycle Boulevards.



- Class IV Bikeway (Cycle Tracks/Protected Bike Lanes) provide a right-of-way designated exclusively for bicycle travel within a roadway and which are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts, inflexible physical barriers, or parked cars.



Existing bicycle facilities near the project site include Class III bicycle routes on East 5<sup>th</sup> Avenue, South Claremont Street. Additionally, there are Class II bike lanes on South Delaware Street south of East 5<sup>th</sup> Avenue.

As shown on *Figure 3.7 of the 2020 San Mateo Bicycle Master Plan*<sup>7</sup>, the bicycle facility along South B Street is considered to have a high “Level of Traffic Stress” (LTS).<sup>8</sup> LTS measures bicycling comfort based on roadway characteristics. Low stress bikeways are comfortable for everyone to ride on, including people LTS categorizes as “interested but concerned” in bicycling. In contrast, high stress bikeways are only tolerated by a few: primarily those that LTS describes as “strong and fearless” – those comfortable riding under any conditions (about 7% of the population). Class II and Class III bicycle facilities on roadways with multiple lanes of vehicle traffic and speed limits above 25 miles per hour are categorized as high stress bikeways. As such, South Claremont Street and South B Street are expected to be the primary north-south streets for bicycle access.

The City of San Mateo, through its 2020 Bicycle Master Plan, has proposed a Class IV separated bike lane on South B Street adjacent to the project site and a Class II bike lane on 1<sup>st</sup> Avenue as shown on *Figure 4.3 of the 2020 San Mateo Bicycle Master Plan*.<sup>9</sup> The bicycle improvements on South B Street and 1<sup>st</sup> Avenue are considered high priority as shown on *Figure 6.1 of the 2020 San Mateo Bicycle Master Plan*.<sup>10</sup> Existing and proposed bicycle facilities are shown on **Figure 2**.

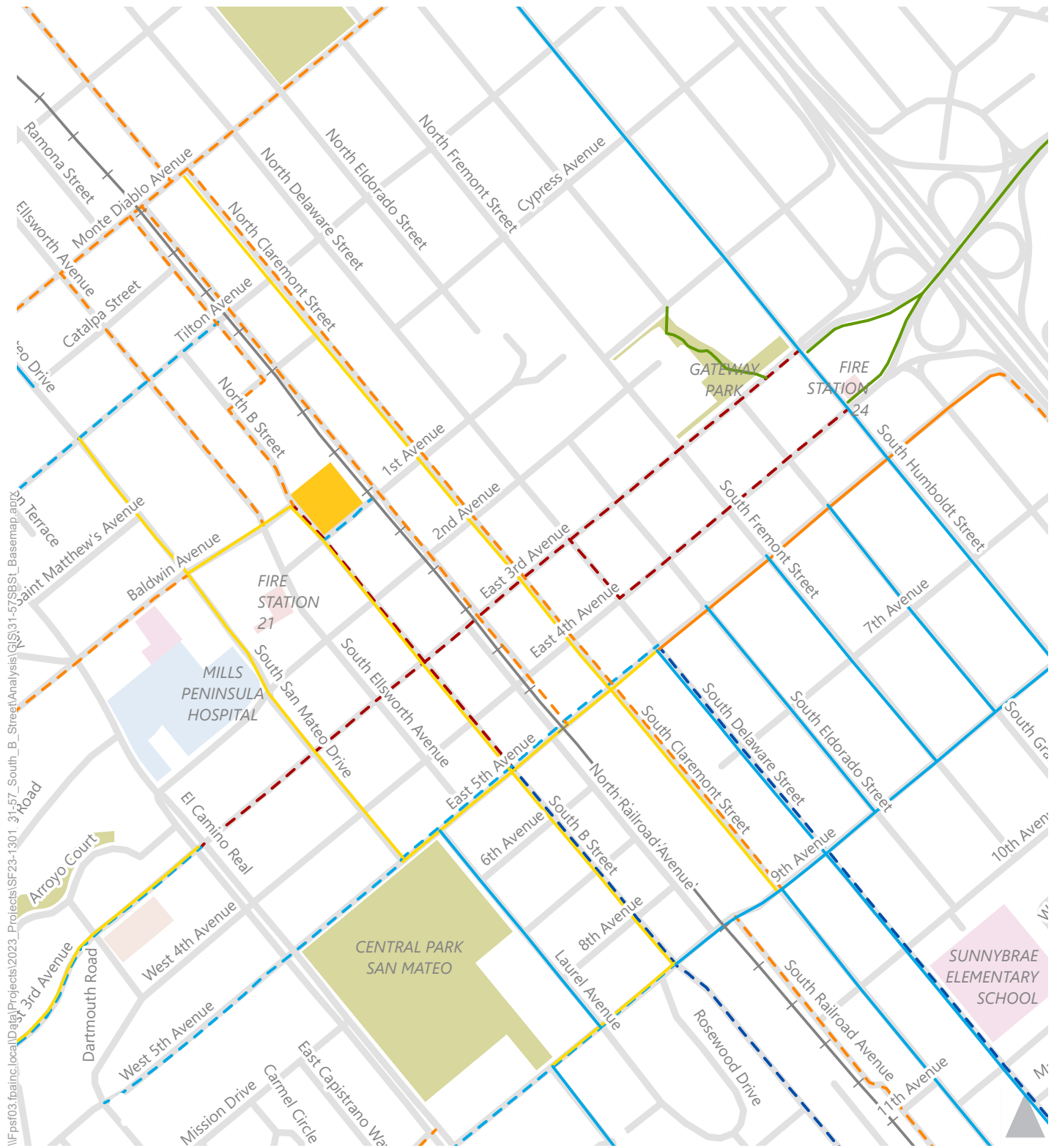
<sup>7</sup> *San Mateo Bicycle Master Plan*, City of San Mateo & Toole Design, 2020, p 28.

<sup>8</sup> The LTS Methodology was developed by Mekuria, Furth, and Nixon in *Low Stress Bicycling and Network Connectivity* (2012).

<sup>9</sup> *San Mateo Bicycle Master Plan*, City of San Mateo & Toole Design, 2020, p 38.

<sup>10</sup> *San Mateo Bicycle Master Plan*, City of San Mateo & Toole Design, 2020, p 60.





**31-57 S B Street Project Location**

**Existing Bicycle Facilities**

- Bike Lane
- Bike Route
- Shared Use Path
- Bike Boulevard

**Proposed Bicycle Facilities**

- - - Bike Boulevard
- - - Bike Lane
- - - Buffered Bike Lane
- - - Separated Bike Lane



Figure 2  
Existing and Proposed Bicycle Facilities

## Existing Transit Service

**Table 1** and **Figure 3** present the existing transit service providers and routes that provide transit service near the project site. SamTrans is San Mateo County’s primary regional and local bus transit provider and their bus routes serve all of the county’s Caltrain and Bay Area Rapid Transit (BART) regional rail stations, which provide access to other Bay Area counties. The schedule information below reflects June 2023 timetables.

**Table 1: Existing Transit Service**

Route	Weekday Peak Headway (minutes)	Weekend Peak Headway (minutes)	Hours of Operation	Closest Stop(s) to Project Site	Key Destinations Served by Route
SamTrans 53/53P	-	-	School Drop Off/Pick Up Hours Only	E 3 <sup>rd</sup> Avenue and S Delaware Street (AM); E 2 <sup>nd</sup> Avenue and S Delaware Street (PM)	Peninsula/Humboldt, Borel Middle School
SamTrans 59	-	-	School Drop Off/Pick Up Hours Only	1 <sup>st</sup> Avenue and B Street (AM); E 4 <sup>th</sup> Avenue and S Ellsworth (PM)	Hillsdale/Norfolk, Aragon High School
SamTrans 250	30	60	Weekdays: 5:50 AM – 10:55 PM; Saturdays: 7:02 AM – 8:40 PM	1 <sup>st</sup> Avenue and B Street	San Mateo and Hillsdale Caltrain Station, College of San Mateo
SamTrans 292	20-30	30	Weekdays and Weekends: 3:55 AM – 3:11AM	S Delaware Street and 2 <sup>nd</sup> Avenue	Downtown San Francisco, SFO, all Caltrain stations in the city of San Mateo, Hillsdale Mall
SamTrans 397	45	45	Weekdays and Saturdays: Early AM hours (1:04 AM – 6:46 AM)	El Camino Real and E 2 <sup>nd</sup> Avenue	Palo Alto Transit Center, Downtown San Francisco, San Francisco Airport, Millbrae Transit Center, Hillsdale Caltrain Station
SamTrans ECR	15	20	All day	El Camino Real and E 2 <sup>nd</sup> Avenue	Multiple BART stations, all Caltrain stations in the city of San Mateo, Palo Alto Transit Center
Caltrain	30	60	Weekdays: 5:28 AM – 12:16 AM; Weekends: 8:19 AM – 12:41 AM	San Mateo Station	San Francisco, San Jose

Note: Transit service is representative of June 2023 operations.

Source: SamTrans, Caltrain, and Fehr & Peers, 2023



Caltrain's San Mateo Station is directly east of the project site north of 1<sup>st</sup> Avenue. Caltrain runs through the length of the Peninsula and provides regional rail service, connecting San Mateo with destinations in San Jose and San Francisco. Caltrain passengers can transfer to BART at Millbrae Station, which provides rail service to the East Bay via San Francisco.

People walking between the project site and the Caltrain San Mateo Station would use the sidewalks on South B Street and Transit Center Way or on 1<sup>st</sup> Avenue to access the station. Sidewalks and street trees are provided along both walking routes. The intersection of Transit Center Way and 1<sup>st</sup> Avenue and the intersection of Transit Center Way and South B Street have curb ramps. However, the crossing of Transit Center Way is unmarked and the curb ramps on Transit Center Way and 1<sup>st</sup> Avenue are not directional and they do not include truncated domes. The TOD Pedestrian Master Plan includes various features described in the Existing Pedestrian Facilities section that would improve pedestrian connectivity between the project site and the Caltrain station.

Three regular service SamTrans routes serve the project area and provide access to BART, downtown San Francisco, and attractions within San Mateo:

- Route 250 – San Mateo Caltrain to College of San Mateo
- Route 292 – San Francisco to Hillsdale Mall
- Route ECR – Daly City BART to Palo Alto Transit Center

The Route ECR bus stops at El Camino Real and E 2<sup>nd</sup> Avenue include a sheltered benches in both the northbound and southbound directions. Route 250 has a stop adjacent to the project site at 1<sup>st</sup> Avenue and South B Street, which has two unsheltered benches. SamTrans Route 292 has two nearby stops at South Delaware Street and 3<sup>rd</sup> Avenue and South Delaware Street and 2<sup>nd</sup> Avenue. Neither of these stops have benches. SamTrans has prepared design guidelines for the minimum bus stop amenities that are expected at each stop based on service level, which would include a shade structure with lighting, bench/seating, map & schedule, and real time information for the Route 250 and 292 stops and full shelters with these amenities and bulb outs for Route ECR.<sup>11</sup>

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<sup>11</sup> Per slides 11 and 12 of October 2023 update to SamTrans board meeting: <https://www.samtrans.com/projects/bus-stop-improvement-plan>



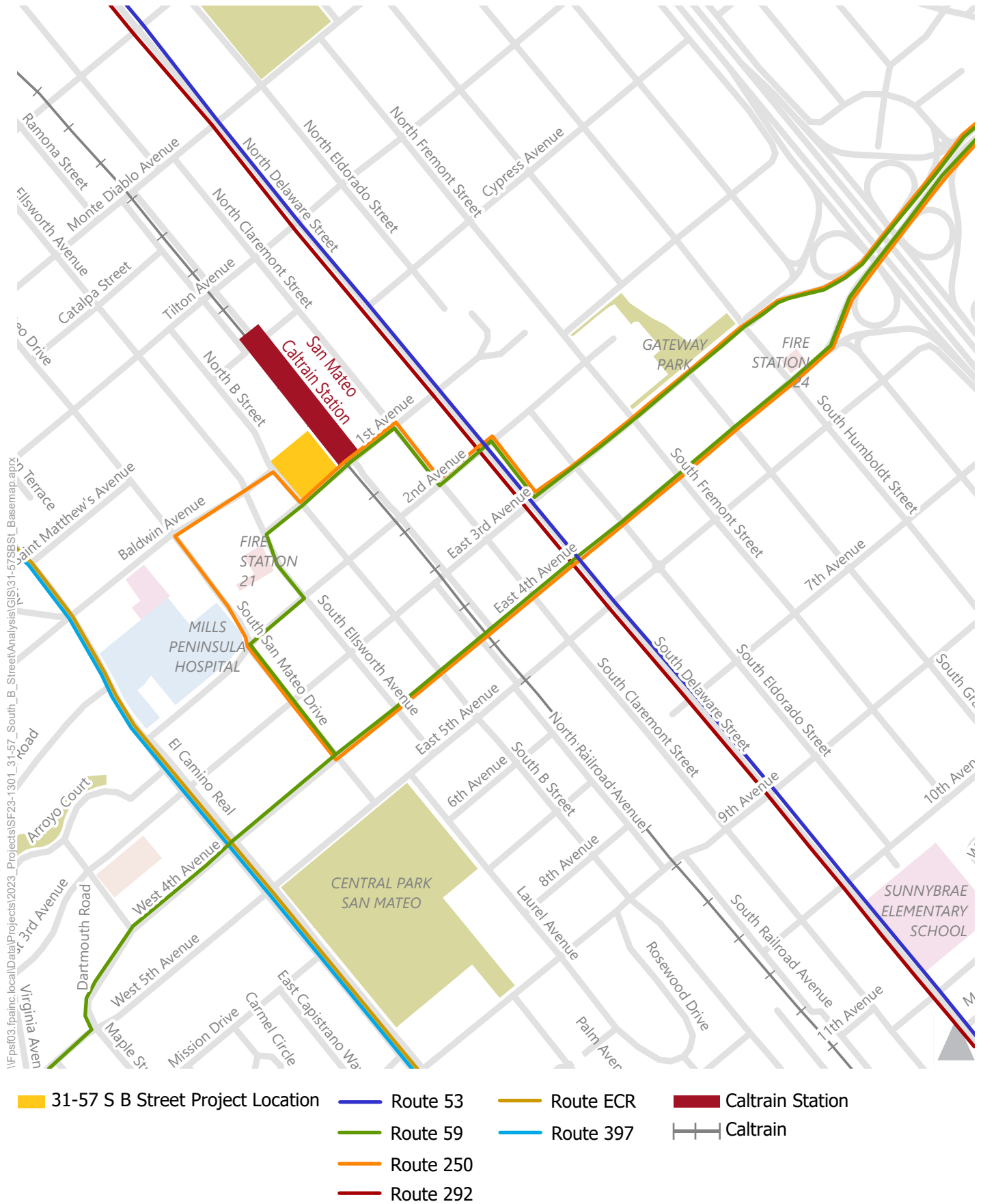


Figure 3  
Existing Transit Routes





## Existing Vehicle Volumes and Lane Configurations

Intersection turning movement counts were collected in May 2023 for both the AM peak period (7:00-9:00 AM) and PM peak period (4:00-6:00 PM). These counts include the number of automobiles, cyclists, and pedestrians at each of the five study intersections. In addition to these turning movement counts, 24-hour vehicle counts were collected in May 2023 on both of the streets that front the project site: 1<sup>st</sup> Avenue and South B Street. The existing lane configuration and traffic volumes for each study intersection are shown on **Figure 4**.

## Existing Intersection Level of Service

Five locations were identified as study intersections within the project vicinity:

- Baldwin Avenue and South B Street (all-way stop-controlled)
- 1<sup>st</sup> Avenue and South B Street (signalized)
- 1<sup>st</sup> Avenue and South Claremont Street (all-way stop-controlled)
- 2<sup>nd</sup> Avenue and South Ellsworth Avenue (signalized)
- 2<sup>nd</sup> Avenue and South Claremont Street (all-way stop-controlled)

Two of the five study intersections are signalized as indicated above. The City of San Mateo General Plan, through the City's TIA Guidelines, requires the City to *maintain a Level of Service no worse than mid LOS D, average delay of 45.0 seconds, as the acceptable Level of Service for all signalized intersections within the City. Adverse traffic operations are to be noted if a signalized intersection operating at acceptable LOS is triggered to operate at unacceptable levels of service (from mid LOS D or better to E or F) or increases in the average delay for a signalized intersection that is already operating at unacceptable LOS by 4.0 seconds or more.*

For unsignalized intersections, the guidelines require the City to *maintain a Level of Service no worse than LOS E for unsignalized intersections. Adverse traffic operations are to be noted if an unsignalized intersection operating at acceptable LOS is triggered to operate at unacceptable levels of service (from E or better to F) or increases the average delay for an unsignalized intersection that is already operating at unacceptable LOS by 4.0 or more seconds.*

To evaluate these policies, the City uses the metric Level of Service ("LOS"), which is a qualitative description of driver comfort and convenience. Typical factors that affect motorized vehicle LOS include speed, travel time, traffic interruptions, and freedom to maneuver. Typical LOS criteria for signalized and unsignalized intersections are defined in **Table 2** and **Table 3**, respectively.

The LOS for the proposed Project's study intersections was calculated using the Highway Capacity Manual (HCM) 2000 edition. This older edition of the HCM was used as the HCM 6<sup>th</sup> edition does not support leading pedestrian intervals, which give pedestrians a brief head start before the traffic signal turns green for vehicle traffic. Leading pedestrian intervals are used at all the signalized study intersections.







**Table 2: Signalized Intersection LOS Criteria**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	$\leq 10$
B	Operations with low delay occurring with good progression and/or short cycle lengths.	$> 10$ and $\leq 20$
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	$> 20$ and $\leq 35$
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	$> 35$ and $\leq 55$
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	$> 55$ and $\leq 80$
F	Operation with delays unacceptable to most drivers occurring due to over saturation poor progression, or very long cycle lengths.	$> 80$

Source: Transportation Research Board, 2016. *Highway Capacity Manual* 6<sup>th</sup> Edition

**Table 3: Unsignalized Intersection LOS Criteria**

Description	LOS	Average Control Delay (seconds per vehicle)
		Unsignalized Intersections
Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	A	$\leq 10$
Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	B	$> 10$ to 15
Stable flow, but the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	C	$> 15$ to 25
Represents high-density, but stable flow.	D	$> 25$ to 35
Represents operating conditions at or near the capacity level.	E	$> 35$ to 50
Represents forced or breakdown flow.	F	$> 50$

Source: *Highway Capacity Manual* 6th Edition, Transportation Research Board of the National Academies of Science, 2017.

**Table 4** below presents existing LOS and intersection delay for each study intersection. All intersections operate acceptably under existing conditions in both the AM and PM peak periods. See **Appendix A** for detailed LOS results.



**Table 4: Existing LOS and Delay Results**

Intersection	LOS Threshold	Peak Period	Existing	
			Delay (seconds)	LOS
1. Balwin Avenue and South B Street	E	AM	≤ 10	A
		PM	≤ 10	A
2. 1 <sup>st</sup> Avenue and South B Street	Mid-D (45 Secs)	AM	11	B
		PM	13	B
3. 1 <sup>st</sup> Avenue and South Claremont Street	E	AM	≤ 10	A
		PM	≤ 10	A
4. 2 <sup>nd</sup> Avenue and South Ellsworth Avenue	Mid-D (45 Secs)	AM	16	B
		PM	18	B
5. 2 <sup>nd</sup> Avenue and South Claremont Street	E	AM	≤ 10	A
		PM	≤ 10	A

Source: Fehr & Peers, 2023

## Existing Parking Conditions

There is no on-street parking available on 1<sup>st</sup> Avenue adjacent to the project site, but there is metered on-street parking along South B Street, totaling 11 metered spaces. The proposed project is also in the vicinity of two public City-owned parking garages: the Main Street Garage and the Transit Center Parking Garage.

South B Street, adjacent to the project site, has the following parking restrictions:

- **South B Street:** No parking between 4 AM – 6 AM every Monday, Wednesday, and Friday for street cleaning. Paid parking between 8 AM and 6 PM Monday through Saturday. There are two 24 minute time restricted parking spaces.

City-owned public parking facilities in the vicinity of the proposed project include:

- **Main Street Parking Garage:** The closest entrance is on 1<sup>st</sup> Avenue, opposite the San Mateo Caltrain station, between South B Street and South Railroad Avenue.
- **Transit Center Parking Garage:** This parking garage is entered through the San Mateo Caltrain station parking lot, which is accessed via 1<sup>st</sup> Avenue or Transit Center Way.



# Opening Year Conditions

The Opening Year reflects the anticipated transportation conditions at the time of the occupancy of the proposed project. Opening Year Conditions include traffic volumes added by nearby developments that have been approved but not yet completed or occupied near the project site and are expected to add traffic to the study intersections. The approved project list includes:

- 435 East 3<sup>rd</sup> Avenue Office and Residential Mixed-Use Development
- Block 21 Office and Residential Mixed-Use Development

Of these two nearby projects, the 435 East 3<sup>rd</sup> Avenue mixed-use Development is the only background project that affects the proposed project's study intersections. **Figure 5** shows the location of these projects relative to the project site. Background traffic generated by other reasonably foreseeable projects, including approved and proposed projects not shown on this figure in Downtown San Mateo, are captured within the cumulative conditions analysis presented later in this report.

Vehicle volumes for 435 East 3<sup>rd</sup> Avenue were extrapolated from the TIA provided by the City of San Mateo. Opening Year traffic volumes that include the estimated traffic generated by this development project are shown in **Figure 6**.





Figure 5  
Background Projects

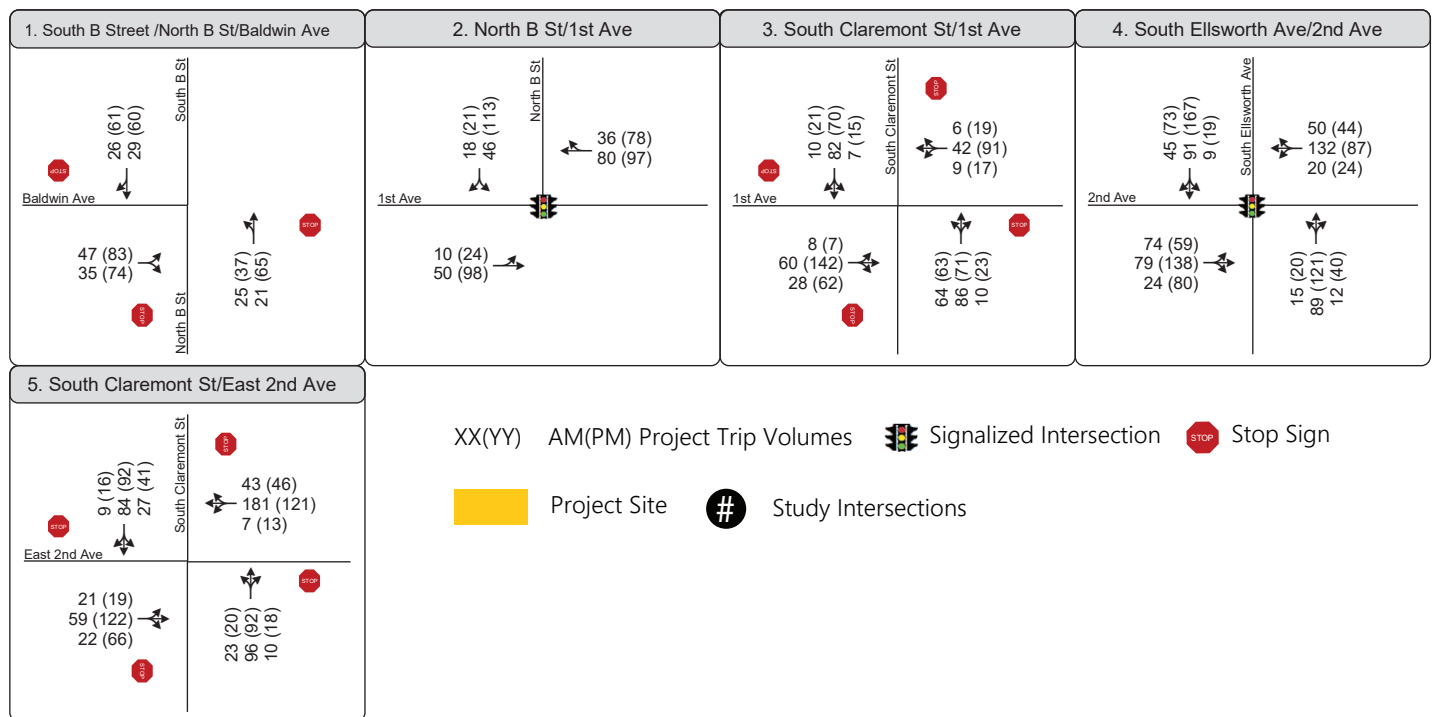
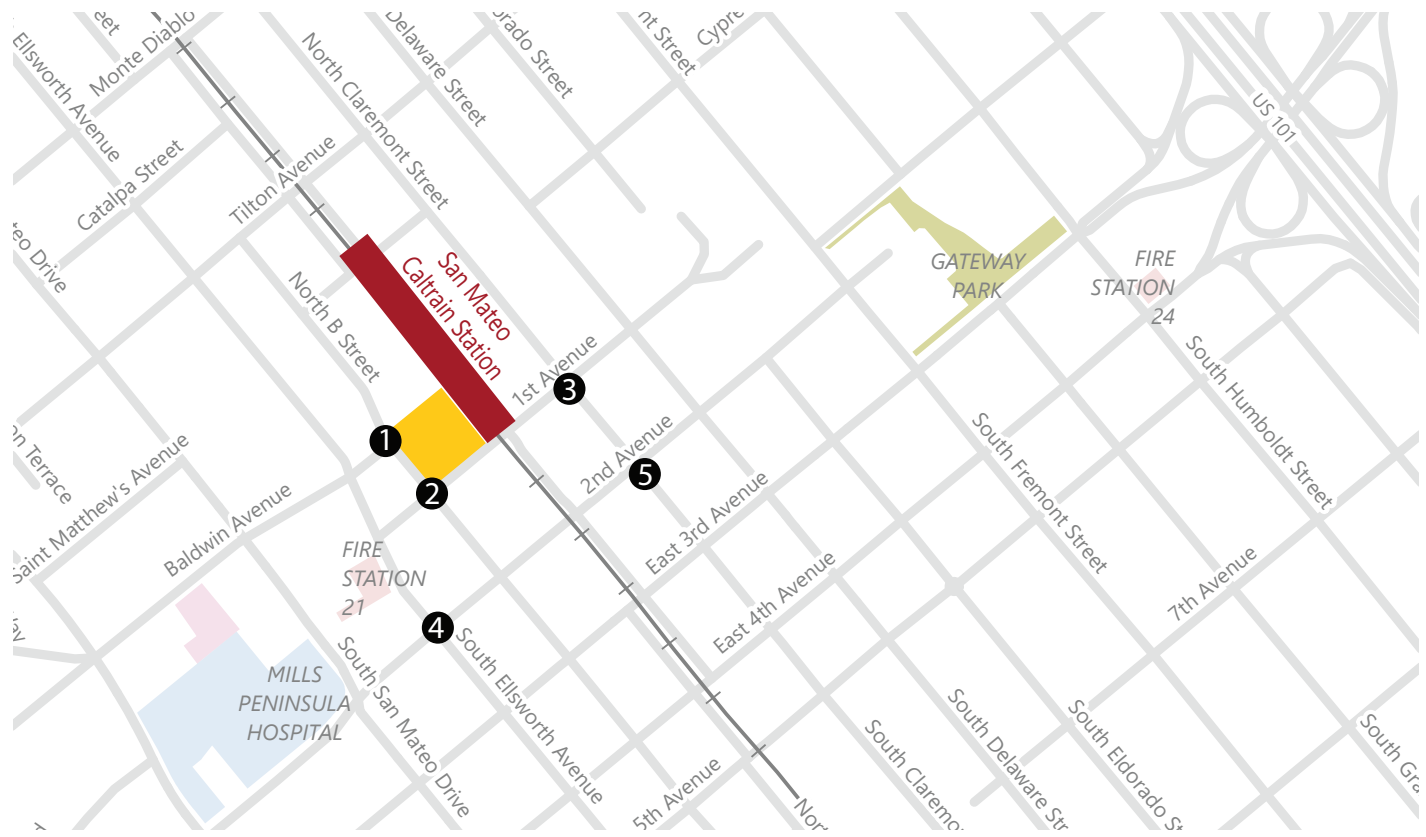


Figure 6

## Opening Year Vehicle Volumes Intersection Traffic Volumes, Lane Configurations, and Traffic Controls



## Opening Year Conditions Intersection Level of Service

**Table 5** below presents opening year LOS and intersection delay for each study intersection. There are limited changes in LOS between existing conditions and opening year conditions as the single background project would not substantially increase traffic volumes at these study locations. All of the study intersections perform acceptably under opening year conditions in both the AM and PM peak periods. See **Appendix A** for detailed LOS results.

**Table 5: Opening Year LOS and Delay Results**

Intersection	LOS Threshold	Peak Period	Existing		Opening Year	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1. Balwin Avenue and South B Street	E	AM	≤ 10	A	≤ 10	A
		PM	≤ 10	A	≤ 10	A
2. 1 <sup>st</sup> Avenue and South B Street	Mid-D (45 Secs)	AM	11	B	11	B
		PM	13	B	13	B
3. 1 <sup>st</sup> Avenue and South Claremont Street	E	AM	≤ 10	A	≤ 10	A
		PM	≤ 10	A	≤ 10	A
4. 2 <sup>nd</sup> Avenue and South Ellsworth Avenue	Mid-D (45 Secs)	AM	16	B	16	B
		PM	18	B	18	B
5. 2 <sup>nd</sup> Avenue and South Claremont Street	E	AM	≤ 10	A	≤ 10	A
		PM	≤ 10	A	≤ 10	A

Source: Fehr & Peers, 2023



# Project Conditions

The proposed project is a four-story mixed-use development with office and retail uses. This section presents the traffic conditions with the project, including VMT and LOS, while site access and circulation issues and other related topics are evaluated within the Additional Transportation Analysis sections.

## Project Trip Generation and Distribution

### Trip Generation

Trip generation is the process of estimating the number of vehicles that would likely access the Project on any given day. **Table 6** presents the trip generation for the Project. Trip generation data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual (11th Edition)* for the proposed project's land uses was used to estimate the trip generation of the project. ITE rates are primarily based on data collected at single-use suburban sites where the automobile is often the only travel mode. However, the Project site is in a somewhat dense, mixed-use urban environment near frequent regional and local transit service, where many trips are walk, bike, or transit trips. Therefore, the Environmental Protection Agency's (EPA) trip generation methodology known as MXD was used to adjust these ITE trip generation estimates to account for the built environment surrounding the Project site.

MXD adjusted trip generation rates consider the mixed-use nature of the proposed project and its proximity to transit and Downtown San Mateo's amenities, services, and residential uses.<sup>12</sup> The MXD method accounts for factors such as diversity of land uses, the design of the pedestrian and bicycling environment, community demographics, and the site's distance to transit. Trip reductions from internal capture represent trips between the two project land uses (e.g., retail visitors who may work in the office space). Trip reductions from walk/bike trips represent external person trips that are taken by foot or by bicycle (e.g., nearby San Mateo residents commuting to the proposed project on foot or bike).

In addition to the trip reductions from internal capture and the project site's location, trips from the project site's existing uses are also subtracted from the proposed project's trip generation estimates. The project site's existing trips were calculated using the same methodology as the proposed project. The ITE rate for "Strip Retail Plaza (822)" was used to estimate the vehicle trips from the existing donut shop. ITE also provides a rate for "Coffee/Donut Shop without Drive-Through Window (936)", but this rate was not selected for these trip generation estimates, as the studies used to calculate that trip generation rate are

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<sup>12</sup> For more information, visit <https://www.fehrandpeers.com/mxd/>. MXD methodologies were developed in tandem with the EPA as documented in the American Planning Association PAS Memo "Getting Trip Generation Right: Eliminating the Bias Against Mixed Use Development" by Jerry Walters, Brian Bochner, and Reid Ewing (May 2013). This paper can be accessed here: [https://www.fehrandpeers.com/wp-content/uploads/2019/11/APA\\_PAS\\_May2013\\_GettingTripGenRight-2.pdf](https://www.fehrandpeers.com/wp-content/uploads/2019/11/APA_PAS_May2013_GettingTripGenRight-2.pdf). These methodologies were revalidated as documented in the November/December 2020 issue of the APA's PAS Memo, entitled "[Still Getting Trip Generation Right: Revalidating MXD+](#)".





from coffee shops in larger automobile-oriented shopping centers and not located in a more walkable environment like Downtown San Mateo.

As shown in **Table 6** below, the trips generated by the existing uses were subtracted from the trips generated from the proposed project. After this reduction, the proposed project would generate a total of 40 net new vehicle trips in the AM peak period and 50 new vehicle trips in the PM peak period.

**Table 6: Project Vehicle Trip Generation**

Land Use	ITE LU Code	Quantity	Units <sup>1</sup>	Daily	AM			PM		
				Total	In	Out	Total	In	Out	Total
Proposed project										
General Office Building	710	33.5	KSF	363	45	6	51	8	40	48
Strip Retail Plaza (>40 KSF)	822	5	KSF	272	7	5	12	17	17	33
Internal Capture and Location Based Reductions <sup>2</sup>										
Internal Capture				-2	-2	0	-2	0	0	0
External Walk, Bike, and Transit				-159	-14	-3	-17	-6	-14	-20
Proposed Project Subtotal				474	36	8	44	19	43	61
Existing Uses										
Strip Retail Plaza (<40k Sq Ft)	822	1.8	KSF	98	2	2	4	6	6	12
Location Based Reductions <sup>2</sup>										
External Walk, Bike, and Transit				-12	0	0	0	-1	0	-1
Existing Uses Subtotal				86	2	2	4	5	6	11
Net new trips (Proposed project minus existing)				388	34	6	40	14	37	50

Notes: Assumes 100% of existing uses were occupied

1. KSF=1,000 square feet
2. Location based reductions were calculated using the EPA's MXD trip generation methodology, which accounts for built environment factors not accounted in the ITE Trip Generation Manual such as diversity of land uses, the design of the pedestrian and bicycle environment, site demographics, and the project's accessibility of transit, among other factors. Internal trip reductions account for trips made between land uses on the site.

Sources: Fehr & Peers; ITE *Trip Generation Manual*, 11<sup>th</sup> Edition, 2023

The MXD methodology estimates about a 25 to 30 percent reduction in automobile trips compared to rates presented in the ITE Trip Generation manual, due to the mix of nearby land uses (e.g., employees who live within walking distance) and proximity to transit. To provide a more conservative estimate, these trip generation reductions do not account for the transportation demand management (TDM) program, including the low VMT by design measures incorporated into the Project design such as the Project's density, mix of land uses, and transit-oriented location.<sup>13</sup> Implementation of programmatic and design-

<sup>13</sup> California Air Pollution Control Officers Association's (CAPCOA) Handbook, December 2021. Available at: [https://www.airquality.org/ClimateChange/Documents/Final%20Handbook\\_AB434.pdf](https://www.airquality.org/ClimateChange/Documents/Final%20Handbook_AB434.pdf)



based TDM measures via the TDM Plan could further reduce automobile mode share, vehicle trips and parking demand.

Comparing MXD results to available mode share data and vehicle trip counts from nearby communities helps gauge the reasonableness of trip reductions. Recent studies of travel behavior in Downtown Redwood City and Downtown Palo Alto found that approximately 45 percent and 52 percent of employees drive alone in the two cities, respectively.<sup>14</sup> These mode shares are 30 to 40 percent lower than the average U.S. drive alone rate. The Palo Alto study segmented the mode share by type of employment use, with the two uses most likely to have robust TDM programs (technology and government) achieving an approximately 40 percent drive alone mode share. Vehicle counts collected at mixed-use residential and office buildings adjacent to the Hillsdale Caltrain station by the San Mateo Rail Corridor Transportation Management Agency (TMA) were 40 to 50 percent lower than traditional suburban buildings.<sup>15</sup> Therefore, the MXD results reasonably fall within the range of similar office buildings in a similar location context.

### **Trip Distribution**

Trips generated by the project were distributed through the five study intersections based on existing travel patterns on the surrounding roadway system and the locations of nearby complementary land uses. The peak-period trips generated by the existing and proposed uses were assigned to the roadway network based on trip origins and destinations, roadway lane configurations, and the location of freeway on/off ramps. The trip distribution patterns were compared to ensure consistency with other recent studies, such as the nearby Block 21 office & residential mixed-use development.<sup>16</sup>

The proposed project does not include an on-site parking garage. Therefore, project trips were assigned to two nearby City-owned public parking garages: the Transit Center Parking Garage and the Main Street Parking Garage. Based on occupancy data on these two parking garages, and due to limited supply of available spaces at the Main Street Garage, it was assumed that 60 percent of project trips would use the Transit Center Parking Garage and that the remaining 40 percent of project trips would use the Main Street Parking Garage.

For the proposed project, approximately 45% of trips would travel to and from the two public parking garages via US 101. These trips would use South Delaware Street and South Claremont Street to access the US 101 ramps on 3<sup>rd</sup> Avenue and East 4<sup>th</sup> Avenue. About 45% of trips would travel to the garages from

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<sup>14</sup> City of Redwood City. July 2018. Redwood City Moves. Page 8 presents a summary of the existing mode share for downtown Redwood City compared to suburban neighborhoods: [http://rwcmoves.com/wp-content/uploads/2018/07/RWCmoves-Transportation-Plan\\_July16.pdf](http://rwcmoves.com/wp-content/uploads/2018/07/RWCmoves-Transportation-Plan_July16.pdf)

City of Palo Alto, 2019 Palo Alto TMA Annual Report, May 2020. Appendix A presents the survey results by year and by sector: <https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2020/id-11307-tma-annual-report.pdf>

<sup>15</sup> San Mateo Rail Corridor Transportation Management Agency. January 2018. 2017 Annual Report. This study included recently completed residential and office buildings in Bay Meadows, which 40 to 50 percent lower than traditional suburban buildings.

<sup>16</sup> Fehr & Peers., *Block 21 Office & Residential Mixed-Use Development TIA*, April 2022.



El Camino Real via Baldwin Avenue, South Ellsworth Avenue, and 2<sup>nd</sup> Avenue. Approximately 5% of trips would travel to the north via B Street and Claremont Street. Finally, about 5% of trips would go to the south, both via South Ellsworth Avenue and South Claremont Street. **Figure 7** shows the net project trip distribution and assignment of the project trips at the study intersections.



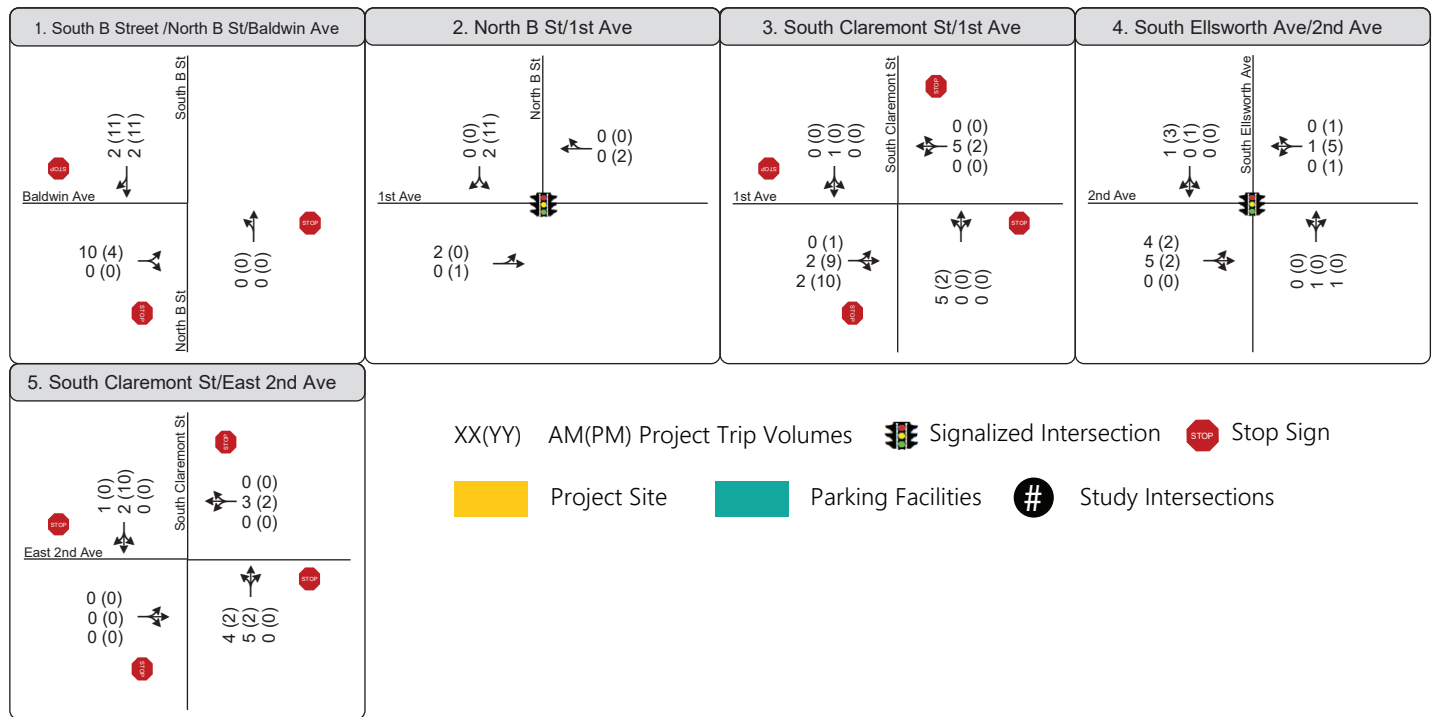
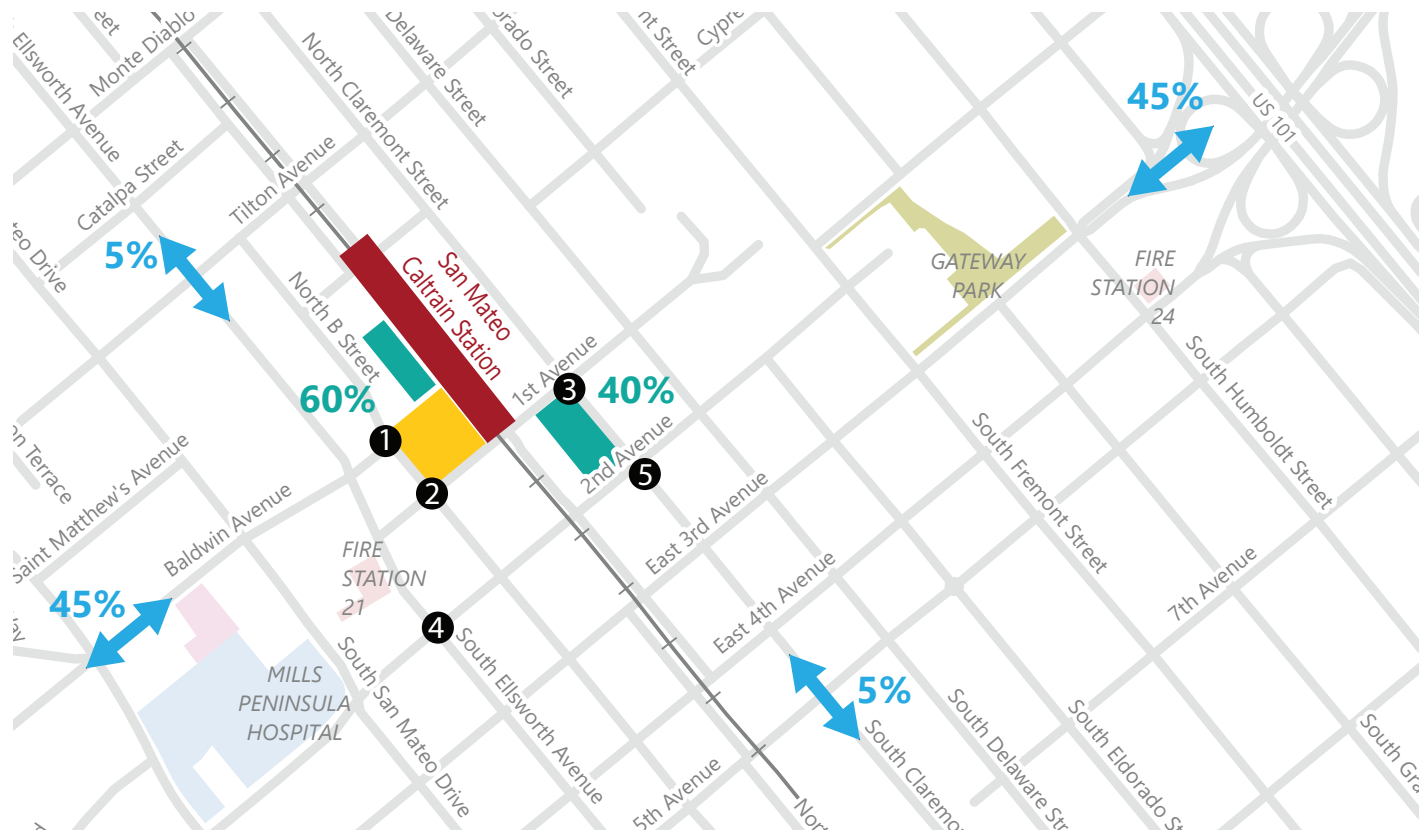


Figure 7

## Trip Distribution and Assignment of Project Types

## Plus Project VMT

VMT is a measurement of the distance and amount that people drive. VMT is calculated by multiplying the number of trips generated by a project by the total distance of each of those trips. Many factors affect the amount and distance a person might drive. The density of the surrounding built environment is the most important factor in the amount of VMT generated per person, as density affects how many places a person can access within a given distance, time, and cost, using different ways of travel (e.g., private vehicle, public transit, bicycling, walking, etc.).

Typically, lower density development provides fewer destinations in the immediate vicinity and therefore offers fewer transportation options than a location with high density area, with mix of land uses, and numerous ways of travel. Therefore, low-density development typically generates more VMT on a per capita basis when compared to a similarly sized developments located in urban areas. In general, higher VMT areas are associated with more air pollution, including greenhouse gas emissions, than lower VMT areas.

### VMT Screening

The Governor's Office of Planning and Research (OPR) has provided recommendations to local jurisdictions for adopting new VMT guidelines for CEQA analysis. Lead agencies, which include local jurisdictions like the City of San Mateo, have the final say in designing their methodology to assess VMT and to determine a relevant threshold that will require further VMT analysis. Lead agencies must prove that their selected analysis methodology aligns with SB 743's goals to promote infill development, reduce greenhouse gases, and reduce VMT.

Per the City of San Mateo's TIA guidelines, a project does not need to conduct a detailed VMT analysis if the project is located within a half mile of a high-quality transit stop, as the project can be presumed to have a less-than-significant VMT impact. The proposed project is located within a half mile of the San Mateo Caltrain station (see **Figure 1**), which qualifies as a high-quality transit service as defined by San Mateo's TIA guidelines. In addition to being close to high-quality transit, the proposed project must meet the following requirements to be presumed to have a less-than-significant VMT impact:

- have a floor area ratio of more than 0.75,
- include no more than the minimum parking required by the City of San Mateo,
- be consistent with the Metropolitan Transportation Commissions' (MTC) Sustainable Communities Strategy (SCS), and
- the project cannot result in a reduction of affordable residential units.

The proposed project has a floor area ratio of 4.15, does not provide more than the minimum parking required by the City of San Mateo, is consistent with MTC's SCS, and does not remove any existing affordable residential units. The project is consistent with the SCS's goals of creating healthy and safe streets by building a complete streets network, and reducing climate emissions by 1) providing land use



growth, and 2) promoting alternative modes of travel (walking/biking) through improvements like enhanced sidewalks and bicycle parking.

Therefore, the proposed project would have a less than significant VMT impact in opening year plus project and cumulative plus project conditions due to its proximity to high-quality transit.

## Opening Year Plus Project Vehicle Volumes and Level of Service

The proposed project's net new trips were added to the opening year traffic volumes to develop opening year plus project volumes, which are shown in **Figure 8**.

**Table 7** below presents the opening year and opening year plus project LOS and intersection delay for each study intersection. There are limited changes in LOS from Opening Year to Opening Year Plus Project conditions and all of the study intersections perform acceptably in both the AM and PM peak periods. See **Appendix A** for detailed LOS results.

**Table 7: Opening Year Plus Project LOS and Delay Results**

Intersection	LOS Threshold	Peak Period	Opening Year		Opening Year Plus Project	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1. Balwin Avenue and South B Street	E	AM	≤ 10	A	≤ 10	A
		PM	≤ 10	A	≤ 10	A
2. 1 <sup>st</sup> Avenue and South B Street	Mid-D (45 Secs)	AM	11	B	11	B
		PM	13	B	13	B
3. 1 <sup>st</sup> Avenue and South Claremont Street	E	AM	≤ 10	A	≤ 10	A
		PM	≤ 10	A	≤ 10	A
4. 2 <sup>nd</sup> Avenue and South Ellsworth Avenue	Mid-D (45 Secs)	AM	16	B	16	B
		PM	18	B	19	B
5. 2 <sup>nd</sup> Avenue and South Claremont Street	E	AM	≤ 10	A	≤ 10	A
		PM	≤ 10	A	≤ 10	A

Source: Fehr & Peers, 2023



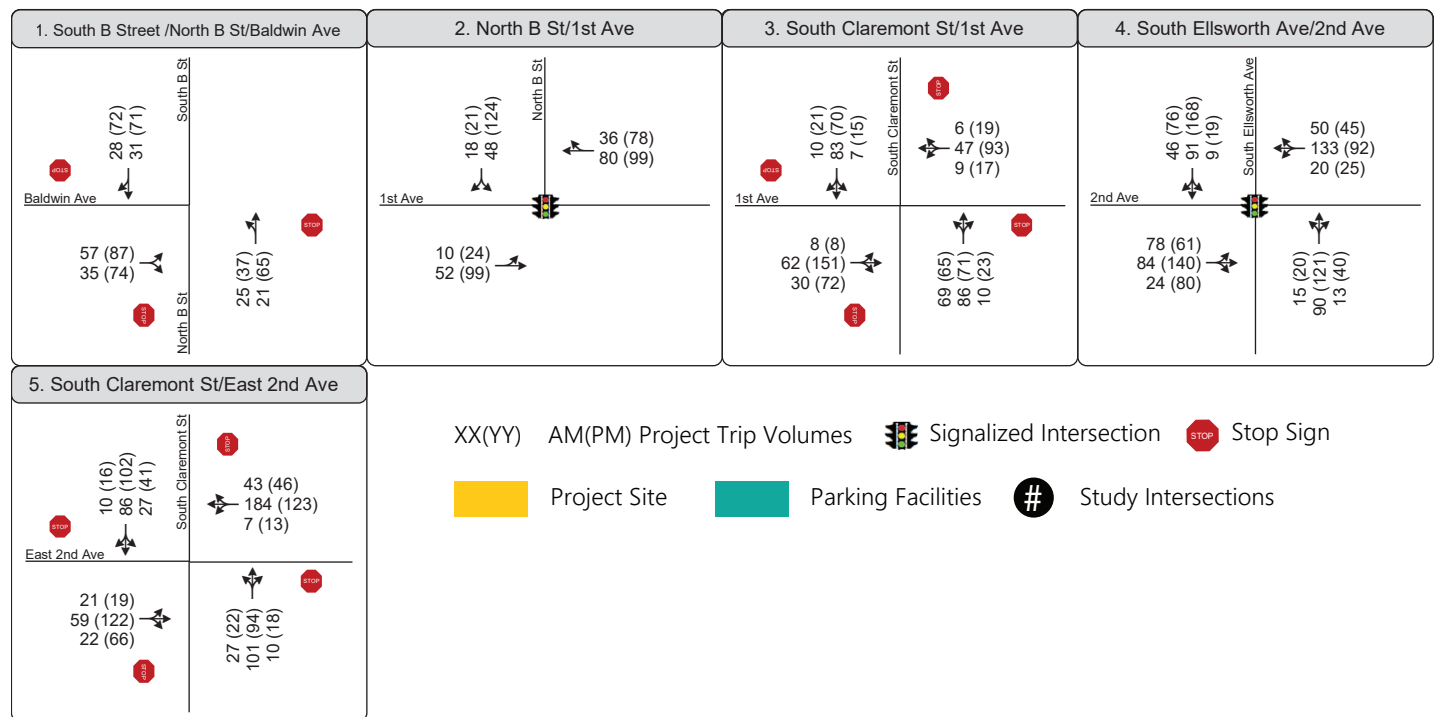
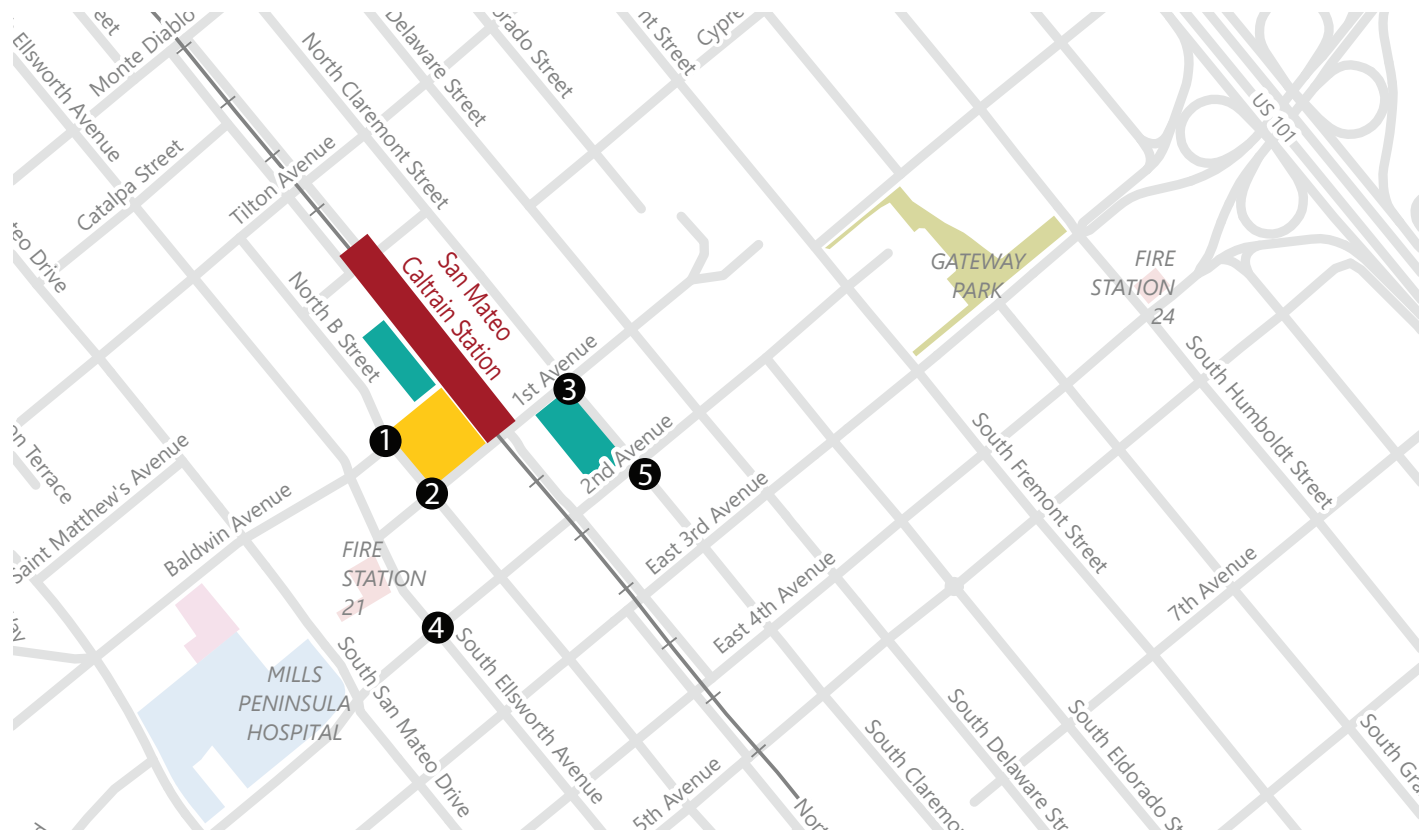


Figure 8

## Opening Year Plus Project Vehicle Volumes Intersection Traffic Volumes, Lane Configurations, and Traffic Controls



# Cumulative Conditions

Cumulative conditions reflect estimated future traffic volumes in 2040, approximately 17 years into the future from the date of the existing traffic counts in May 2023. Future traffic volume forecasts were developed using estimates from the City of San Mateo Travel Demand Model 2040 General Plan No-Build scenario, which is consistent with a full buildout the City of San Mateo's 2030 General Plan.

Cumulative traffic growth was estimated by establishing gateways in the travel demand model in the vicinity of the project site and at the study intersections. The change in forecasted traffic volumes passing through those gateways in the model's 2019 and 2040 scenarios was analyzed to estimate traffic growth in the area. Using this method, the City's travel demand model forecasts an average 2.3 percent annual traffic growth rate in the area surrounding the project site.

Based on an analysis of the land use assumptions in the City of San Mateo Travel Demand Model, it was determined that the proposed project, 31-57 South B Street, is included in the model's cumulative traffic forecasts, as the addition of the proposed project is consistent with a full buildout of the City of San Mateo's 2030 General Plan. Therefore, the travel demand model's forecasts represent cumulative plus project traffic conditions. The proposed project's net new trip generation estimates were subtracted from these volumes to calculate cumulative no project conditions.

- The resulting cumulative traffic volumes for the five study intersections are shown in **Figure 9**
- 616 South B Street (Nazareth Vista) Commercial and Residential Mixed Use Development

Figure 9 and the cumulative plus project volumes are shown in **Figure 10**. Pending development projects in the vicinity of the Proposed Project's study intersections are listed below, which in addition to 435 East 3<sup>rd</sup> Street, also includes nearby planned development projects that do not have trips assigned to the proposed project's study intersections. The City of San Mateo Travel Demand Model 2040 General Plan No-Build scenario was reviewed to confirm the growth from these and other pending development Projects was included in the land use growth assumptions.

- Block 21 Office and Residential Mixed-Use Development
- 222 East 4th Avenue (Draeger's) Office, Retail, and Residential Mixed-Use Development
- 480 East 4th Avenue (Kiku Crossing) Residential Development
- 616 South B Street (Nazareth Vista) Commercial and Residential Mixed Use Development





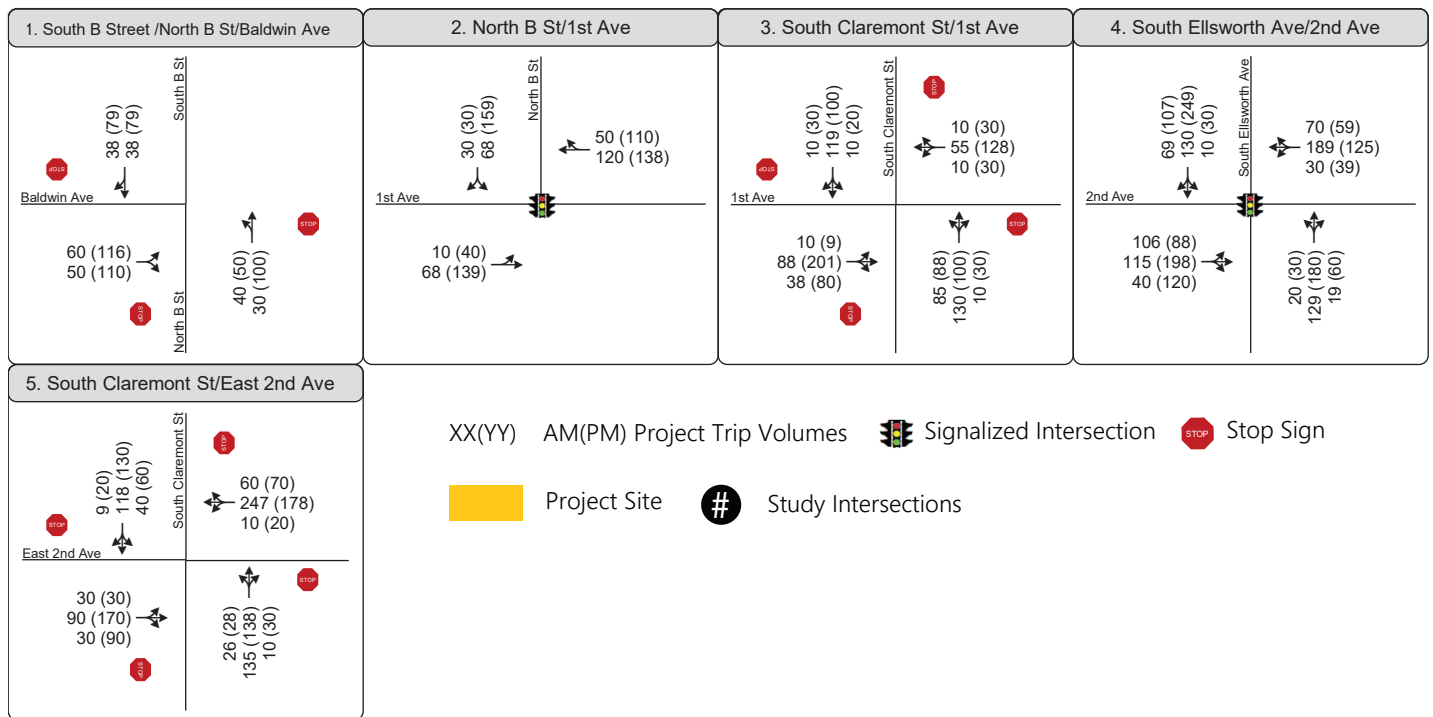
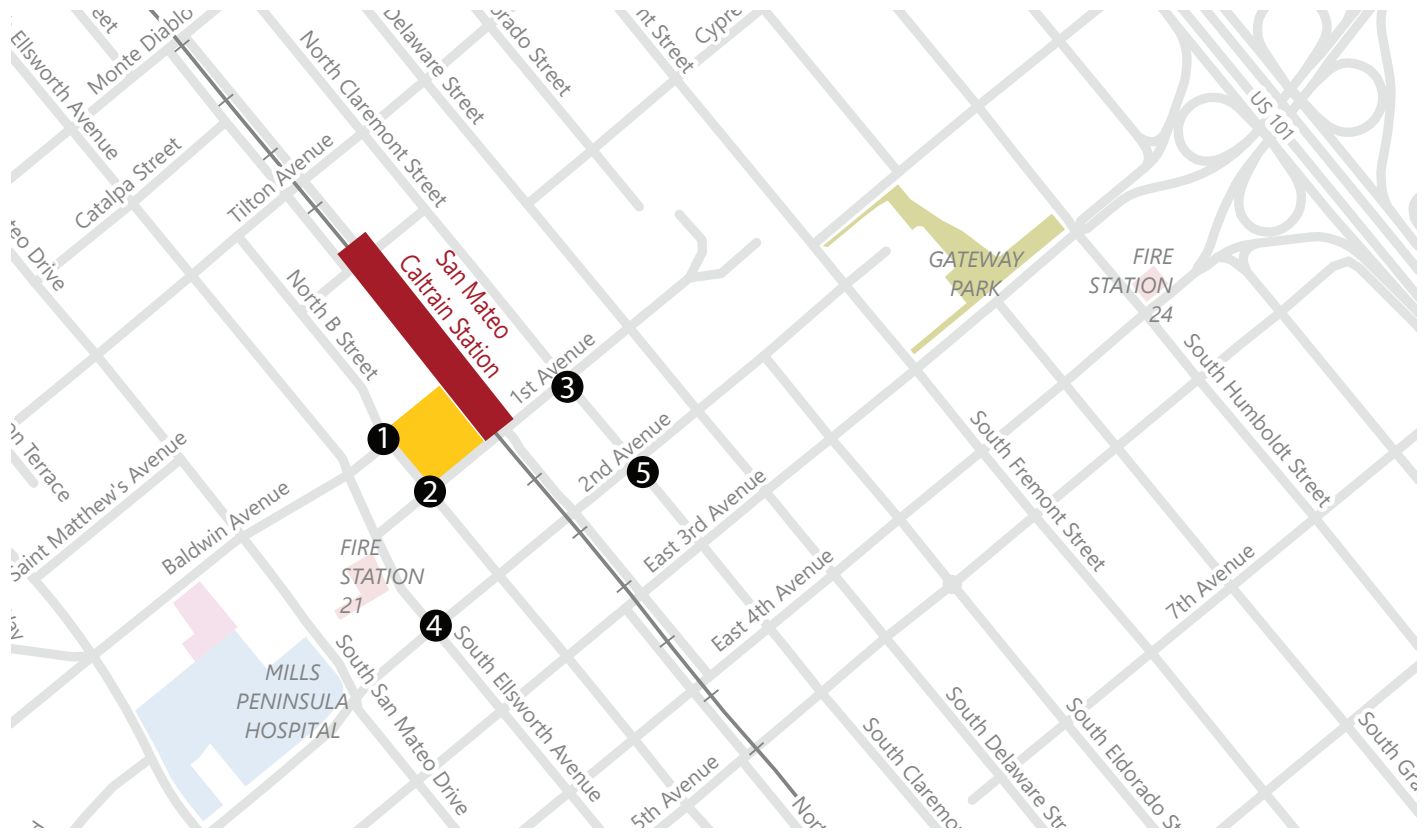


Figure 9

## Cumulative Vehicle Volumes Intersection Traffic Volumes, Lane Configurations, and Traffic Controls



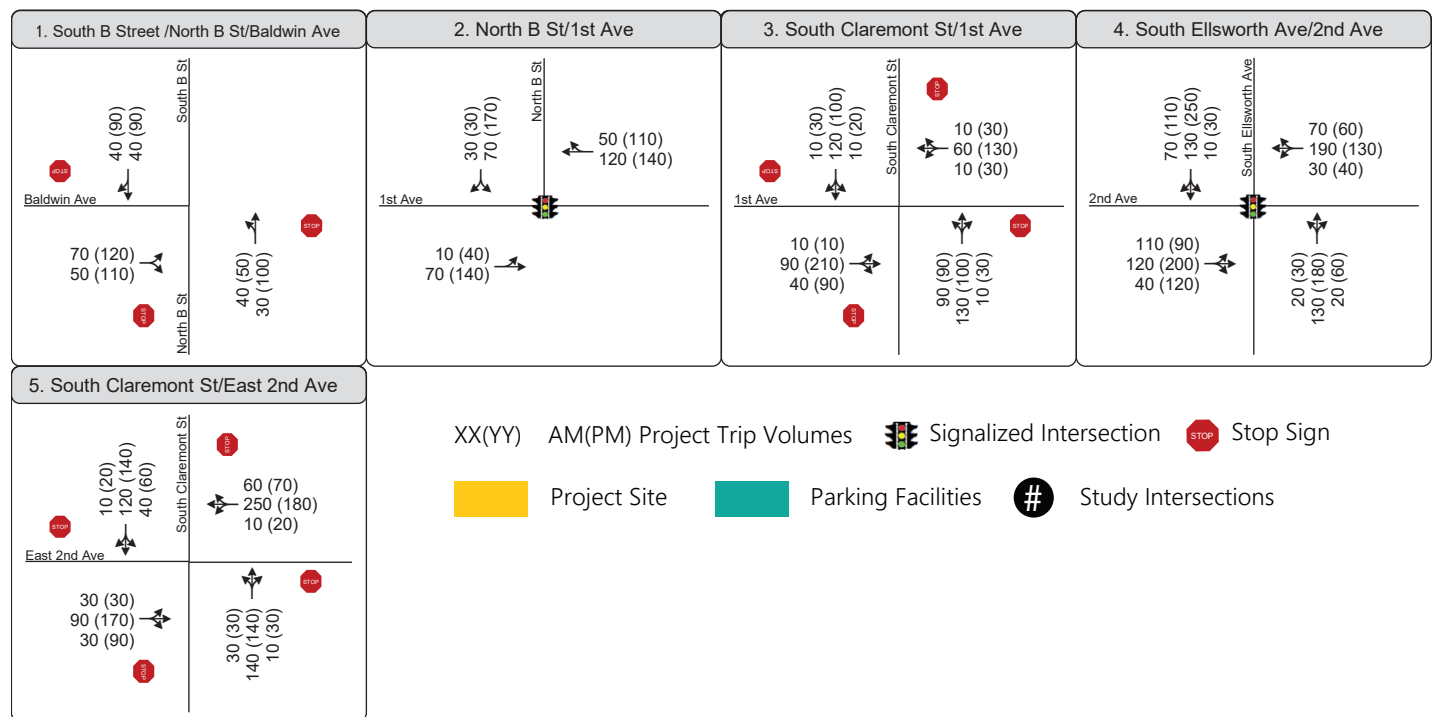
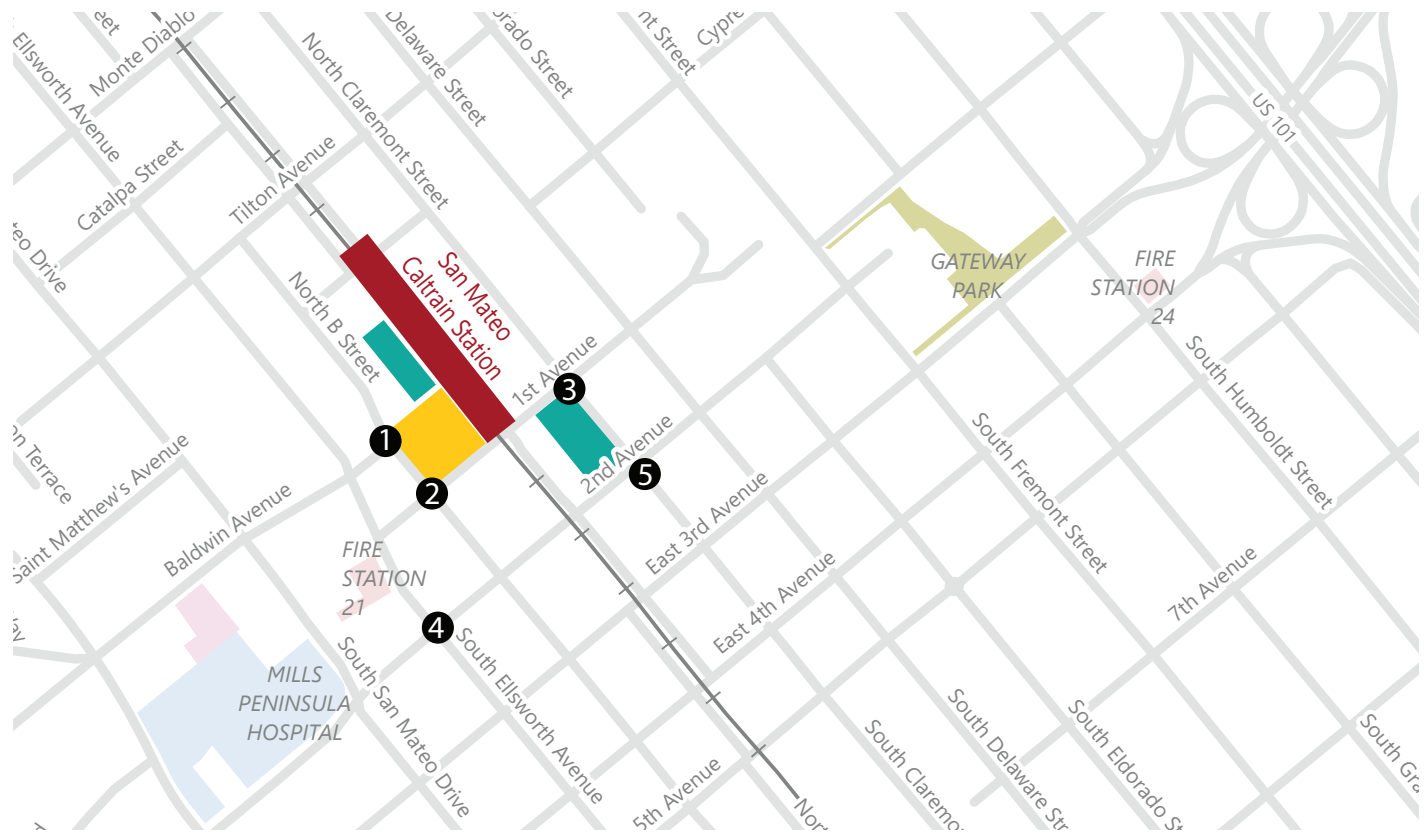


Figure 10  
Cumulative Plus Project Vehicle Volumes  
Intersection Traffic Volumes, Lane Configurations, and Traffic Controls

## Cumulative Intersection Level of Service

**Table 8** presents the cumulative and cumulative plus project LOS and intersection delay for each study intersection. See **Appendix A** for detailed LOS results. Intersection delay increased between the existing conditions and opening year conditions to the cumulative conditions due to the forecasted traffic volume growth. The LOS degraded between existing conditions and cumulative no project conditions at the following intersections:

- 1st Avenue and South Claremont Street
  - PM Peak Hour: LOS A to LOS B
- 2nd Avenue and South Ellsworth Avenue
  - PM Peak Hour: LOS B to LOS C
- 2<sup>nd</sup> Avenue and South Claremont Street
  - AM Peak Hour: LOS A to LOS B
  - PM Peak Hour: LOS A to LOS B

Although the intersection operations worsened from existing to cumulative no projects conditions, all five study intersections continue to operate acceptably in both the AM and PM peak periods, and the addition of project trips at these intersections would not have an adverse effect on traffic conditions.

**Table 8: Cumulative LOS and Delay Results**

Intersection	LOS Threshold	Peak Period	Existing		Cumulative No Project		Cumulative Plus Project	
			Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
1. Balwin Avenue and South B Street	E	AM	≤ 10	A	8	A	≤ 10	A
		PM	≤ 10	A	9	A	≤ 10	A
2. 1 <sup>st</sup> Avenue and South B Street <sup>1</sup>	Mid-D (45 Secs)	AM	11	B	12	B	12	B
		PM	13	B	14	B	14	B
3. 1 <sup>st</sup> Avenue and South Claremont Street	E	AM	≤ 10	A	9	A	≤ 10	A
		PM	≤ 10	A	13	B	13	B
4. 2 <sup>nd</sup> Avenue and South Ellsworth Avenue	Mid-D (45 Secs)	AM	16	B	18	B	18	B
		PM	18	B	26	C	26	C
5. 2 <sup>nd</sup> Avenue and South Claremont Street	E	AM	≤ 10	A	11	B	12	B
		PM	≤ 10	A	14	B	14	B

Source: Fehr & Peers, 2023

1. These LOS results do not include the proposed pedestrian scramble phase at the intersection of 1<sup>st</sup> Avenue and South B Street.



# Additional Transportation Analysis

This section presents an analysis of other transportation considerations that were assessed for the proposed project, including the following:

- Impacts to vehicle, pedestrian & bicycle site access
- Parking
- Hazards and emergency vehicle access
- Neighborhood traffic

The analysis in this section was conducted with reference to the proposed project site plan dated July 21, 2023, in accordance with the City of San Mateo's General Plan Circulation Element. This is outlined in the TIA guidelines, which require that a non-CEQA local transportation analysis is conducted for land use projects that may have an effect on the local street system. The analysis in this section is based on professional judgment in accordance with the standards and methods employed by traffic engineering professionals.

## Vehicle Site Access and Circulation

The following section describes vehicle site access and circulation for the proposed project.

### Vehicle Parking Conditions

The proposed project would not provide any automobile parking, and due to the project's proximity to Caltrain and per AB 2097, the project is not required to provide automobile parking. As shown in **Table 6**, the proposed project would generate approximately 388 vehicle trips per day, with 40 trips during the AM peak period and 50 trips during the PM peak period. Proposed project employees and visitors who drive to the site could use public parking facilities, like the Transit Center Garage and the Main Street Garage, to park their vehicles.

### Loading and Curbside Management

The proposed project includes 25-feet long by 8-feet wide one on-street yellow loading space that could be used for freight and passenger loading purposes (yellow zone).<sup>17</sup> In addition to this loading zone, and as shown in **Figure 11** the proposed project will accommodate trash pickup via the site's existing rear alleyway, which is accessed from 1<sup>st</sup> Avenue. The Recology truck would stop in the alleyway during loading, which would typically occur between 6:00-9:00 AM. Given the local serving nature of this alleyway for the project site and the parcel directly north of the project site, the collection of garbage within the alleyway would not substantially interfere with other roadway users.

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<sup>17</sup> San Mateo's definitions of yellow zones are presented online at: <https://www.cityofsanmateo.org/2087/Curb-Markings>



Per City of San Mateo Municipal Code (SMMC) 27.64.390, the project is required to provide a single 10-foot by 25-foot loading berth for freight loading for the project's retail uses. The project's proposed office space, with is about 33,500 square feet, is below the 50,000 square foot threshold which would require the dedication of an additional loading space. While the single on-street loading space does not meet the requirements listed in SMMC 27.64.390 given the lack of an off-street garage for this facility, the code allows for a variance in accordance with [Chapter 27.78](#) or approval by the Zoning Administrator based on the following findings:

- (1) Adequate on-street parking is available along a parcel frontage to accommodate a loading berth;
- (2) The on-street parking intended for temporary loading purposes is located at least 50 feet from any intersections, and provides convenient access to building entrances; and
- (3) The street width is adequate to accommodate loading vehicles without impeding use of the sidewalk or local traffic circulation or otherwise be detrimental to public safety.

The proposed on-street loading space would be shorter than the required loading berth and could accommodate a commercial vehicle or small van but may not be able to accommodate the length of delivery vehicles such as an SU-30. Further, as indicated by studies of passenger loading curb use, a passenger loading zone for a single vehicle should typically be 40 feet long when located next to a driveway, intersection or bus stop to ensure vehicles have room to fully pull out of the travel way.<sup>18</sup> Therefore a longer loading zone may be appropriate for the Project to accommodate deliveries by SU-30 vehicles and passenger loading activities. B Street is the appropriate place for the loading zone due to the location of the primarily entrances and the fact that street is wide enough (50 feet wide) to accommodate loading vehicles without impeding use of the sidewalk or local traffic circulation or otherwise be detrimental to public safety.

In the absence of City of San Mateo guidance and/or industry standards for the estimation of loading demand, the Project's freight and passenger vehicle loading demand was estimated per San Francisco's Transportation Impact Analysis Guidelines.<sup>19</sup> This approach relies on pre-pandemic data which doesn't account for the recent increase in food delivery services but otherwise provides a reasonable, context-specific estimate of loading needs. Based on this data, up to one freight loading vehicle would be expected during the midday peak, as shown in **Table 9**, and one passenger vehicle during the PM peak, as shown in **Table 10**. Therefore, the proposed loading zone would be sufficient to accommodate the expected loading demand.

**Recommendation 1:** Extend proposed loading zone on B Street to be at least 40 feet and include both parking spaces shown in Figure 11.

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<sup>18</sup> See page 19 of the *San Francisco Curb Study* by Uber and Fehr & Peers (September 2018), presented online at: <https://www.fehrandpeers.com/curbs-of-the-future/>.

<sup>19</sup> *Transportation Impact Analysis Guidelines for Environmental Review*, City and County of San Francisco. October 2019: <https://sfplanning.org/project/transportation-impact-analysis-guidelines-environmental-review-update#impact-analysis-guidelines>



**Table 9: Freight Loading Demand for Proposed Project**

Land Use	Midday Peak Hour Spaces of Demand
Office	0.41
Retail	0.06
<b>Total</b>	<b>1</b>

Source: *SF Guidelines*, 2019; SF Planning; Fehr & Peers, 2023.

**Table 10: Passenger Loading Demand for Proposed Project**

Land Use	P.M. Peak Hour Spaces of Demand	P.M. Peak 15-minutes Spaces of Demand
Office	0.06	0.11
Retail	0.06	0.12
<b>Total</b>	<b>1</b>	<b>1</b>

Notes:

1. Residential and Retail Spaces of Demand were rounded to the nearest hundredth while the Total Spaces of Demand were rounded to the nearest whole number.

Source: *SF Guidelines*, 2019; Fehr & Peers, 2023.

## Pedestrian & Bicycle Site Access and Circulation

### Pedestrian Access and Circulation

The primary pedestrian access point to the proposed project is the main building entrance on South B Street, which includes a lobby area. This entrance will serve the office uses on the second, third, and fourth floors of the proposed building. In addition to this primary access point, the project includes several ground floor entrances to the retail and office uses. As shown in Error! Reference source not found., these entrances are located along both 1<sup>st</sup> Avenue and South B Street.

The project proposes to widen the sidewalks along its frontage and would provide the following:

- **South B Street** – 11.4-foot sidewalk, inclusive of a through zone of at least 7 feet. The frontage zone ranges from zero to two feet. A 10 foot planter zone is provided in the curb extension at 1st Avenue.
- **1<sup>st</sup> Avenue** – 18.5-foot sidewalk, with an approximately 7.5-foot through zone, a 4-foot planter zone, and a 7-foot frontage zone. A 10 foot planter zone is provided in the curb extension at 1st Avenue.



According to the City of San Mateo's Pedestrian Design Guidelines, Appendix A of the 2012 San Mateo Pedestrian Master Plan<sup>20</sup>, the recommended minimum sidewalk widths for mixed use developments are as follows:

- **Retail/Commercial Type A Parallel Parking** - an 11-to-15-foot overall width, inclusive of a 5-to-7-foot through zone, 4-foot frontage zone and 4-foot planter/furniture zone.

Therefore, the proposed sidewalk widths meet the City's guidelines.

The adjacent intersection of South B Street and 1<sup>st</sup> Avenue is signal controlled and has existing marked crosswalks. All four corners of the intersection include curb ramps, although these ramps are not directional curb ramps and they do not include truncated domes. Non-audible pedestrian signal heads with countdown timers and push buttons are provided at each crosswalk.

Per General Plan Policy C4.5 and C4.6 of the City's General Plan Circulation Element, the City requires as a condition of development project approval the provision of sidewalks and wheelchair ramps where lacking and the repair or replacement of damaged sidewalks.

As noted in the City's TIA Guidelines, pedestrian safety and accessibility connecting to transit stops or stations in the vicinity of the project site must be assessed. In addition to sidewalks, the City of San Mateo's Pedestrian Design Guidelines provide guidance on the following physical pedestrian facilities that are applicable to the intersections adjacent to the proposed project site, and the lack of these features could limit pedestrian accessibility to transit stops or stations by creating uncomfortable or unsafe conditions for people walking.

- **A.11. Curb ramps** – Directional (two) curb ramps should be installed at intersections such as those surrounding the Project site and along pedestrian routes to transit.
- **A.12. Curb extensions** – Curb extensions should not encroach into bike lanes but should allow for bus and emergency turning access.
- **A.13 & A.14. Standard and high visibility crosswalks** – High visibility continental crosswalks should be prioritized for locations with anticipated high pedestrian activity, or a high number of pedestrian-related collisions have occurred.
- **A.15. Advance stop bars** – Advance stop bars should be installed at all controlled intersections.

As noted in the Plus Project VMT section, the proposed project is a transit-oriented development, given its location adjacent to the San Mateo Caltrain station. Providing the features recommended above would be consistent with the San Mateo Transit-Oriented Development (TOD) Pedestrian Access Plan<sup>21</sup> toolbox. As noted in the TOD Pedestrian Access Plan, the City of San Mateo seeks to have development Projects that are within one-half mile of high-quality transit construct pedestrian amenities along the Project frontage that meet the City's design standards.

<sup>20</sup> *San Mateo Citywide Pedestrian Master Plan*, City of San Mateo & Alta Planning + Design, 2012.

<sup>21</sup> *San Mateo Transit-Oriented Development Pedestrian Access Plan*, City of San Mateo & Fehr & Peers, 2022. Access at <https://www.cityofsanmateo.org/4566/TOD-Pedestrian-Access-Plan>.



The proposed project would include the following pedestrian improvements, which are all consistent with the City's Pedestrian Design Guidelines and the TOD Pedestrian Access Plan:

- The project would add a curb extension to the northeast corner of the intersection of South B Street and 1<sup>st</sup> Avenue.
- The project would add directional curb ramps and truncated domes to the northeast corner of the intersection of South B Street and 1<sup>st</sup> Avenue, and it would add a directional curb ramp and truncated domes on 1<sup>st</sup> Avenue at the west side of Transit Center Way.
- The project would add high visibility crosswalks on all legs of the intersection of South B Street and 1<sup>st</sup> Avenue.

In addition to these measures, the following additional pedestrian features are recommended to provide additional pedestrian access improvements from the City's TOD Pedestrian Access Plan:

**Recommendation 2:** To be consistent with the recommendations included in the City of San Mateo Pedestrian Guidelines and the San Mateo TOD Pedestrian Access Plan, the project should provide the following facilities:

- Add high visibility crosswalks to the north and west legs at 1<sup>st</sup> Avenue and Transit Center Way to provide an adequate pedestrian connections between the project site and the San Mateo Caltrain station and the Main Street parking garage. For the west leg of this intersection (crossing 1<sup>st</sup> Avenue), evaluate the feasibility of including other pedestrian safety features with City of San Mateo staff, such as a raised crosswalk or a curb extension and a Rectangular Rapid Flashing Beacon (RRFB) per Federal Highway Administration (FHWA) recommendations for uncontrolled crossings.<sup>22</sup>
- Evaluate the feasibility of a pedestrian scramble and curb extensions at the intersection of South B Street and 1<sup>st</sup> Avenue with City of San Mateo staff.

## Bicycle Access and Circulation

The proposed project would include 18 long-term bicycle parking spaces and six short-term bicycle parking spaces, which would meet the City standards listed in SMMC 27.64.262(f)(1)(A). According to the site plan, long term bicycle parking would be provided via a bike room that is accessible through the building lobby. There would be no stairs or grade changes between the building lobby and the bicycle storage room, so there would be unobstructed access for employees and visitors parking their bicycles. This bicycle parking room should also restrict access to only authorized users to ensure that bicycles are stored securely.

As shown in the site plan in Error! Reference source not found., the proposed project includes three publicly accessible bicycle racks. These public bike racks hold two bicycles each, are they are proposed to be placed in the furniture zone along South B Street, to the south of the building's main entrance. The

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<sup>22</sup> See page16 of the FHWA [Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations](#) for recommended countermeasures for uncontrolled crossings.





City of San Mateo, through the 2020 Bicycle Master Plan, has proposed several bicycle facilities within the immediate vicinity of the project site. The proposed Class IV separated bike lane on South B Street adjacent to the project site extends south from Baldwin Avenue to East 5<sup>th</sup> Avenue. There is also a proposed Class II bike lane on 1<sup>st</sup> Avenue. This facility will stretch from North B Street to North Railroad Avenue. This improved bicycle network would provide additional non-driving options to Downtown San Mateo, the Route ECR bus stops on El Camino Real, and the San Mateo Caltrain station for project visitors and employees. While the proposed project does not propose to complete any of these projects, it does not conflict or preclude with these plans.

## Transit Access and Circulation

Neither public transit conditions nor public transit access are expected to change with the project. As noted in **Table 6**, the project is estimated to generate approximately 159 daily trips by walking, bicycling, or transit given its proximity to destinations such as downtown San Mateo and high-quality transit services such as Caltrain and SamTrans. New transit trips could be accommodated by existing nearby transit routes and services including SamTrans and Caltrain.

As mentioned in the Existing Transit Section of this report, several of the bus stops in the vicinity of the project site do not have benches or shelters. SamTrans has prepared design guidelines for the minimum bus stop amenities that are expected at each stop based on service level, which would include a shade structure with lighting, bench/seating, map & schedule, and real time information for the Route 250 and 292 stops and full shelters with these amenities and bulb outs for Route ECR. The Project does not propose to implement transit-specific improvements; however, given the adjacency of the Route 250 stop on 1<sup>st</sup> Avenue to the project site, the Project has the opportunity to add the minimum bus stop amenities during construction on the 1<sup>st</sup> Avenue project frontage. This recommendation, in combination with the pedestrian improvements recommended above, would ensure that the Project provides the transit and pedestrian amenities to facilitate safe and comfortable waiting areas and paths of travel to and from transit.

**Recommendation 3:** To be consistent with the recommendations included in the SamTrans Bus Stop Improvement Plan, the project should provide the following transit features:

- Benches/Seating
- Shade Structure with Lighting
- Real-time arrival information
- Trash receptacles

## Hazards and Emergency Vehicle Access

The proposed project would not create or worsen existing roadway hazards as noted in the above sections. The project does not propose altering the existing roadway network and does not propose new vehicular roadways that would create hazards or impede emergency vehicle access.



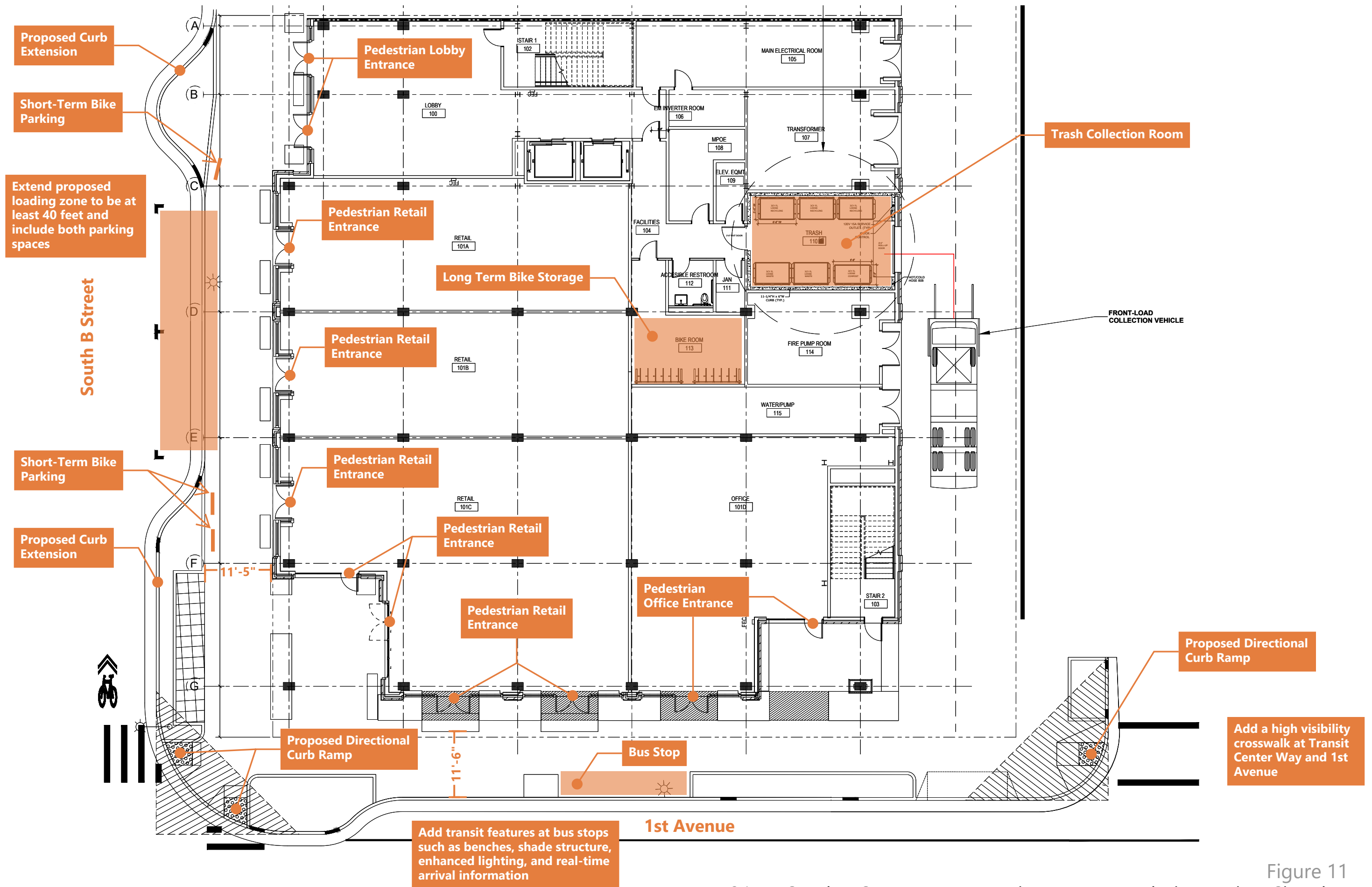
## Neighborhood Traffic

Due to the relatively small increase in net new vehicle volumes generated by the project, the impact to neighboring streets will be low, given the project's location within Downtown San Mateo. As noted in the Project Trip Generation and Distribution section of this report, employees and visitors driving to the project site will likely use the Transit Center Garage or the Main Street Garage to park their vehicles, and would use streets such as 1<sup>st</sup> Avenue, 2<sup>nd</sup> Avenue, and South Claremont Street to reach freeways, and regional destinations. These streets are all designated as arterial or collector streets.<sup>23</sup> Therefore, it is not anticipated that project trips will use the neighborhood street network to access local and regional destinations.

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<sup>23</sup> City of San Mateo General Plan Circulation Element: Street Classifications, Figure C-1, November 2011.





NOT TO SCALE

Figure 11  
31-57 South B Street Transportation Impact Analysis - Project Site Plan

# Conclusion

The proposed project will not result in CEQA impacts on VMT, bicycle, pedestrian, or transit circulation, or hazards and emergency access. The proposed project's VMT impact is presumed to be less-than-significant due to its proximity to high-quality transit. The project presents no adverse LOS effects or site circulation issues, and the addition of proposed Project trips would not result in adverse effects on traffic operations. The project does not include features that would disrupt nearby roadway facilities nor generate a substantial number of vehicle trips that would worsen or create new traffic issues.




Recommendations for improving site access to ensure consistency with San Mateo standards and best planning practices include extending the proposed loading zone, enhancing pedestrian safety at nearby crossings, and adding transit facilities that align with the SamTrans Bus Stop Improvement Plan recommendations.



# Appendix A: LOS Calculation Worksheets



Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	35	25	21	29	26
Future Vol, veh/h	47	35	25	21	29	26
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	57	43	30	26	35	32
Number of Lanes	1	0	0	1	1	0

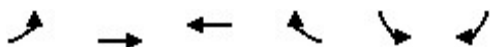
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	7.7	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	54%	57%	0%
Vol Thru, %	46%	0%	53%
Vol Right, %	0%	43%	47%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	46	82	55
LT Vol	25	47	0
Through Vol	21	0	29
RT Vol	0	35	26
Lane Flow Rate	56	100	67
Geometry Grp	1	1	1
Degree of Util (X)	0.067	0.112	0.073
Departure Headway (Hd)	4.305	4.039	3.903
Convergence, Y/N	Yes	Yes	Yes
Cap	826	880	910
Service Time	2.362	2.096	1.964
HCM Lane V/C Ratio	0.068	0.114	0.074
HCM Control Delay	7.7	7.6	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.4	0.2

# HCM 6th Signalized Intersection Summary





8: 1st Ave & North B St

12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	50	80	36	46	18
Future Volume (veh/h)	10	50	80	36	46	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.97	1.00	0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	11	54	87	39	50	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	168	746	572	256	191	77
Arrive On Green	0.48	0.48	0.48	0.48	0.21	0.21
Sat Flow, veh/h	188	1540	1180	529	927	371
Grp Volume(v), veh/h	65	0	0	126	71	0
Grp Sat Flow(s),veh/h/ln	1729	0	0	1709	1317	0
Q Serve(g_s), s	0.0	0.0	0.0	2.3	2.5	0.0
Cycle Q Clear(g_c), s	1.0	0.0	0.0	2.3	2.5	0.0
Prop In Lane	0.17			0.31	0.70	0.28
Lane Grp Cap(c), veh/h	914	0	0	828	272	0
V/C Ratio(X)	0.07	0.00	0.00	0.15	0.26	0.00
Avail Cap(c_a), veh/h	914	0	0	828	395	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.6	0.0	0.0	7.9	18.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.8	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	0.0	0.0	8.3	18.5	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		65	126		71	
Approach Delay, s/veh		7.7	8.3		18.5	
Approach LOS		A	A		B	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		35.2			35.2	19.8
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		21.5			21.5	16.5
Max Q Clear Time (g_c+I1), s		3.0			4.3	4.5
Green Ext Time (p_c), s		0.2			0.4	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			10.9			
HCM 6th LOS			B			

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	60	28	9	42	6	64	86	10	7	82	10
Future Vol, veh/h	8	60	28	9	42	6	64	86	10	7	82	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	62	29	9	43	6	66	89	10	7	85	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.1	8.6	8.1
HCM LOS	A	A	A	A

















Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	8%	16%	7%
Vol Thru, %	54%	62%	74%	83%
Vol Right, %	6%	29%	11%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	96	57	99
LT Vol	64	8	9	7
Through Vol	86	60	42	82
RT Vol	10	28	6	10
Lane Flow Rate	165	99	59	102
Geometry Grp	1	1	1	1
Degree of Util (X)	0.205	0.123	0.076	0.126
Departure Headway (Hd)	4.475	4.477	4.649	4.457
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	803	802	771	805
Service Time	2.494	2.499	2.674	2.478
HCM Lane V/C Ratio	0.205	0.123	0.077	0.127
HCM Control Delay	8.6	8.1	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.4	0.2	0.4



# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	79	24	20	132	50	15	89	12	9	91	45
Future Volume (veh/h)	74	79	24	20	132	50	15	89	12	9	91	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.90	0.94		0.92	0.98		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1961	1961	1961	1885	1885	1885	1885	1885	1885	1961	1961	1961
Adj Flow Rate, veh/h	85	91	28	23	152	57	17	102	14	10	105	52
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	196	177	45	88	242	84	117	551	70	81	455	212
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	459	778	197	76	1063	371	104	1282	163	29	1060	493
Grp Volume(v), veh/h	204	0	0	232	0	0	133	0	0	167	0	0
Grp Sat Flow(s),veh/h/ln	1435	0	0	1510	0	0	1550	0	0	1582	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	7.7	0.0	0.0	2.9	0.0	0.0	3.7	0.0	0.0
Prop In Lane	0.42		0.14	0.10		0.25	0.13		0.11	0.06		0.31
Lane Grp Cap(c), veh/h	418	0	0	414	0	0	738	0	0	748	0	0
V/C Ratio(X)	0.49	0.00	0.00	0.56	0.00	0.00	0.18	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	550	0	0	562	0	0	738	0	0	748	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	0.0	19.7	0.0	0.0	9.9	0.0	0.0	10.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	2.6	0.0	0.0	1.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	0.0	20.1	0.0	0.0	10.5	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		204			232			133			167	
Approach Delay, s/veh		19.5			20.1			10.5			10.9	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.7		22.3		33.7		22.3				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 18		* 18		* 18				
Max Q Clear Time (g_c+I1), s		4.9		8.7		5.7		9.7				
Green Ext Time (p_c), s		0.4		0.6		0.5		0.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.1								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh 9.2  
Intersection LOS A




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	58	21	7	171	43	23	96	10	27	84	8
Future Vol, veh/h	21	58	21	7	171	43	23	96	10	27	84	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	61	22	7	180	45	24	101	11	28	88	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9.6	9	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	21%	3%	23%
Vol Thru, %	74%	58%	77%	71%
Vol Right, %	8%	21%	19%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	100	221	119
LT Vol	23	21	7	27
Through Vol	96	58	171	84
RT Vol	10	21	43	8
Lane Flow Rate	136	105	233	125
Geometry Grp	1	1	1	1
Degree of Util (X)	0.184	0.139	0.297	0.171
Departure Headway (Hd)	4.876	4.77	4.592	4.906
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	747	779	728
Service Time	2.931	2.826	2.639	2.961
HCM Lane V/C Ratio	0.186	0.141	0.299	0.172
HCM Control Delay	9	8.6	9.6	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.5	1.2	0.6

Intersection

Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	83	74	37	65	60	61
Future Vol, veh/h	83	74	37	65	60	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	89	80	40	70	65	66
Number of Lanes	1	0	0	1	1	0

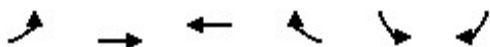
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	8.2	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	36%	53%	0%
Vol Thru, %	64%	0%	50%
Vol Right, %	0%	47%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	102	157	121
LT Vol	37	83	0
Through Vol	65	0	60
RT Vol	0	74	61
Lane Flow Rate	110	169	130
Geometry Grp	1	1	1
Degree of Util (X)	0.137	0.199	0.148
Departure Headway (Hd)	4.487	4.25	4.1
Convergence, Y/N	Yes	Yes	Yes
Cap	802	846	877
Service Time	2.501	2.265	2.114
HCM Lane V/C Ratio	0.137	0.2	0.148
HCM Control Delay	8.2	8.3	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.7	0.5

# HCM 6th Signalized Intersection Summary

## 8: 1st Ave & North B St





12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	24	98	97	78	113	21
Future Volume (veh/h)	24	98	97	78	113	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.94	1.00	0.63
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	102	101	81	118	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	196	757	479	385	252	47
Arrive On Green	0.51	0.51	0.51	0.51	0.22	0.22
Sat Flow, veh/h	251	1470	931	747	1128	210
Grp Volume(v), veh/h	127	0	0	182	141	0
Grp Sat Flow(s),veh/h/ln	1721	0	0	1679	1348	0
Q Serve(g_s), s	0.0	0.0	0.0	3.8	5.9	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.8	5.9	0.0
Prop In Lane	0.20			0.45	0.84	0.16
Lane Grp Cap(c), veh/h	952	0	0	864	302	0
V/C Ratio(X)	0.13	0.00	0.00	0.21	0.47	0.00
Avail Cap(c_a), veh/h	952	0	0	864	404	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.2	0.0	0.0	8.6	21.9	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.4	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	22.3	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h		127	182		141	
Approach Delay, s/veh		8.5	9.1		22.3	
Approach LOS		A	A		C	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		42.0			42.0	23.0
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		28.5			28.5	19.5
Max Q Clear Time (g_c+I1), s		4.3			5.8	7.9
Green Ext Time (p_c), s		0.4			0.7	0.2
Intersection Summary						
HCM 6th Ctrl Delay			13.1			
HCM 6th LOS			B			

Intersection

Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	142	62	17	91	19	63	71	23	15	70	21
Future Vol, veh/h	7	142	62	17	91	19	63	71	23	15	70	21
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	163	71	20	105	22	72	82	26	17	80	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	9.2	9.8	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	3%	13%	14%
Vol Thru, %	45%	67%	72%	66%
Vol Right, %	15%	29%	15%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	211	127	106
LT Vol	63	7	17	15
Through Vol	71	142	91	70
RT Vol	23	62	19	21
Lane Flow Rate	180	243	146	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.251	0.317	0.2	0.17
Departure Headway (Hd)	5.008	4.701	4.924	5.009
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	759	723	709
Service Time	3.086	2.77	3.002	3.093
HCM Lane V/C Ratio	0.253	0.32	0.202	0.172
HCM Control Delay	9.8	10	9.2	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	1.4	0.7	0.6

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	138	80	24	87	44	20	121	40	19	167	73
Future Volume (veh/h)	59	138	80	24	87	44	20	121	40	19	167	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.87		0.79	0.97		0.79	0.97		0.89	0.95		0.91
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1870	1870	1870	1870	1870	1870	1945	1945	1945
Adj Flow Rate, veh/h	71	166	96	29	105	53	24	146	48	23	201	88
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	212	110	96	245	110	98	462	141	81	460	190
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	219	778	404	121	900	404	85	1058	323	51	1054	434
Grp Volume(v), veh/h	333	0	0	187	0	0	218	0	0	312	0	0
Grp Sat Flow(s),veh/h/ln	1401	0	0	1424	0	0	1465	0	0	1539	0	0
Q Serve(g_s), s	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.7	0.0	0.0	7.2	0.0	0.0	6.2	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.21		0.29	0.16		0.28	0.11		0.22	0.07		0.28
Lane Grp Cap(c), veh/h	448	0	0	451	0	0	701	0	0	731	0	0
V/C Ratio(X)	0.74	0.00	0.00	0.41	0.00	0.00	0.31	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	654	0	0	657	0	0	701	0	0	731	0	0
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	0.00	0.00	0.92	0.00	0.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	20.1	0.0	0.0	12.2	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	0.0	1.2	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	2.3	0.0	0.0	2.2	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	0.0	20.3	0.0	0.0	13.4	0.0	0.0	14.7	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		333			187			218			312	
Approach Delay, s/veh		23.7			20.3			13.4			14.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.4		27.6		38.4		27.6				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 28		* 18		* 28				
Max Q Clear Time (g_c+I1), s		8.2		16.7		11.2		9.2				
Green Ext Time (p_c), s		0.6		1.3		0.8		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.3								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh	9.6
Intersection LOS	A




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	117	61	13	119	46	20	92	18	41	92	16
Future Vol, veh/h	19	117	61	13	119	46	20	92	18	41	92	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	21	127	66	14	129	50	22	100	20	45	100	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9.6	9.4	9.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	10%	7%	28%
Vol Thru, %	71%	59%	67%	62%
Vol Right, %	14%	31%	26%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	197	178	149
LT Vol	20	19	13	41
Through Vol	92	117	119	92
RT Vol	18	61	46	16
Lane Flow Rate	141	214	193	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.198	0.283	0.258	0.228
Departure Headway (Hd)	5.046	4.75	4.8	5.059
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	704	749	741	703
Service Time	3.134	2.827	2.88	3.143
HCM Lane V/C Ratio	0.2	0.286	0.26	0.23
HCM Control Delay	9.4	9.7	9.6	9.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	1.2	1	0.9

Intersection

Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	35	25	21	29	26
Future Vol, veh/h	47	35	25	21	29	26
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	57	43	30	26	35	32
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	7.7	7.3
HCM LOS	A	A	A

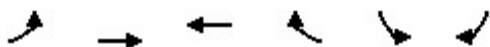
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	54%	57%	0%
Vol Thru, %	46%	0%	53%
Vol Right, %	0%	43%	47%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	46	82	55
LT Vol	25	47	0
Through Vol	21	0	29
RT Vol	0	35	26
Lane Flow Rate	56	100	67
Geometry Grp	1	1	1
Degree of Util (X)	0.067	0.112	0.073
Departure Headway (Hd)	4.305	4.039	3.903
Convergence, Y/N	Yes	Yes	Yes
Cap	826	880	910
Service Time	2.362	2.096	1.964
HCM Lane V/C Ratio	0.068	0.114	0.074
HCM Control Delay	7.7	7.6	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.4	0.2



# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St





12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	50	80	36	46	18
Future Volume (veh/h)	10	50	80	36	46	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.97	1.00	0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	11	54	87	39	50	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	168	746	572	256	191	77
Arrive On Green	0.48	0.48	0.48	0.48	0.21	0.21
Sat Flow, veh/h	188	1540	1180	529	927	371
Grp Volume(v), veh/h	65	0	0	126	71	0
Grp Sat Flow(s),veh/h/ln	1729	0	0	1709	1317	0
Q Serve(g_s), s	0.0	0.0	0.0	2.3	2.5	0.0
Cycle Q Clear(g_c), s	1.0	0.0	0.0	2.3	2.5	0.0
Prop In Lane	0.17			0.31	0.70	0.28
Lane Grp Cap(c), veh/h	914	0	0	828	272	0
V/C Ratio(X)	0.07	0.00	0.00	0.15	0.26	0.00
Avail Cap(c_a), veh/h	914	0	0	828	395	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.6	0.0	0.0	7.9	18.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.8	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	0.0	0.0	8.3	18.5	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		65	126		71	
Approach Delay, s/veh		7.7	8.3		18.5	
Approach LOS		A	A		B	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		35.2			35.2	19.8
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		21.5			21.5	16.5
Max Q Clear Time (g_c+l1), s		3.0			4.3	4.5
Green Ext Time (p_c), s		0.2			0.4	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			10.9			
HCM 6th LOS			B			

Intersection

Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	60	28	9	42	6	64	86	10	7	82	10
Future Vol, veh/h	8	60	28	9	42	6	64	86	10	7	82	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	62	29	9	43	6	66	89	10	7	85	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.1	8.6	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	8%	16%	7%
Vol Thru, %	54%	62%	74%	83%
Vol Right, %	6%	29%	11%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	96	57	99
LT Vol	64	8	9	7
Through Vol	86	60	42	82
RT Vol	10	28	6	10
Lane Flow Rate	165	99	59	102
Geometry Grp	1	1	1	1
Degree of Util (X)	0.205	0.123	0.076	0.126
Departure Headway (Hd)	4.475	4.477	4.649	4.457
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	803	802	771	805
Service Time	2.494	2.499	2.674	2.478
HCM Lane V/C Ratio	0.205	0.123	0.077	0.127
HCM Control Delay	8.6	8.1	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.4	0.2	0.4

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	79	24	20	132	50	15	89	12	9	91	45
Future Volume (veh/h)	74	79	24	20	132	50	15	89	12	9	91	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.90	0.94		0.92	0.98		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1961	1961	1961	1885	1885	1885	1885	1885	1885	1961	1961	1961
Adj Flow Rate, veh/h	85	91	28	23	152	57	17	102	14	10	105	52
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	196	177	45	88	242	84	117	551	70	81	455	212
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	459	778	197	76	1063	371	104	1282	163	29	1060	493
Grp Volume(v), veh/h	204	0	0	232	0	0	133	0	0	167	0	0
Grp Sat Flow(s),veh/h/ln	1435	0	0	1510	0	0	1550	0	0	1582	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	7.7	0.0	0.0	2.9	0.0	0.0	3.7	0.0	0.0
Prop In Lane	0.42		0.14	0.10		0.25	0.13		0.11	0.06		0.31
Lane Grp Cap(c), veh/h	418	0	0	414	0	0	738	0	0	748	0	0
V/C Ratio(X)	0.49	0.00	0.00	0.56	0.00	0.00	0.18	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	550	0	0	562	0	0	738	0	0	748	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	0.0	19.7	0.0	0.0	9.9	0.0	0.0	10.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	2.6	0.0	0.0	1.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	0.0	20.1	0.0	0.0	10.5	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		204			232			133			167	
Approach Delay, s/veh		19.5			20.1			10.5			10.9	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.7		22.3		33.7		22.3				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 18		* 18		* 18				
Max Q Clear Time (g_c+I1), s		4.9		8.7		5.7		9.7				
Green Ext Time (p_c), s		0.4		0.6		0.5		0.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.1								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	59	22	7	181	43	23	96	10	27	84	9
Future Vol, veh/h	21	59	22	7	181	43	23	96	10	27	84	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	62	23	7	191	45	24	101	11	28	88	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	9.7	9.1	9
HCM LOS	A	A	A	A




Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	21%	3%	23%
Vol Thru, %	74%	58%	78%	70%
Vol Right, %	8%	22%	19%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	102	231	120
LT Vol	23	21	7	27
Through Vol	96	59	181	84
RT Vol	10	22	43	9
Lane Flow Rate	136	107	243	126
Geometry Grp	1	1	1	1
Degree of Util (X)	0.185	0.143	0.311	0.173
Departure Headway (Hd)	4.909	4.785	4.606	4.933
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	726	745	778	723
Service Time	2.968	2.842	2.653	2.992
HCM Lane V/C Ratio	0.187	0.144	0.312	0.174
HCM Control Delay	9.1	8.6	9.7	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.5	1.3	0.6

HCM 6th AWSC  
7: North B St/South B Street & Baldwin Ave

12/28/2023

Intersection

Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	83	74	37	65	60	61
Future Vol, veh/h	83	74	37	65	60	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	89	80	40	70	65	66
Number of Lanes	1	0	0	1	1	0

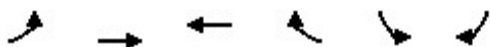
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	8.2	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	36%	53%	0%
Vol Thru, %	64%	0%	50%
Vol Right, %	0%	47%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	102	157	121
LT Vol	37	83	0
Through Vol	65	0	60
RT Vol	0	74	61
Lane Flow Rate	110	169	130
Geometry Grp	1	1	1
Degree of Util (X)	0.137	0.199	0.148
Departure Headway (Hd)	4.487	4.25	4.1
Convergence, Y/N	Yes	Yes	Yes
Cap	802	846	877
Service Time	2.501	2.265	2.114
HCM Lane V/C Ratio	0.137	0.2	0.148
HCM Control Delay	8.2	8.3	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.7	0.5

# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St





12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	98	97	78	113	21
Future Volume (veh/h)	24	98	97	78	113	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.94	1.00	0.63
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	102	101	81	118	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	196	757	479	385	252	47
Arrive On Green	0.51	0.51	0.51	0.51	0.22	0.22
Sat Flow, veh/h	251	1470	931	747	1128	210
Grp Volume(v), veh/h	127	0	0	182	141	0
Grp Sat Flow(s),veh/h/ln	1721	0	0	1679	1348	0
Q Serve(g_s), s	0.0	0.0	0.0	3.8	5.9	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.8	5.9	0.0
Prop In Lane	0.20			0.45	0.84	0.16
Lane Grp Cap(c), veh/h	952	0	0	864	302	0
V/C Ratio(X)	0.13	0.00	0.00	0.21	0.47	0.00
Avail Cap(c_a), veh/h	952	0	0	864	404	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.2	0.0	0.0	8.6	21.9	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.4	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	22.3	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h		127	182		141	
Approach Delay, s/veh		8.5	9.1		22.3	
Approach LOS		A	A		C	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		42.0			42.0	23.0
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		28.5			28.5	19.5
Max Q Clear Time (g_c+l1), s		4.3			5.8	7.9
Green Ext Time (p_c), s		0.4			0.7	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			13.1			
HCM 6th LOS			B			

Intersection

Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	142	62	17	91	19	63	71	23	15	70	21
Future Vol, veh/h	7	142	62	17	91	19	63	71	23	15	70	21
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	163	71	20	105	22	72	82	26	17	80	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	9.2	9.8	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	3%	13%	14%
Vol Thru, %	45%	67%	72%	66%
Vol Right, %	15%	29%	15%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	211	127	106
LT Vol	63	7	17	15
Through Vol	71	142	91	70
RT Vol	23	62	19	21
Lane Flow Rate	180	243	146	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.251	0.317	0.2	0.17
Departure Headway (Hd)	5.008	4.701	4.924	5.009
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	759	723	709
Service Time	3.086	2.77	3.002	3.093
HCM Lane V/C Ratio	0.253	0.32	0.202	0.172
HCM Control Delay	9.8	10	9.2	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	1.4	0.7	0.6

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	138	80	24	87	44	20	121	40	19	167	73
Future Volume (veh/h)	59	138	80	24	87	44	20	121	40	19	167	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.87		0.79	0.97		0.79	0.97		0.89	0.95		0.91
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1870	1870	1870	1870	1870	1870	1945	1945	1945
Adj Flow Rate, veh/h	71	166	96	29	105	53	24	146	48	23	201	88
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	212	110	96	245	110	98	462	141	81	460	190
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	219	778	404	121	900	404	85	1058	323	51	1054	434
Grp Volume(v), veh/h	333	0	0	187	0	0	218	0	0	312	0	0
Grp Sat Flow(s),veh/h/ln	1401	0	0	1424	0	0	1465	0	0	1539	0	0
Q Serve(g_s), s	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.7	0.0	0.0	7.2	0.0	0.0	6.2	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.21		0.29	0.16		0.28	0.11		0.22	0.07		0.28
Lane Grp Cap(c), veh/h	448	0	0	451	0	0	701	0	0	731	0	0
V/C Ratio(X)	0.74	0.00	0.00	0.41	0.00	0.00	0.31	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	654	0	0	657	0	0	701	0	0	731	0	0
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	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	20.1	0.0	0.0	12.2	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.2	0.0	0.0	1.2	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	2.3	0.0	0.0	2.2	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	0.0	20.3	0.0	0.0	13.4	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		333			187			218			312	
Approach Delay, s/veh		23.7			20.3			13.4			14.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.4		27.6		38.4		27.6				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 28		* 18		* 28				
Max Q Clear Time (g_c+I1), s		8.2		16.7		11.2		9.2				
Green Ext Time (p_c), s		0.6		1.3		0.8		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.3								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												







HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	122	66	13	121	46	20	92	18	41	92	16
Future Vol, veh/h	19	122	66	13	121	46	20	92	18	41	92	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	21	133	72	14	132	50	22	100	20	45	100	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	9.6	9.4	9.7
HCM LOS	A	A	A	A




Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	9%	7%	28%
Vol Thru, %	71%	59%	67%	62%
Vol Right, %	14%	32%	26%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	207	180	149
LT Vol	20	19	13	41
Through Vol	92	122	121	92
RT Vol	18	66	46	16
Lane Flow Rate	141	225	196	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.199	0.297	0.262	0.229
Departure Headway (Hd)	5.079	4.752	4.821	5.09
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	698	749	738	698
Service Time	3.17	2.828	2.9	3.179
HCM Lane V/C Ratio	0.202	0.3	0.266	0.232
HCM Control Delay	9.4	9.9	9.6	9.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	1.2	1	0.9

HCM 6th AWSC  
7: North B St/South B Street & Baldwin Ave

12/28/2023

Intersection

Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	35	25	21	31	28
Future Vol, veh/h	57	35	25	21	31	28
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	70	43	30	26	38	34
Number of Lanes	1	0	0	1	1	0

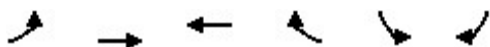
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	7.7	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	54%	62%	0%
Vol Thru, %	46%	0%	53%
Vol Right, %	0%	38%	47%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	46	92	59
LT Vol	25	57	0
Through Vol	21	0	31
RT Vol	0	35	28
Lane Flow Rate	56	112	72
Geometry Grp	1	1	1
Degree of Util (X)	0.067	0.127	0.078
Departure Headway (Hd)	4.33	4.084	3.924
Convergence, Y/N	Yes	Yes	Yes
Cap	820	871	903
Service Time	2.397	2.143	1.992
HCM Lane V/C Ratio	0.068	0.129	0.08
HCM Control Delay	7.7	7.7	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.4	0.3

# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St

12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	52	80	36	48	18
Future Volume (veh/h)	10	52	80	36	48	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.97	1.00	0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	11	57	87	39	52	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	161	754	571	256	195	75
Arrive On Green	0.48	0.48	0.48	0.48	0.21	0.21
Sat Flow, veh/h	177	1558	1180	529	941	362
Grp Volume(v), veh/h	68	0	0	126	73	0
Grp Sat Flow(s),veh/h/ln	1735	0	0	1709	1321	0
Q Serve(g_s), s	0.0	0.0	0.0	2.3	2.5	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	2.3	2.5	0.0
Prop In Lane	0.16			0.31	0.71	0.27
Lane Grp Cap(c), veh/h	915	0	0	827	274	0
V/C Ratio(X)	0.07	0.00	0.00	0.15	0.27	0.00
Avail Cap(c_a), veh/h	915	0	0	827	396	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.6	0.0	0.0	7.9	18.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.8	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.8	0.0	0.0	8.3	18.5	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		68	126		73	
Approach Delay, s/veh		7.8	8.3		18.5	
Approach LOS		A	A		B	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		35.1			35.1	19.9
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		21.5			21.5	16.5
Max Q Clear Time (g_c+I1), s		3.1			4.3	4.5
Green Ext Time (p_c), s		0.2			0.4	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			11.0			
HCM 6th LOS			B			

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	62	30	9	47	6	69	86	10	7	83	10
Future Vol, veh/h	8	62	30	9	47	6	69	86	10	7	83	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	64	31	9	48	6	71	89	10	7	86	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

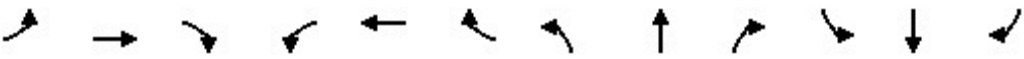
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.1	8.7	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	8%	15%	7%
Vol Thru, %	52%	62%	76%	83%
Vol Right, %	6%	30%	10%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	100	62	100
LT Vol	69	8	9	7
Through Vol	86	62	47	83
RT Vol	10	30	6	10
Lane Flow Rate	170	103	64	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.213	0.129	0.083	0.128
Departure Headway (Hd)	4.503	4.494	4.674	4.486
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	798	798	766	799
Service Time	2.527	2.519	2.702	2.512
HCM Lane V/C Ratio	0.213	0.129	0.084	0.129
HCM Control Delay	8.7	8.2	8.1	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.4	0.3	0.4

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	78	84	24	20	133	50	15	90	13	9	91	46
Future Volume (veh/h)	78	84	24	20	133	50	15	90	13	9	91	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.90	0.94		0.92	0.98		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1961	1961	1961	1885	1885	1885	1885	1885	1885	1961	1961	1961
Adj Flow Rate, veh/h	90	97	28	23	153	57	17	103	15	10	105	53
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	197	176	42	88	243	84	116	548	74	81	453	214
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	466	773	185	77	1069	371	102	1275	172	29	1053	499
Grp Volume(v), veh/h	215	0	0	233	0	0	135	0	0	168	0	0
Grp Sat Flow(s),veh/h/ln	1424	0	0	1517	0	0	1548	0	0	1581	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	7.6	0.0	0.0	2.9	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.42		0.13	0.10		0.24	0.13		0.11	0.06		0.32
Lane Grp Cap(c), veh/h	415	0	0	416	0	0	738	0	0	748	0	0
V/C Ratio(X)	0.52	0.00	0.00	0.56	0.00	0.00	0.18	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	547	0	0	564	0	0	738	0	0	748	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.4	0.0	0.0	19.7	0.0	0.0	9.9	0.0	0.0	10.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	2.6	0.0	0.0	1.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	0.0	20.1	0.0	0.0	10.5	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		215			233			135			168	
Approach Delay, s/veh		19.8			20.1			10.5			10.9	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.7		22.3		33.7		22.3				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 18		* 18		* 18				
Max Q Clear Time (g_c+I1), s		4.9		9.2		5.8		9.6				
Green Ext Time (p_c), s		0.4		0.6		0.5		0.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.2								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh	9.4
Intersection LOS	A




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	59	22	7	184	43	27	101	10	27	86	10
Future Vol, veh/h	21	59	22	7	184	43	27	101	10	27	86	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	62	23	7	194	45	28	106	11	28	91	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	9.9	9.2	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	21%	3%	22%
Vol Thru, %	73%	58%	79%	70%
Vol Right, %	7%	22%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	138	102	234	123
LT Vol	27	21	7	27
Through Vol	101	59	184	86
RT Vol	10	22	43	10
Lane Flow Rate	145	107	246	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.199	0.144	0.318	0.178
Departure Headway (Hd)	4.933	4.825	4.641	4.952
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	723	738	771	720
Service Time	2.996	2.888	2.692	3.018
HCM Lane V/C Ratio	0.201	0.145	0.319	0.179
HCM Control Delay	9.2	8.7	9.9	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.5	1.4	0.6

Intersection

Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	74	37	65	71	72
Future Vol, veh/h	87	74	37	65	71	72
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	94	80	40	70	76	77
Number of Lanes	1	0	0	1	1	0

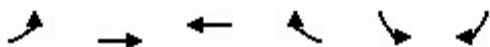
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.3	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	36%	54%	0%
Vol Thru, %	64%	0%	50%
Vol Right, %	0%	46%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	102	161	143
LT Vol	37	87	0
Through Vol	65	0	71
RT Vol	0	74	72
Lane Flow Rate	110	173	154
Geometry Grp	1	1	1
Degree of Util (X)	0.138	0.207	0.176
Departure Headway (Hd)	4.525	4.31	4.116
Convergence, Y/N	Yes	Yes	Yes
Cap	794	834	873
Service Time	2.543	2.328	2.132
HCM Lane V/C Ratio	0.139	0.207	0.176
HCM Control Delay	8.3	8.5	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.8	0.6

# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St

12/28/2023







Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	99	99	78	124	21
Future Volume (veh/h)	24	99	99	78	124	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.94	1.00	0.63
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	103	103	81	129	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	194	758	484	380	259	44
Arrive On Green	0.51	0.51	0.51	0.51	0.22	0.22
Sat Flow, veh/h	249	1473	941	740	1153	197
Grp Volume(v), veh/h	128	0	0	184	152	0
Grp Sat Flow(s),veh/h/ln	1722	0	0	1680	1359	0
Q Serve(g_s), s	0.0	0.0	0.0	3.9	6.4	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.9	6.4	0.0
Prop In Lane	0.20			0.44	0.85	0.14
Lane Grp Cap(c), veh/h	952	0	0	864	305	0
V/C Ratio(X)	0.13	0.00	0.00	0.21	0.50	0.00
Avail Cap(c_a), veh/h	952	0	0	864	408	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.2	0.0	0.0	8.6	22.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.4	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.2	22.5	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h		128	184		152	
Approach Delay, s/veh		8.5	9.2		22.5	
Approach LOS		A	A		C	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		41.9			41.9	23.1
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		28.5			28.5	19.5
Max Q Clear Time (g_c+I1), s		4.3			5.9	8.4
Green Ext Time (p_c), s		0.4			0.7	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			13.4			
HCM 6th LOS			B			



Intersection

Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	151	72	17	93	19	65	71	23	15	70	21
Future Vol, veh/h	8	151	72	17	93	19	65	71	23	15	70	21
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	174	83	20	107	22	75	82	26	17	80	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	9.3	9.9	9.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	41%	3%	13%	14%
Vol Thru, %	45%	65%	72%	66%
Vol Right, %	14%	31%	15%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	231	129	106
LT Vol	65	8	17	15
Through Vol	71	151	93	70
RT Vol	23	72	19	21
Lane Flow Rate	183	266	148	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.257	0.347	0.205	0.172
Departure Headway (Hd)	5.072	4.708	4.967	5.077
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	700	757	715	698
Service Time	3.158	2.781	3.051	3.169
HCM Lane V/C Ratio	0.261	0.351	0.207	0.175
HCM Control Delay	9.9	10.3	9.3	9.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	1	1.6	0.8	0.6

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	140	80	25	92	45	20	121	40	19	168	76
Future Volume (veh/h)	61	140	80	25	92	45	20	121	40	19	168	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.88		0.79	0.97		0.79	0.97		0.89	0.95		0.91
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1870	1870	1870	1870	1870	1870	1945	1945	1945
Adj Flow Rate, veh/h	73	169	96	30	111	54	24	146	48	23	202	92
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	215	110	96	250	108	97	460	140	80	452	194
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	225	783	400	121	910	395	84	1058	322	50	1040	446
Grp Volume(v), veh/h	338	0	0	195	0	0	218	0	0	317	0	0
Grp Sat Flow(s),veh/h/ln	1408	0	0	1426	0	0	1464	0	0	1536	0	0
Q Serve(g_s), s	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.8	0.0	0.0	7.5	0.0	0.0	6.2	0.0	0.0	9.5	0.0	0.0
Prop In Lane	0.22		0.28	0.15		0.28	0.11		0.22	0.07		0.29
Lane Grp Cap(c), veh/h	453	0	0	454	0	0	697	0	0	726	0	0
V/C Ratio(X)	0.75	0.00	0.00	0.43	0.00	0.00	0.31	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	657	0	0	659	0	0	697	0	0	726	0	0
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	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	20.1	0.0	0.0	12.3	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.2	0.0	0.0	1.2	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	2.4	0.0	0.0	2.2	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	0.0	20.3	0.0	0.0	13.5	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		338			195			218			317	
Approach Delay, s/veh		23.7			20.3			13.5			15.1	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.3		27.7		38.3		27.7				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 28		* 18		* 28				
Max Q Clear Time (g_c+I1), s		8.2		16.8		11.5		9.5				
Green Ext Time (p_c), s		0.6		1.3		0.8		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.5								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh	9.8
Intersection LOS	A




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	122	66	13	123	46	22	94	18	41	102	16
Future Vol, veh/h	19	122	66	13	123	46	22	94	18	41	102	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	21	133	72	14	134	50	24	102	20	45	111	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	9.7	9.6	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	9%	7%	26%
Vol Thru, %	70%	59%	68%	64%
Vol Right, %	13%	32%	25%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	207	182	159
LT Vol	22	19	13	41
Through Vol	94	122	123	102
RT Vol	18	66	46	16
Lane Flow Rate	146	225	198	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.207	0.3	0.267	0.245
Departure Headway (Hd)	5.111	4.798	4.867	5.11
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	740	730	695
Service Time	3.208	2.881	2.953	3.204
HCM Lane V/C Ratio	0.211	0.304	0.271	0.249
HCM Control Delay	9.6	10	9.7	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	1.3	1.1	1

Intersection

Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	50	40	30	38	38
Future Vol, veh/h	60	50	40	30	38	38
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	73	61	49	37	46	46
Number of Lanes	1	0	0	1	1	0

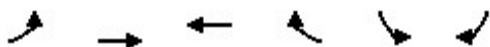
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	8	7.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	57%	55%	0%
Vol Thru, %	43%	0%	50%
Vol Right, %	0%	45%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	70	110	76
LT Vol	40	60	0
Through Vol	30	0	38
RT Vol	0	50	38
Lane Flow Rate	85	134	93
Geometry Grp	1	1	1
Degree of Util (X)	0.104	0.153	0.102
Departure Headway (Hd)	4.39	4.108	3.969
Convergence, Y/N	Yes	Yes	Yes
Cap	806	860	888
Service Time	2.476	2.199	2.062
HCM Lane V/C Ratio	0.105	0.156	0.105
HCM Control Delay	8	8	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3

# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St





12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	10	68	120	50	68	30
Future Volume (veh/h)	10	68	120	50	68	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.97	1.00	0.79
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	11	74	130	54	74	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	133	767	571	237	197	88
Arrive On Green	0.47	0.47	0.47	0.47	0.22	0.22
Sat Flow, veh/h	124	1628	1211	503	899	401
Grp Volume(v), veh/h	85	0	0	184	108	0
Grp Sat Flow(s),veh/h/ln	1752	0	0	1714	1313	0
Q Serve(g_s), s	0.0	0.0	0.0	3.5	3.8	0.0
Cycle Q Clear(g_c), s	1.4	0.0	0.0	3.5	3.8	0.0
Prop In Lane	0.13			0.29	0.69	0.31
Lane Grp Cap(c), veh/h	900	0	0	808	288	0
V/C Ratio(X)	0.09	0.00	0.00	0.23	0.37	0.00
Avail Cap(c_a), veh/h	900	0	0	808	394	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	8.6	18.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.3	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.3	0.0	0.0	9.3	18.6	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		85	184		108	
Approach Delay, s/veh		8.3	9.3		18.6	
Approach LOS		A	A		B	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		34.4			34.4	20.6
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		21.5			21.5	16.5
Max Q Clear Time (g_c+I1), s		3.4			5.5	5.8
Green Ext Time (p_c), s		0.2			0.6	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			11.7			
HCM 6th LOS			B			

Intersection

Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	88	38	10	55	10	85	130	10	10	119	10
Future Vol, veh/h	10	88	38	10	55	10	85	130	10	10	119	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	91	39	10	57	10	88	134	10	10	123	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.6	9.8	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	7%	13%	7%
Vol Thru, %	58%	65%	73%	86%
Vol Right, %	4%	28%	13%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	136	75	139
LT Vol	85	10	10	10
Through Vol	130	88	55	119
RT Vol	10	38	10	10
Lane Flow Rate	232	140	77	143
Geometry Grp	1	1	1	1
Degree of Util (X)	0.303	0.186	0.107	0.188
Departure Headway (Hd)	4.701	4.787	4.969	4.729
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	746	718	755
Service Time	2.745	2.838	3.026	2.78
HCM Lane V/C Ratio	0.304	0.188	0.107	0.189
HCM Control Delay	9.8	8.9	8.6	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.3	0.7	0.4	0.7

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	115	40	30	189	70	20	129	19	10	130	69
Future Volume (veh/h)	106	115	40	30	189	70	20	129	19	10	130	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.96		0.93	0.98		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1961	1961	1961	1885	1885	1885	1885	1885	1885	1961	1961	1961
Adj Flow Rate, veh/h	122	132	46	34	217	80	23	148	22	11	149	79
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	204	181	53	96	301	104	104	486	67	76	390	197
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	409	648	191	89	1080	373	86	1284	176	24	1029	520
Grp Volume(v), veh/h	300	0	0	331	0	0	193	0	0	239	0	0
Grp Sat Flow(s),veh/h/ln	1249	0	0	1542	0	0	1546	0	0	1574	0	0
Q Serve(g_s), s	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.8	0.0	0.0	10.9	0.0	0.0	4.8	0.0	0.0	6.2	0.0	0.0
Prop In Lane	0.41		0.15	0.10		0.24	0.12		0.11	0.05		0.33
Lane Grp Cap(c), veh/h	438	0	0	501	0	0	657	0	0	663	0	0
V/C Ratio(X)	0.68	0.00	0.00	0.66	0.00	0.00	0.29	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	502	0	0	574	0	0	657	0	0	663	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	18.5	0.0	0.0	12.3	0.0	0.0	12.7	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.5	0.0	0.0	1.1	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	3.8	0.0	0.0	1.7	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	0.0	0.0	20.1	0.0	0.0	13.4	0.0	0.0	14.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h	300			331			193			239		
Approach Delay, s/veh	21.2			20.1			13.4			14.3		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	30.8			25.2			30.8			25.2		
Change Period (Y+Rc), s	* 9.6			* 9.6			* 9.6			* 9.6		
Max Green Setting (Gmax), s	* 18			* 18			* 18			* 18		
Max Q Clear Time (g_c+I1), s	6.8			14.8			8.2			12.9		
Green Ext Time (p_c), s	0.5			0.5			0.7			0.7		
Intersection Summary												
HCM 6th Ctrl Delay			17.9									
HCM 6th LOS			B									
Notes												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	90	30	10	247	60	26	135	10	40	118	9
Future Vol, veh/h	30	90	30	10	247	60	26	135	10	40	118	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	95	32	11	260	63	27	142	11	42	124	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	12.6	10.7	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	20%	3%	24%
Vol Thru, %	79%	60%	78%	71%
Vol Right, %	6%	20%	19%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	150	317	167
LT Vol	26	30	10	40
Through Vol	135	90	247	118
RT Vol	10	30	60	9
Lane Flow Rate	180	158	334	176
Geometry Grp	1	1	1	1
Degree of Util (X)	0.277	0.236	0.471	0.272
Departure Headway (Hd)	5.538	5.376	5.086	5.565
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	648	666	707	645
Service Time	3.578	3.416	3.12	3.605
HCM Lane V/C Ratio	0.278	0.237	0.472	0.273
HCM Control Delay	10.7	10.1	12.6	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	0.9	2.5	1.1






HCM 6th AWSC  
7: North B St/South B Street & Baldwin Ave

12/28/2023

Intersection

Intersection Delay, s/veh 9  
Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	116	110	50	100	79	79
Future Vol, veh/h	116	110	50	100	79	79
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	125	118	54	108	85	85
Number of Lanes	1	0	0	1	1	0

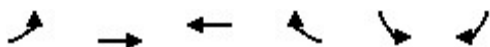
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.4	9	8.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	33%	51%	0%
Vol Thru, %	67%	0%	50%
Vol Right, %	0%	49%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	150	226	158
LT Vol	50	116	0
Through Vol	100	0	79
RT Vol	0	110	79
Lane Flow Rate	161	243	170
Geometry Grp	1	1	1
Degree of Util (X)	0.212	0.301	0.206
Departure Headway (Hd)	4.722	4.462	4.36
Convergence, Y/N	Yes	Yes	Yes
Cap	760	804	822
Service Time	2.759	2.496	2.395
HCM Lane V/C Ratio	0.212	0.302	0.207
HCM Control Delay	9	9.4	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	1.3	0.8

# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St





12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	139	138	110	159	30
Future Volume (veh/h)	40	139	138	110	159	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.94	1.00	0.63
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	145	144	115	166	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	215	704	476	380	258	48
Arrive On Green	0.51	0.51	0.51	0.51	0.23	0.23
Sat Flow, veh/h	289	1380	933	745	1133	212
Grp Volume(v), veh/h	187	0	0	259	198	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1679	1351	0
Q Serve(g_s), s	0.0	0.0	0.0	5.8	8.6	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	5.8	8.6	0.0
Prop In Lane	0.22			0.44	0.84	0.16
Lane Grp Cap(c), veh/h	919	0	0	857	308	0
V/C Ratio(X)	0.20	0.00	0.00	0.30	0.64	0.00
Avail Cap(c_a), veh/h	919	0	0	857	405	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.2	22.7	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	2.1	2.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	0.0	0.0	10.1	23.5	0.0
LnGrp LOS	A	A	A	B	C	A
Approach Vol, veh/h		187	259		198	
Approach Delay, s/veh		9.2	10.1		23.5	
Approach LOS		A	B		C	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		41.7			41.7	23.3
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		28.5			28.5	19.5
Max Q Clear Time (g_c+I1), s		5.5			7.8	10.6
Green Ext Time (p_c), s		0.7			1.1	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			14.0			
HCM 6th LOS			B			

Intersection

Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	201	80	30	128	30	88	100	30	20	100	30
Future Vol, veh/h	9	201	80	30	128	30	88	100	30	20	100	30
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	231	92	34	147	34	101	115	34	23	115	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.8	11.7	12.7	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	40%	3%	16%	13%
Vol Thru, %	46%	69%	68%	67%
Vol Right, %	14%	28%	16%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	218	290	188	150
LT Vol	88	9	30	20
Through Vol	100	201	128	100
RT Vol	30	80	30	30
Lane Flow Rate	251	333	216	172
Geometry Grp	1	1	1	1
Degree of Util (X)	0.402	0.499	0.341	0.28
Departure Headway (Hd)	5.775	5.39	5.674	5.841
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	667	629	610
Service Time	3.843	3.454	3.747	3.916
HCM Lane V/C Ratio	0.405	0.499	0.343	0.282
HCM Control Delay	12.7	13.8	11.7	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.9	2.8	1.5	1.1

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	198	120	39	125	59	30	180	60	30	249	107
Future Volume (veh/h)	88	198	120	39	125	59	30	180	60	30	249	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.84	1.00		0.84	1.00		0.86	0.96		0.88
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945	1870	1870	1870	1870	1870	1870	1945	1945	1945
Adj Flow Rate, veh/h	106	239	145	47	151	71	36	217	72	36	300	129
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	282	157	118	315	133	90	348	107	81	349	143
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	244	754	419	145	843	354	89	1038	321	68	1043	426
Grp Volume(v), veh/h	490	0	0	269	0	0	325	0	0	465	0	0
Grp Sat Flow(s),veh/h/ln	1417	0	0	1342	0	0	1448	0	0	1537	0	0
Q Serve(g_s), s	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0
Cycle Q Clear(g_c), s	21.5	0.0	0.0	9.3	0.0	0.0	12.3	0.0	0.0	18.9	0.0	0.0
Prop In Lane	0.22		0.30	0.17		0.26	0.11		0.22	0.08		0.28
Lane Grp Cap(c), veh/h	597	0	0	566	0	0	545	0	0	573	0	0
V/C Ratio(X)	0.82	0.00	0.00	0.48	0.00	0.00	0.60	0.00	0.00	0.81	0.00	0.00
Avail Cap(c_a), veh/h	672	0	0	639	0	0	545	0	0	573	0	0
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	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d), s/veh	19.3	0.0	0.0	15.8	0.0	0.0	18.6	0.0	0.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.0	0.0	0.2	0.0	0.0	4.7	0.0	0.0	11.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.0	2.9	0.0	0.0	4.7	0.0	0.0	8.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	0.0	16.0	0.0	0.0	23.4	0.0	0.0	32.4	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		490			269			325			465	
Approach Delay, s/veh		25.7			16.0			23.4			32.4	
Approach LOS		C			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.7		34.3		31.7		34.3				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 28		* 18		* 28				
Max Q Clear Time (g_c+I1), s		14.3		23.5		20.9		11.3				
Green Ext Time (p_c), s		0.5		1.2		0.0		1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.6								
HCM 6th LOS				C								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh 13.6  
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	170	90	20	178	70	28	138	30	60	130	20
Future Vol, veh/h	30	170	90	20	178	70	28	138	30	60	130	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	33	185	98	22	193	76	30	150	33	65	141	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.3	13.8	12.6	13.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	10%	7%	29%
Vol Thru, %	70%	59%	66%	62%
Vol Right, %	15%	31%	26%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	290	268	210
LT Vol	28	30	20	60
Through Vol	138	170	178	130
RT Vol	30	90	70	20
Lane Flow Rate	213	315	291	228
Geometry Grp	1	1	1	1
Degree of Util (X)	0.362	0.5	0.467	0.39
Departure Headway (Hd)	6.12	5.706	5.771	6.153
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	588	634	626	584
Service Time	4.163	3.73	3.797	4.187
HCM Lane V/C Ratio	0.362	0.497	0.465	0.39
HCM Control Delay	12.6	14.3	13.8	13.1
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.6	2.8	2.5	1.8




Intersection

Intersection Delay, s/veh

8

Intersection LOS

A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	50	40	30	40	40
Future Vol, veh/h	70	50	40	30	40	40
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	85	61	49	37	49	49
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.1	8.1	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	57%	58%	0%
Vol Thru, %	43%	0%	50%
Vol Right, %	0%	42%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	70	120	80
LT Vol	40	70	0
Through Vol	30	0	40
RT Vol	0	50	40
Lane Flow Rate	85	146	98
Geometry Grp	1	1	1
Degree of Util (X)	0.107	0.173	0.111
Departure Headway (Hd)	4.517	4.248	4.095
Convergence, Y/N	Yes	Yes	Yes
Cap	796	849	878
Service Time	2.525	2.252	2.105
HCM Lane V/C Ratio	0.107	0.172	0.112
HCM Control Delay	8.1	8.1	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.6	0.4

# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St





12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	10	70	120	50	70	30
Future Volume (veh/h)	10	70	120	50	70	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.97	1.00	0.80
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	11	76	130	54	76	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	130	770	570	237	200	87
Arrive On Green	0.47	0.47	0.47	0.47	0.22	0.22
Sat Flow, veh/h	120	1635	1211	503	909	395
Grp Volume(v), veh/h	87	0	0	184	110	0
Grp Sat Flow(s),veh/h/ln	1755	0	0	1714	1316	0
Q Serve(g_s), s	0.0	0.0	0.0	3.5	3.9	0.0
Cycle Q Clear(g_c), s	1.5	0.0	0.0	3.5	3.9	0.0
Prop In Lane	0.13			0.29	0.69	0.30
Lane Grp Cap(c), veh/h	900	0	0	807	289	0
V/C Ratio(X)	0.10	0.00	0.00	0.23	0.38	0.00
Avail Cap(c_a), veh/h	900	0	0	807	395	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.1	0.0	0.0	8.6	18.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.3	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.3	0.0	0.0	9.3	18.6	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		87	184		110	
Approach Delay, s/veh		8.3	9.3		18.6	
Approach LOS		A	A		B	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		34.4			34.4	20.6
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		21.5			21.5	16.5
Max Q Clear Time (g_c+I1), s		3.5			5.5	5.9
Green Ext Time (p_c), s		0.2			0.6	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			11.7			
HCM 6th LOS			B			

Intersection

Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	90	40	10	60	10	90	130	10	10	120	10
Future Vol, veh/h	10	90	40	10	60	10	90	130	10	10	120	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	10	93	41	10	62	10	93	134	10	10	124	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	8.7	9.9	9
HCM LOS	A	A	A	A

















Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	7%	12%	7%
Vol Thru, %	57%	64%	75%	86%
Vol Right, %	4%	29%	12%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	140	80	140
LT Vol	90	10	10	10
Through Vol	130	90	60	120
RT Vol	10	40	10	10
Lane Flow Rate	237	144	82	144
Geometry Grp	1	1	1	1
Degree of Util (X)	0.312	0.193	0.115	0.191
Departure Headway (Hd)	4.732	4.81	4.999	4.764
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	756	742	713	749
Service Time	2.781	2.865	3.06	2.819
HCM Lane V/C Ratio	0.313	0.194	0.115	0.192
HCM Control Delay	9.9	9	8.7	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.3	0.7	0.4	0.7



# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	120	40	30	190	70	20	130	20	10	130	70
Future Volume (veh/h)	110	120	40	30	190	70	20	130	20	10	130	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.97		0.93	0.98		0.93	0.97		0.95
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1961	1961	1961	1885	1885	1885	1885	1885	1885	1961	1961	1961
Adj Flow Rate, veh/h	126	138	46	34	218	80	23	149	23	11	149	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	207	184	52	96	306	105	103	478	68	76	383	196
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	411	651	185	89	1081	371	84	1279	182	24	1024	524
Grp Volume(v), veh/h	310	0	0	332	0	0	195	0	0	240	0	0
Grp Sat Flow(s),veh/h/ln	1247	0	0	1541	0	0	1545	0	0	1573	0	0
Q Serve(g_s), s	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.3	0.0	0.0	10.9	0.0	0.0	4.9	0.0	0.0	6.3	0.0	0.0
Prop In Lane	0.41		0.15	0.10		0.24	0.12		0.12	0.05		0.33
Lane Grp Cap(c), veh/h	444	0	0	508	0	0	649	0	0	655	0	0
V/C Ratio(X)	0.70	0.00	0.00	0.65	0.00	0.00	0.30	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	501	0	0	574	0	0	649	0	0	655	0	0
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	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	18.3	0.0	0.0	12.5	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.0	1.5	0.0	0.0	1.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	3.8	0.0	0.0	1.8	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	0.0	19.8	0.0	0.0	13.7	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		310			332			195			240	
Approach Delay, s/veh		21.6			19.8			13.7			14.5	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.5		25.5		30.5		25.5				
Change Period (Y+Rc), s		* 9.6		* 9.6		* 9.6		* 9.6				
Max Green Setting (Gmax), s		* 18		* 18		* 18		* 18				
Max Q Clear Time (g_c+I1), s		6.9		15.3		8.3		12.9				
Green Ext Time (p_c), s		0.6		0.4		0.7		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.0								
HCM 6th LOS				B								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh	11.5
Intersection LOS	B




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	90	30	10	250	60	30	140	10	40	120	10
Future Vol, veh/h	30	90	30	10	250	60	30	140	10	40	120	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	95	32	11	263	63	32	147	11	42	126	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	12.8	10.9	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	20%	3%	24%
Vol Thru, %	78%	60%	78%	71%
Vol Right, %	6%	20%	19%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	150	320	170
LT Vol	30	30	10	40
Through Vol	140	90	250	120
RT Vol	10	30	60	10
Lane Flow Rate	189	158	337	179
Geometry Grp	1	1	1	1
Degree of Util (X)	0.293	0.238	0.48	0.278
Departure Headway (Hd)	5.57	5.429	5.13	5.6
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	644	660	701	641
Service Time	3.612	3.473	3.166	3.643
HCM Lane V/C Ratio	0.293	0.239	0.481	0.279
HCM Control Delay	10.9	10.2	12.8	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.2	0.9	2.6	1.1

Intersection

Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	120	110	50	100	90	90
Future Vol, veh/h	120	110	50	100	90	90
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	129	118	54	108	97	97
Number of Lanes	1	0	0	1	1	0

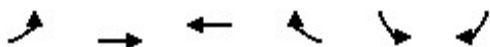
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.6	9.1	8.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	33%	52%	0%
Vol Thru, %	67%	0%	50%
Vol Right, %	0%	48%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	150	230	180
LT Vol	50	120	0
Through Vol	100	0	90
RT Vol	0	110	90
Lane Flow Rate	161	247	194
Geometry Grp	1	1	1
Degree of Util (X)	0.214	0.311	0.235
Departure Headway (Hd)	4.766	4.521	4.377
Convergence, Y/N	Yes	Yes	Yes
Cap	752	794	819
Service Time	2.807	2.559	2.417
HCM Lane V/C Ratio	0.214	0.311	0.237
HCM Control Delay	9.1	9.6	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	1.3	0.9

# HCM 6th Signalized Intersection Summary

8: 1st Ave & North B St





12/28/2023



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	40	140	140	110	170	30
Future Volume (veh/h)	40	140	140	110	170	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98			0.94	1.00	0.64
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	146	146	115	177	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	213	703	478	376	265	46
Arrive On Green	0.51	0.51	0.51	0.51	0.23	0.23
Sat Flow, veh/h	286	1383	940	740	1152	202
Grp Volume(v), veh/h	188	0	0	261	209	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1680	1360	0
Q Serve(g_s), s	0.0	0.0	0.0	5.9	9.1	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0	5.9	9.1	0.0
Prop In Lane	0.22			0.44	0.85	0.15
Lane Grp Cap(c), veh/h	917	0	0	854	313	0
V/C Ratio(X)	0.21	0.00	0.00	0.31	0.67	0.00
Avail Cap(c_a), veh/h	917	0	0	854	408	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.7	0.0	0.0	9.3	22.8	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	2.1	2.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	0.0	0.0	10.2	24.0	0.0
LnGrp LOS	A	A	A	B	C	A
Approach Vol, veh/h		188	261		209	
Approach Delay, s/veh		9.2	10.2		24.0	
Approach LOS		A	B		C	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		41.6			41.6	23.4
Change Period (Y+Rc), s		8.5			8.5	8.5
Max Green Setting (Gmax), s		28.5			28.5	19.5
Max Q Clear Time (g_c+I1), s		5.6			7.9	11.1
Green Ext Time (p_c), s		0.7			1.1	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			14.3			
HCM 6th LOS			B			

Intersection

Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	210	90	30	130	30	90	100	30	20	100	30
Future Vol, veh/h	10	210	90	30	130	30	90	100	30	20	100	30
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	241	103	34	149	34	103	115	34	23	115	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.6	11.9	13	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	41%	3%	16%	13%
Vol Thru, %	45%	68%	68%	67%
Vol Right, %	14%	29%	16%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	220	310	190	150
LT Vol	90	10	30	20
Through Vol	100	210	130	100
RT Vol	30	90	30	30
Lane Flow Rate	253	356	218	172
Geometry Grp	1	1	1	1
Degree of Util (X)	0.412	0.536	0.348	0.284
Departure Headway (Hd)	5.859	5.414	5.744	5.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	609	663	622	600
Service Time	3.935	3.482	3.823	4.019
HCM Lane V/C Ratio	0.415	0.537	0.35	0.287
HCM Control Delay	13	14.6	11.9	11.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2	3.2	1.6	1.2

# HCM 6th Signalized Intersection Summary

## 12: South Ellsworth Ave & 2nd Ave

12/28/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	200	120	40	130	60	30	180	60	30	250	110
Future Volume (veh/h)	90	200	120	40	130	60	30	180	60	30	250	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.84	1.00		0.84	1.00		0.86	0.96		0.88
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1945	1945	1945	1870	1870	1870	1870	1870	1870	1945	1945	1945
Adj Flow Rate, veh/h	108	241	145	48	157	72	36	217	72	36	301	133
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	284	157	118	321	132	90	342	106	81	343	144
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	247	752	415	144	850	349	89	1033	319	67	1035	435
Grp Volume(v), veh/h	494	0	0	277	0	0	325	0	0	470	0	0
Grp Sat Flow(s),veh/h/ln	1414	0	0	1343	0	0	1441	0	0	1537	0	0
Q Serve(g_s), s	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0
Cycle Q Clear(g_c), s	21.8	0.0	0.0	9.6	0.0	0.0	12.4	0.0	0.0	19.3	0.0	0.0
Prop In Lane	0.22		0.29	0.17		0.26	0.11		0.22	0.08		0.28
Lane Grp Cap(c), veh/h	600	0	0	571	0	0	538	0	0	568	0	0
V/C Ratio(X)	0.82	0.00	0.00	0.49	0.00	0.00	0.60	0.00	0.00	0.83	0.00	0.00
Avail Cap(c_a), veh/h	671	0	0	640	0	0	538	0	0	568	0	0
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	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	0.0	15.7	0.0	0.0	18.8	0.0	0.0	21.1	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.0	0.0	0.2	0.0	0.0	5.0	0.0	0.0	12.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.0	3.0	0.0	0.0	4.7	0.0	0.0	8.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	0.0	16.0	0.0	0.0	23.8	0.0	0.0	33.8	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h	494			277			325			470		
Approach Delay, s/veh	25.8			16.0			23.8			33.8		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	31.5			34.5			31.5			34.5		
Change Period (Y+Rc), s	* 9.6			* 9.6			* 9.6			* 9.6		
Max Green Setting (Gmax), s	* 18			* 28			* 18			* 28		
Max Q Clear Time (g_c+I1), s	14.4			23.8			21.3			11.6		
Green Ext Time (p_c), s	0.5			1.1			0.0			1.2		
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									
Notes												





HCM 6th AWSC  
13: South Claremont St & East 2nd Ave

12/28/2023

Intersection

Intersection Delay, s/veh 13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	170	90	20	180	70	30	140	30	60	140	20
Future Vol, veh/h	30	170	90	20	180	70	30	140	30	60	140	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	33	185	98	22	196	76	33	152	33	65	152	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

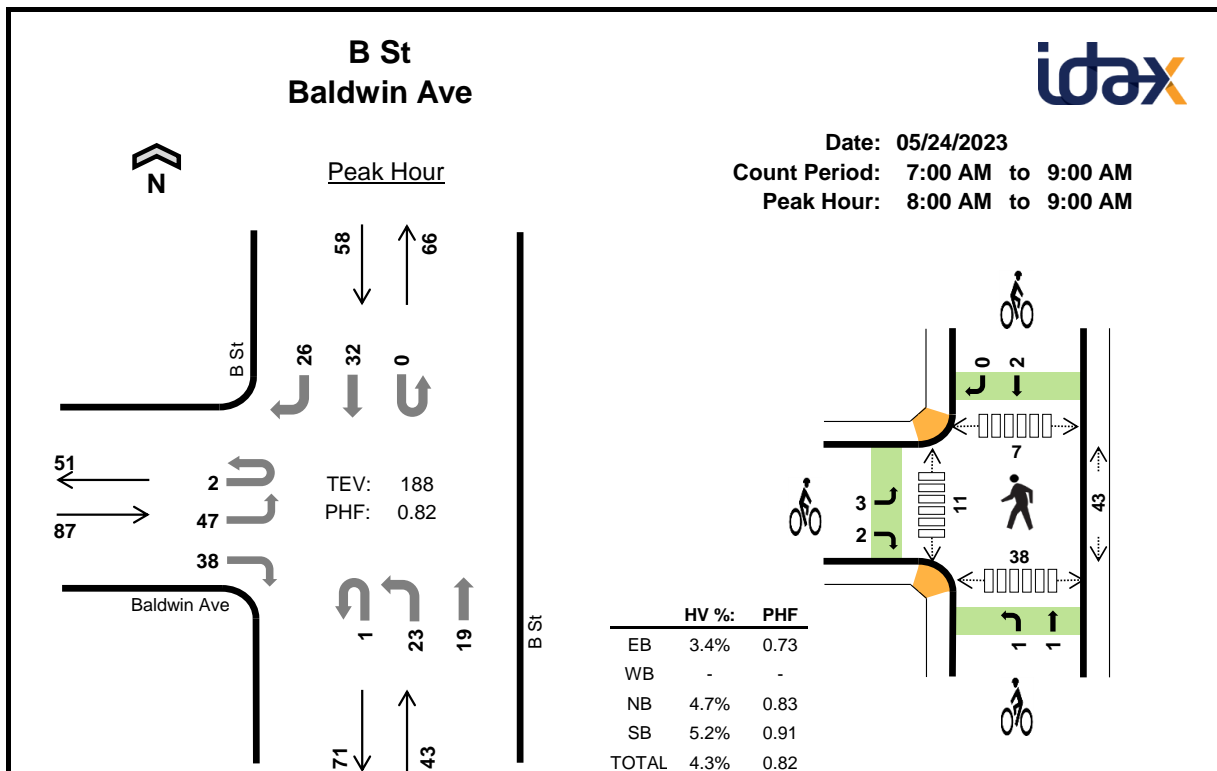
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.7	14.1	12.9	13.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	10%	7%	27%
Vol Thru, %	70%	59%	67%	64%
Vol Right, %	15%	31%	26%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	200	290	270	220
LT Vol	30	30	20	60
Through Vol	140	170	180	140
RT Vol	30	90	70	20
Lane Flow Rate	217	315	293	239
Geometry Grp	1	1	1	1
Degree of Util (X)	0.373	0.508	0.478	0.411
Departure Headway (Hd)	6.181	5.797	5.862	6.188
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	580	624	616	581
Service Time	4.236	3.811	3.876	4.24
HCM Lane V/C Ratio	0.374	0.505	0.476	0.411
HCM Control Delay	12.9	14.7	14.1	13.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.7	2.9	2.6	2

## Appendix B: Existing Traffic Counts





**Two-Hour Count Summaries**

Interval Start		Baldwin Ave				N/A				B St				B St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	6	0	2	0	0	0	0	0	5	6	0	0	0	7	3	29	0
7:15 AM		0	9	0	6	0	0	0	0	0	3	7	0	0	0	11	5	41	0
7:30 AM		0	20	0	3	0	0	0	0	0	5	5	0	0	0	16	10	59	0
7:45 AM		0	8	0	5	0	0	0	0	0	2	9	0	0	0	5	5	34	163
8:00 AM		1	5	0	6	0	0	0	0	0	6	2	0	0	0	10	6	36	170
8:15 AM		1	10	0	5	0	0	0	0	0	7	6	0	0	0	6	4	39	168
8:30 AM		0	18	0	12	0	0	0	0	1	7	3	0	0	0	9	7	57	166
8:45 AM		0	14	0	15	0	0	0	0	0	3	8	0	0	0	7	9	56	188
Count Total		2	90	0	54	0	0	0	0	1	38	46	0	0	0	71	49	351	0
Peak Hour	All	2	47	0	38	0	0	0	0	1	23	19	0	0	0	32	26	188	0
	HV	1	1	0	1	0	0	0	0	0	0	2	0	0	0	2	1	8	0
	HV%	50%	2%	-	3%	-	-	-	-	0%	0%	11%	-	-	-	6%	4%	4%	0

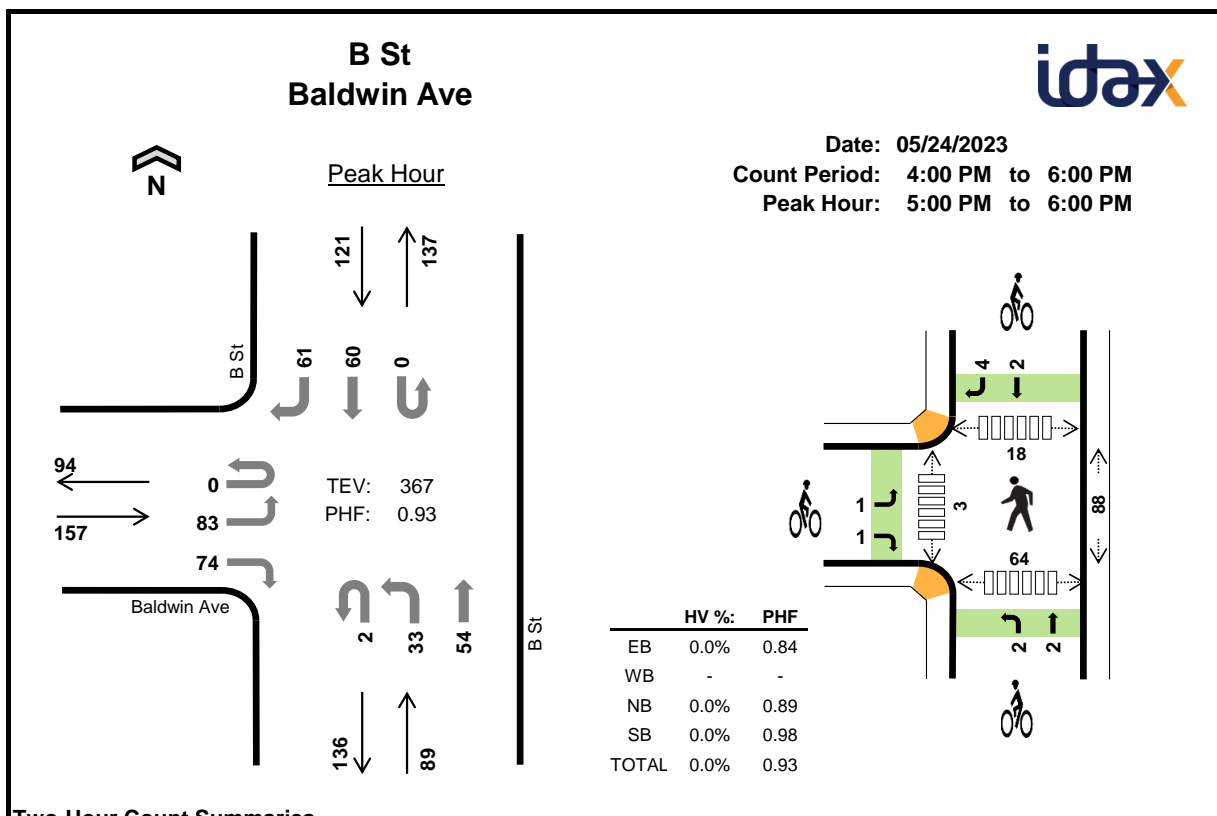
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	1	1	3	1	0	1	1	3	5	6	9	2	22
7:15 AM	0	0	1	1	2	0	0	0	0	0	11	2	9	7	29
7:30 AM	1	0	1	1	3	4	0	0	2	6	4	4	9	5	22
7:45 AM	1	0	0	2	3	0	0	0	1	1	5	3	4	3	15
8:00 AM	0	0	0	1	1	1	0	1	1	3	8	2	1	9	20
8:15 AM	1	0	1	1	3	1	0	0	0	1	15	4	0	6	25
8:30 AM	0	0	0	1	1	2	0	0	1	3	13	2	3	8	26
8:45 AM	2	0	1	0	3	1	0	1	0	2	7	3	3	15	28
Count Total	6	0	5	8	19	10	0	3	6	19	68	26	38	55	187
Peak Hr	3	0	2	3	8	5	0	2	2	9	43	11	7	38	99

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	Baldwin Ave				N/A				B St				B St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	11
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9
8:15 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3	10
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8
8:45 AM	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3	8
Count Total	1	4	0	1	0	0	0	0	0	1	4	0	0	0	3	5		19	0
Peak Hour	1	1	0	1	0	0	0	0	0	0	2	0	0	0	2	1		8	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Baldwin Ave			N/A			B St			B St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	1	0	0	0	0	0	0	1	0	0	0	1	0	3	0			
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 AM	4	0	0	0	0	0	0	0	0	0	0	2	0	6	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	10			
8:00 AM	1	0	0	0	0	0	0	1	0	0	0	1	0	3	10			
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	11			
8:30 AM	2	0	0	0	0	0	0	0	0	0	0	1	0	3	8			
8:45 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	2	9			
Count Total	8	0	2	0	0	0	1	2	0	0	6	0		19	0			
Peak Hour	3	0	2	0	0	0	1	1	0	0	2	0		9	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



## Two-Hour Count Summaries

Interval Start		Baldwin Ave				N/A				B St				B St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	22	0	18	0	0	0	0	0	6	11	0	0	0	19	13	89	0
	4:15 PM	0	15	0	11	0	0	0	0	2	6	9	0	1	0	11	3	58	0
	4:30 PM	0	18	0	11	0	0	0	0	0	13	6	0	0	0	18	8	74	0
	4:45 PM	0	20	0	13	0	0	0	0	0	12	6	0	0	0	8	8	67	288
	5:00 PM	0	15	0	18	0	0	0	0	0	9	11	0	0	0	15	14	82	281
	5:15 PM	0	24	0	23	0	0	0	0	2	7	11	0	0	0	14	16	97	320
	5:30 PM	0	25	0	18	0	0	0	0	0	9	16	0	0	0	12	19	99	345
	5:45 PM	0	19	0	15	0	0	0	0	0	8	16	0	0	0	19	12	89	367
Count Total		0	158	0	127	0	0	0	0	4	70	86	0	1	0	116	93	655	0
Peak Hour	All	0	83	0	74	0	0	0	0	2	33	54	0	0	0	60	61	367	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HV%	-	0%	-	0%	-	-	-	-	0%	0%	0%	-	-	-	0%	0%	0%	0

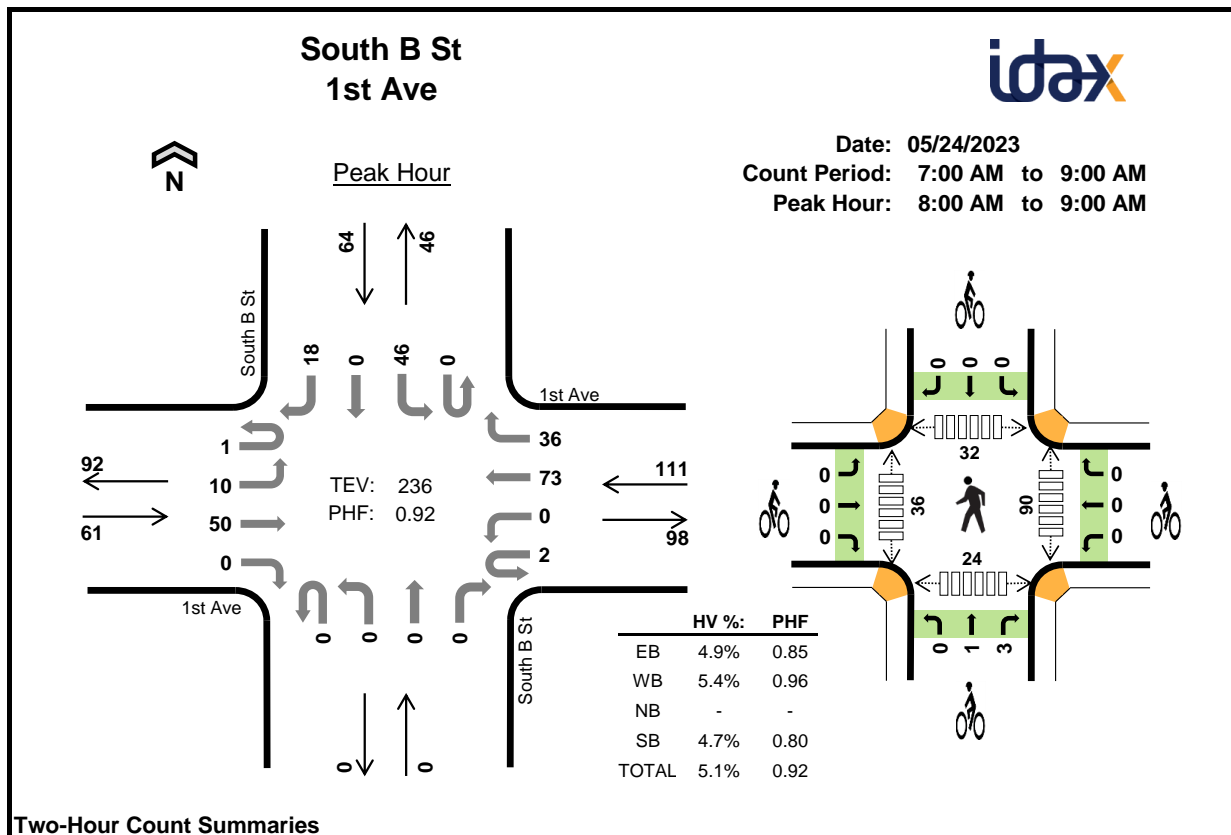
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	0	1	3	0	0	2	1	3	16	1	1	14	32
4:15 PM	0	0	1	1	2	0	0	2	1	3	14	1	3	11	29
4:30 PM	0	0	1	0	1	0	0	1	1	2	15	2	1	27	45
4:45 PM	0	0	0	0	0	1	0	1	4	6	24	3	3	14	44
5:00 PM	0	0	0	0	0	2	0	0	1	3	31	1	6	15	53
5:15 PM	0	0	0	0	0	0	0	0	2	2	12	0	6	15	33
5:30 PM	0	0	0	0	0	0	0	2	1	3	21	2	6	17	46
5:45 PM	0	0	0	0	0	0	0	2	2	4	24	0	0	17	41
Count Total	2	0	2	2	6	3	0	10	13	26	157	10	26	130	323
Peak Hr	0	0	0	0	0	2	0	4	6	12	88	3	18	64	173

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	Baldwin Ave				N/A				B St				B St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	1	0	0	0	0	0	0	2	0	0	0	1	1	6	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Baldwin Ave			N/A			B St			B St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	2	0	0	1	0	3	0			
4:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	3	0			
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0			
4:45 PM	0	0	1	0	0	0	0	1	0	0	1	3	6	14			
5:00 PM	1	0	1	0	0	0	0	0	0	0	0	1	3	14			
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	13			
5:30 PM	0	0	0	0	0	0	1	1	0	0	0	1	3	14			
5:45 PM	0	0	0	0	0	0	1	1	0	0	0	2	4	12			
Count Total	1	0	2	0	0	0	2	8	0	0	6	7	26	0			
Peak Hour	1	0	1	0	0	0	2	2	0	0	2	4	12	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		1st Ave				1st Ave				South B St				South B St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	4	5	0	0	0	13	12	0	0	0	0	0	7	0	5	46	0
7:15 AM		0	2	13	0	0	0	11	11	0	0	0	0	0	8	0	6	51	0
7:30 AM		1	1	7	0	0	0	14	13	0	0	0	0	0	10	0	7	53	0
7:45 AM		0	1	7	0	0	0	14	10	0	0	0	0	1	8	0	4	45	195
8:00 AM		0	1	14	0	0	0	19	9	0	0	0	0	0	10	0	3	56	205
8:15 AM		0	3	10	0	0	0	19	10	0	0	0	0	0	6	0	5	53	207
8:30 AM		1	3	11	0	0	0	19	9	0	0	0	0	0	15	0	5	63	217
8:45 AM		0	3	15	0	2	0	16	8	0	0	0	0	0	15	0	5	64	236
Count Total		2	18	82	0	2	0	125	82	0	0	0	0	1	79	0	40	431	0
Peak Hour	All	1	10	50	0	2	0	73	36	0	0	0	0	0	46	0	18	236	0
	HV	0	0	3	0	0	0	4	2	0	0	0	0	0	2	0	1	12	0
	HV%	0%	0%	6%	-	0%	-	5%	6%	-	-	-	-	-	4%	-	6%	5%	0

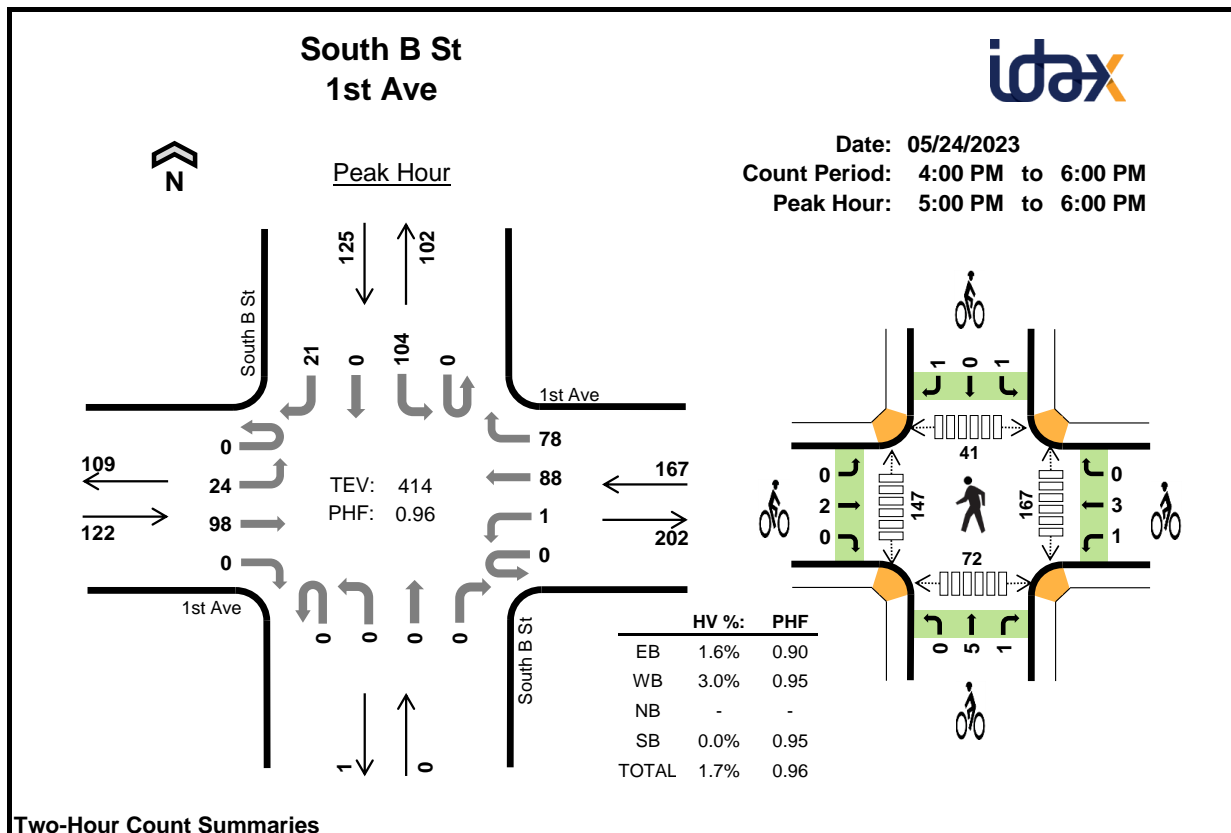
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	0	0	1	0	0	2	1	3	27	7	6	10	50
7:15 AM	1	2	0	0	3	0	0	1	0	1	13	12	9	7	41
7:30 AM	0	1	0	0	1	1	1	0	1	3	18	4	7	7	36
7:45 AM	0	1	0	0	1	0	0	1	1	2	16	11	14	4	45
8:00 AM	2	1	0	1	4	0	0	1	0	1	17	9	12	1	39
8:15 AM	0	2	0	1	3	0	0	0	0	0	24	6	6	7	43
8:30 AM	0	1	0	0	1	0	0	2	0	2	24	12	9	5	50
8:45 AM	1	2	0	1	4	0	0	1	0	1	25	9	5	11	50
Count Total	5	10	0	3	18	1	1	8	3	13	164	70	68	52	354
Peak Hour	3	6	0	3	12	0	0	4	0	4	90	36	32	24	182

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	1st Ave				1st Ave				South B St				South B St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6
8:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	4	9
8:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	3	9
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	9
8:45 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0	4	12
Count Total	0	1	4	0	0	0	6	4	0	0	0	0	0	2	0	1	18	0
Peak Hour	0	0	3	0	0	0	4	2	0	0	0	0	0	2	0	1	12	0

Two-Hour Count Summaries - Bikes																		
Interval Start	1st Ave			1st Ave			South B St			South B St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	1	1	0	1	0	3	0				
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0				
7:30 AM	0	1	0	1	0	0	0	0	0	0	0	1	3	0				
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	2	9				
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	7				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6				
8:30 AM	0	0	0	0	0	0	0	0	2	0	0	0	2	5				
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	4				
Count Total	0	1	0	1	0	0	0	2	6	0	1	2	13	0				
Peak Hour	0	0	0	0	0	0	0	1	3	0	0	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



## Two-Hour Count Summaries

Interval Start		1st Ave				1st Ave				South B St				South B St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	4	21	0	0	0	22	15	0	0	0	0	0	28	0	11	101	0
4:15 PM		0	7	14	0	0	0	23	16	0	0	1	0	0	19	0	3	83	0
4:30 PM		0	3	16	0	0	0	25	16	0	0	0	0	1	14	0	11	86	0
4:45 PM		0	6	12	0	0	0	15	16	0	0	0	0	0	15	0	6	70	340
5:00 PM		0	7	20	0	0	1	19	19	0	0	0	0	0	26	0	6	98	337
5:15 PM		0	5	29	0	0	0	25	16	0	0	0	0	0	30	0	3	108	362
5:30 PM		0	6	24	0	0	0	23	20	0	0	0	0	0	28	0	5	106	382
5:45 PM		0	6	25	0	0	0	21	23	0	0	0	0	0	20	0	7	102	414
Count Total		0	44	161	0	0	1	173	141	0	0	1	0	1	180	0	52	754	0
Peak Hour	All	0	24	98	0	0	1	88	78	0	0	0	0	0	104	0	21	414	0
	HV	0	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	7	0
	HV%	-	0%	2%	-	-	0%	6%	0%	-	-	-	-	-	0%	-	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

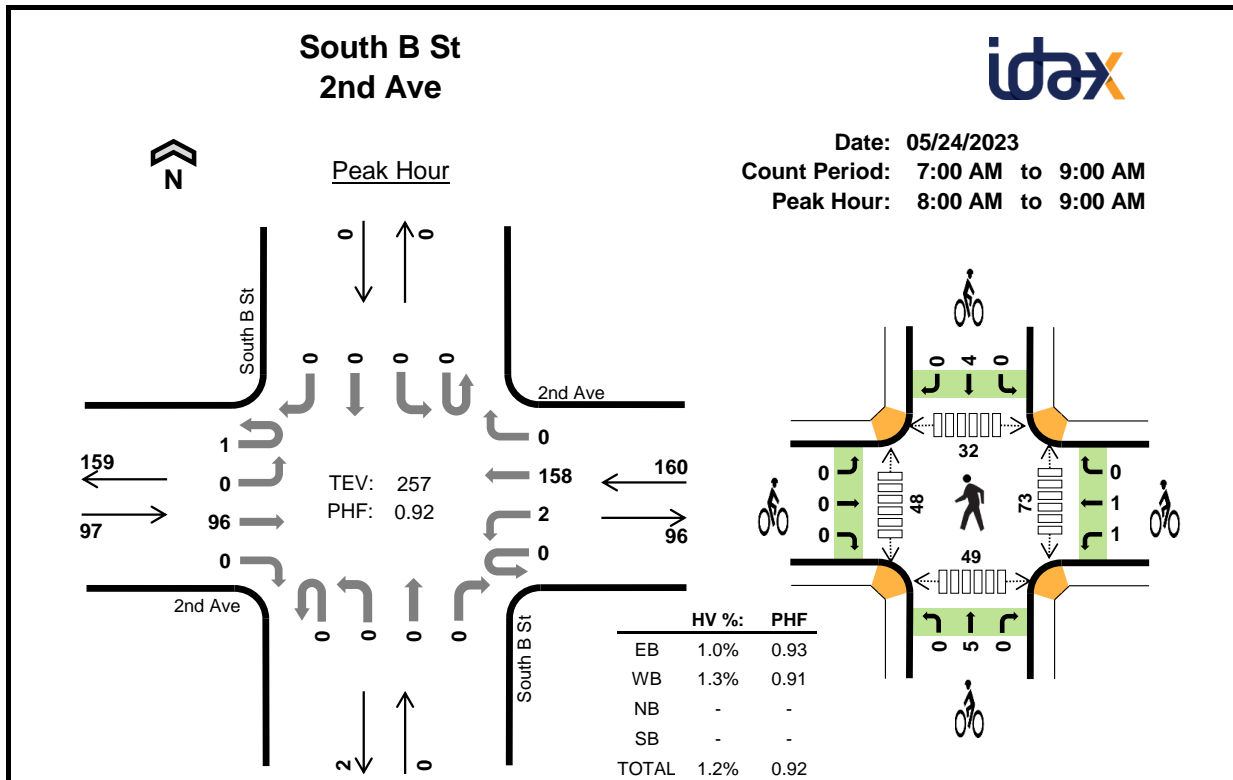
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	1	0	0	2	0	1	2	0	3	29	12	8	10	59
4:15 PM	2	1	0	1	4	1	1	3	0	5	34	36	7	6	83
4:30 PM	0	3	0	0	3	0	1	3	0	4	31	22	13	8	74
4:45 PM	0	1	0	0	1	0	1	1	0	2	52	34	14	12	112
5:00 PM	1	1	0	0	2	1	0	0	0	1	47	35	10	19	111
5:15 PM	0	2	0	0	2	1	0	0	2	3	45	45	10	16	116
5:30 PM	0	1	0	0	1	0	4	3	0	7	39	29	10	19	97
5:45 PM	1	1	0	0	2	0	0	3	0	3	36	38	11	18	103
Count Total	5	11	0	1	17	3	8	15	2	28	313	251	83	108	755
Peak Hour	2	5	0	0	7	2	4	6	2	14	167	147	41	72	427

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	1st Ave				1st Ave				South B St				South B St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	2	0	0	0	0	1	0	0	0	0	0	0	1	0	4	0
4:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	10
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	10
5:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	8
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6
5:45 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	7
Count Total	0	0	5	0	0	0	9	2	0	0	0	0	0	0	1	0	17	0
Peak Hour	0	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	7	0

Two-Hour Count Summaries - Bikes																		
Interval Start	1st Ave			1st Ave			South B St			South B St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	1	0	0	0	2	0	0	0	0	3	0				
4:15 PM	0	0	1	1	0	0	0	2	1	0	0	0	5	0				
4:30 PM	0	0	0	1	0	0	0	2	1	0	0	0	4	0				
4:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	2	14				
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	12				
5:15 PM	0	1	0	0	0	0	0	0	0	1	0	1	3	10				
5:30 PM	0	0	0	1	3	0	0	2	1	0	0	0	7	13				
5:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	3	14				
Count Total	0	2	1	5	3	0	0	12	3	1	0	1	28	0				
Peak Hour	0	2	0	1	3	0	0	5	1	1	0	1	14	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



**Two-Hour Count Summaries**

Interval Start	2nd Ave Eastbound				2nd Ave Westbound				South B St Northbound				South B St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	11	0	0	0	12	0	0	0	0	0	0	0	0	0	23	0
7:15 AM	0	0	14	0	0	0	23	0	0	0	0	0	0	0	0	0	37	0
7:30 AM	0	0	12	0	0	0	18	0	0	0	0	0	0	0	0	0	30	0
7:45 AM	1	0	16	0	0	0	47	0	0	0	0	0	0	0	0	0	64	154
8:00 AM	0	0	22	0	0	0	34	0	0	0	0	0	0	0	0	0	56	187
8:15 AM	0	0	26	0	0	0	42	0	0	0	0	0	0	0	0	0	68	218
8:30 AM	1	0	22	0	0	2	38	0	0	0	0	0	0	0	0	0	63	251
8:45 AM	0	0	26	0	0	0	44	0	0	0	0	0	0	0	0	0	70	257
Count Total	2	0	149	0	0	2	258	0	0	0	0	0	0	0	0	0	411	0
Peak Hour	All	1	0	96	0	0	2	158	0	0	0	0	0	0	0	0	257	0
	HV	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	3	0
	HV%	0%	-	1%	-	-	0%	1%	-	-	-	-	-	-	-	-	1%	0

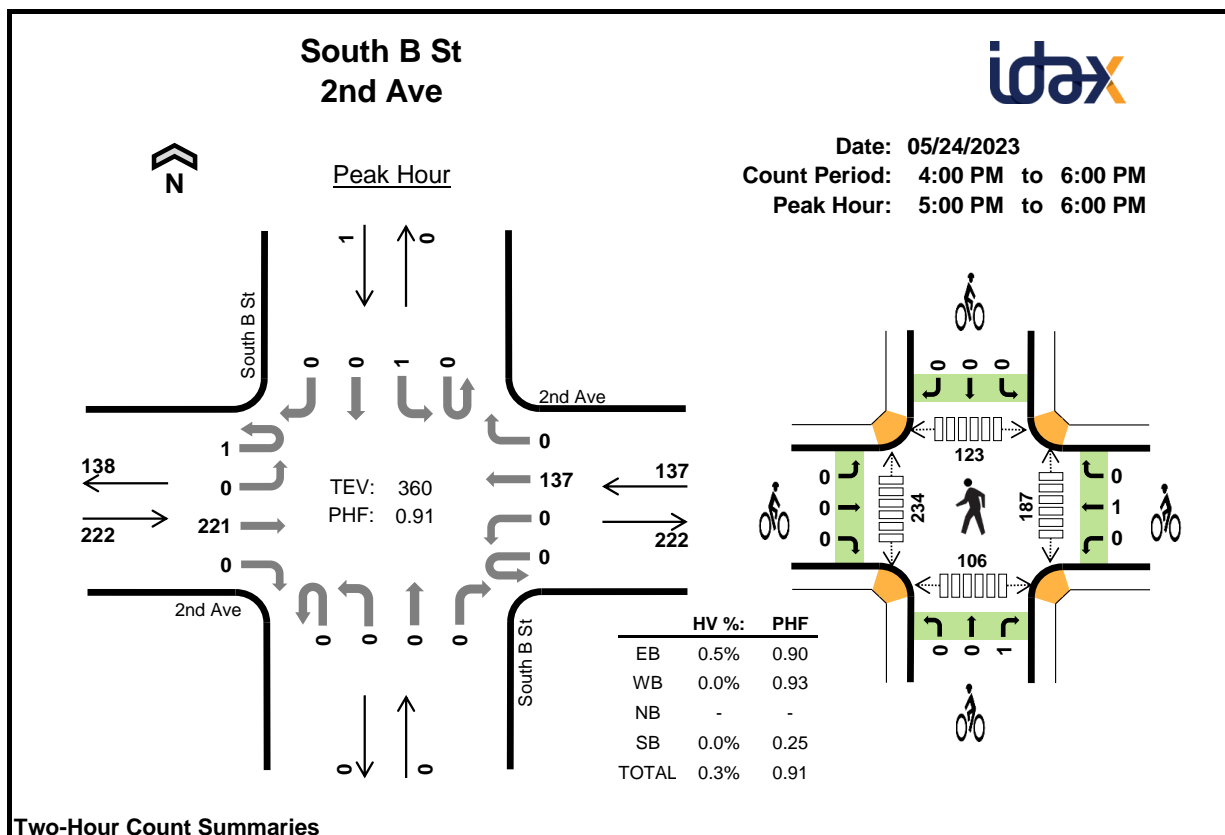
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	0	1	0	0	3	0	3	8	1	5	1	15
7:15 AM	0	1	0	0	1	0	0	1	0	1	12	6	3	5	26
7:30 AM	0	2	0	0	2	0	1	0	1	2	10	6	4	4	24
7:45 AM	0	0	0	0	0	0	0	0	1	1	16	13	10	13	52
8:00 AM	0	1	0	0	1	0	2	0	0	2	16	6	2	5	29
8:15 AM	0	0	0	0	0	0	0	0	1	1	26	10	9	14	59
8:30 AM	0	1	0	0	1	0	0	3	2	5	12	16	8	13	49
8:45 AM	1	0	0	0	1	0	0	2	1	3	19	16	13	17	65
Count Total	1	6	0	0	7	0	3	9	6	18	119	74	54	72	319
Peak Hour	1	2	0	0	3	0	2	5	4	11	73	48	32	49	202

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	2nd Ave				2nd Ave				South B St				South B St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	7	0
Peak Hour	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0

Two-Hour Count Summaries - Bikes																	
Interval Start	2nd Ave			2nd Ave			South B St			South B St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	1	2	0	0	0	0	3	0			
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0			
7:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	7			
8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	2	6			
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	6			
8:30 AM	0	0	0	0	0	0	0	3	0	0	2	0	5	9			
8:45 AM	0	0	0	0	0	0	0	2	0	0	1	0	3	11			
Count Total	0	0	0	1	2	0	1	8	0	0	6	0	18	0			
Peak Hour	0	0	0	1	1	0	0	5	0	0	4	0	11	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start	2nd Ave Eastbound				2nd Ave Westbound				South B St Northbound				South B St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	61	0	0	0	40	0	0	0	0	0	0	0	0	0	101	0
4:15 PM	1	0	50	0	1	0	36	0	0	0	0	0	0	0	0	0	88	0
4:30 PM	0	0	39	0	0	0	30	0	0	0	0	0	0	0	0	0	69	0
4:45 PM	0	0	50	0	0	0	30	0	0	0	0	0	0	0	0	0	80	338
5:00 PM	0	0	52	0	0	0	33	0	0	0	0	0	0	1	0	0	86	323
5:15 PM	0	0	62	0	0	0	37	0	0	0	0	0	0	0	0	0	99	334
5:30 PM	0	0	53	0	0	0	36	0	0	0	0	0	0	0	0	0	89	354
5:45 PM	1	0	54	0	0	0	31	0	0	0	0	0	0	0	0	0	86	360
Count Total	2	0	421	0	1	0	273	0	0	0	0	0	0	1	0	0	698	0
Peak Hour	All	1	0	221	0	0	0	137	0	0	0	0	0	1	0	0	360	0
	HV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	HV%	0%	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-	0%	0

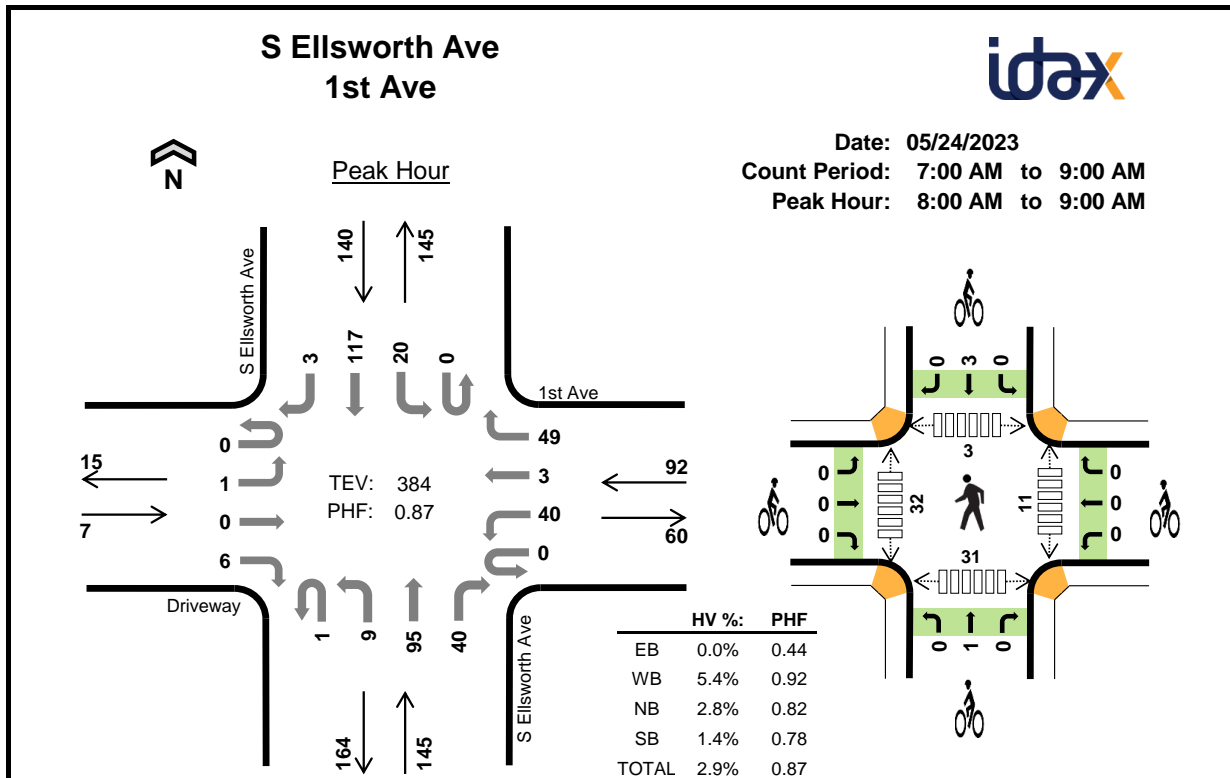
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	0	1	0	1	0	0	1	30	59	43	16	148
4:15 PM	0	1	0	0	1	0	0	0	0	0	24	79	23	19	145
4:30 PM	0	0	0	0	0	0	0	0	0	0	32	48	20	18	118
4:45 PM	0	0	0	0	0	1	0	0	0	1	50	64	29	21	164
5:00 PM	0	0	0	0	0	0	1	1	0	2	44	65	22	18	149
5:15 PM	0	0	0	0	0	0	0	0	0	0	45	56	34	26	161
5:30 PM	0	0	0	0	0	0	0	0	0	0	54	57	34	31	176
5:45 PM	1	0	0	0	1	0	0	0	0	0	44	56	33	31	164
Count Total	1	2	0	0	3	1	2	1	0	4	323	484	238	180	1,225
Peak Hour	1	0	0	0	1	0	1	1	0	2	187	234	123	106	650

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	2nd Ave				2nd Ave				South B St				South B St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Count Total	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

Two-Hour Count Summaries - Bikes																	
Interval Start	2nd Ave			2nd Ave			South B St			South B St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	2			
5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	2	3			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
Count Total	0	1	0	0	2	0	0	0	1	0	0	0	4	0			
Peak Hour	0	0	0	0	1	0	0	0	1	0	0	0	2	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		Driveway				1st Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	10	0	6	0	2	5	4	1	6	7	0	41	0
7:15 AM		0	1	0	1	0	12	1	6	1	0	4	6	0	8	8	0	48	0
7:30 AM		0	0	0	0	0	16	0	9	0	1	16	5	0	5	13	0	65	0
7:45 AM		0	0	0	1	0	12	1	4	0	2	18	3	0	5	33	0	79	233
8:00 AM		0	0	0	0	0	9	1	13	1	0	16	11	0	4	36	1	92	284
8:15 AM		0	1	0	3	0	13	0	12	0	2	19	10	0	2	24	0	86	322
8:30 AM		0	0	0	3	0	9	1	13	0	1	32	9	0	6	21	1	96	353
8:45 AM		0	0	0	0	0	9	1	11	0	6	28	10	0	8	36	1	110	384
Count Total		0	2	0	8	0	90	5	74	2	14	138	58	1	44	178	3	617	0
Peak Hour	All	0	1	0	6	0	40	3	49	1	9	95	40	0	20	117	3	384	0
	HV	0	0	0	0	0	2	0	3	0	0	1	3	0	0	2	0	11	0
	HV%	-	0%	-	0%	-	5%	0%	6%	0%	0%	1%	8%	-	0%	2%	0%	3%	0

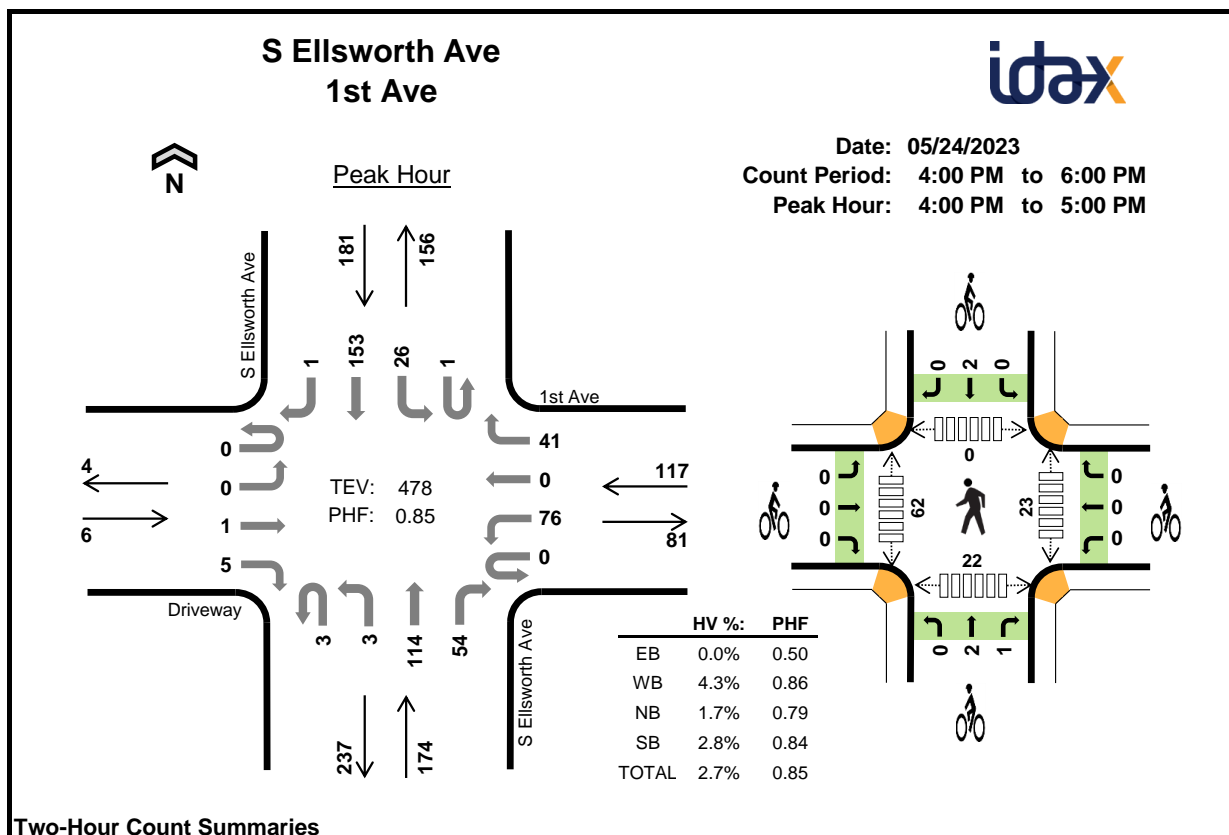
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	1	2	0	0	0	0	0	6	7	2	3	18
7:15 AM	0	1	2	1	4	0	0	0	0	0	1	3	1	3	8
7:30 AM	0	0	1	0	1	0	1	1	0	2	4	11	0	4	19
7:45 AM	0	1	0	0	1	0	1	0	0	1	5	6	0	6	17
8:00 AM	0	2	3	1	6	0	0	1	0	1	2	5	1	5	13
8:15 AM	0	1	0	0	1	0	0	0	0	0	1	9	2	13	25
8:30 AM	0	1	0	0	1	0	0	0	3	3	4	10	0	11	25
8:45 AM	0	1	1	1	3	0	0	0	0	0	4	8	0	2	14
Count Total	0	7	8	4	19	0	2	2	3	7	27	59	6	47	139
Peak Hour	0	5	4	2	11	0	0	1	3	4	11	32	3	31	77

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Driveway				1st Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	8
8:00 AM	0	0	0	0	0	1	0	1	0	0	1	2	0	0	1	0	6	12
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	9
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	9
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	3	11
Count Total	0	0	0	0	0	3	0	4	0	0	3	5	0	0	4	0	19	0
Peak Hour	0	0	0	0	0	2	0	3	0	0	1	3	0	0	2	0	11	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Driveway			1st Ave			S Ellsworth Ave			S Ellsworth Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	1	0	0	0	0	1	0	0	0	2	0				
7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	1	3				
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	4				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
8:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	5				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
Count Total	0	0	0	2	0	0	0	1	1	0	3	0	7	0				
Peak Hour	0	0	0	0	0	0	0	1	0	0	3	0	4	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



## Two-Hour Count Summaries

Interval Start		Driveway				1st Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	22	0	9	0	2	34	19	1	5	48	0	140	0
4:15 PM		0	0	1	2	0	17	0	10	2	1	30	9	0	8	38	0	118	0
4:30 PM		0	0	0	1	0	22	0	12	0	0	22	13	0	8	30	1	109	0
4:45 PM		0	0	0	2	0	15	0	10	1	0	28	13	0	5	37	0	111	478
5:00 PM		0	0	0	3	0	14	0	9	0	0	28	17	0	8	37	0	116	454
5:15 PM		0	1	2	1	0	14	1	13	0	0	24	24	0	11	37	0	128	464
5:30 PM		0	0	0	1	0	20	0	9	0	0	26	21	1	7	35	1	121	476
5:45 PM		0	1	1	2	0	14	0	12	0	0	28	22	0	8	23	0	111	476
Count Total		0	2	4	12	0	138	1	84	3	3	220	138	2	60	285	2	954	0
Peak Hour	All	0	0	1	5	0	76	0	41	3	3	114	54	1	26	153	1	478	0
	HV	0	0	0	0	0	2	0	3	1	0	1	1	0	2	3	0	13	0
	HV%	-	-	0%	0%	-	3%	-	7%	33%	0%	1%	2%	0%	8%	2%	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

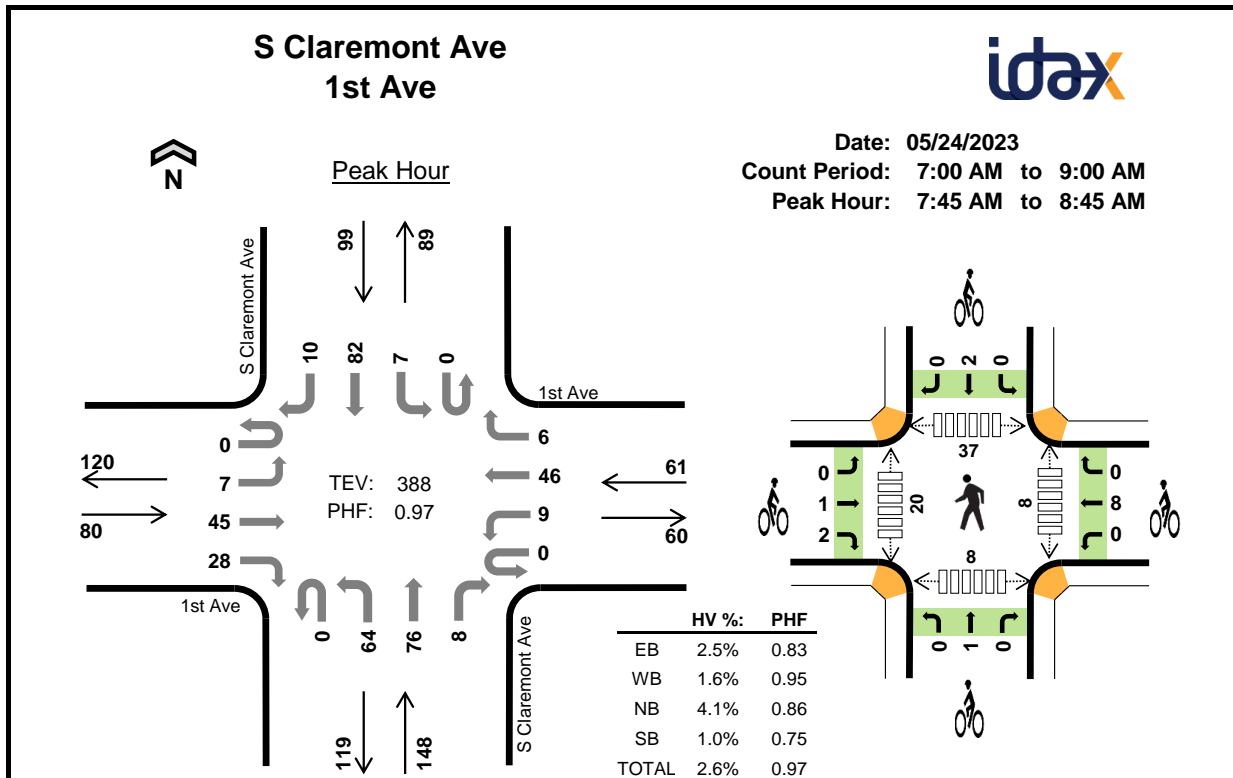
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	1	1	3	0	0	0	1	1	5	19	0	8	32
4:15 PM	0	1	1	2	4	0	0	2	0	2	3	13	0	2	18
4:30 PM	0	3	0	2	5	0	0	1	1	2	3	13	0	1	17
4:45 PM	0	0	1	0	1	0	0	0	0	0	12	17	0	11	40
5:00 PM	0	1	1	0	2	0	0	0	0	0	8	5	1	10	24
5:15 PM	0	2	0	0	2	0	1	1	0	2	9	11	1	13	34
5:30 PM	0	1	0	1	2	0	3	0	0	3	6	15	1	8	30
5:45 PM	0	1	1	0	2	0	0	0	2	2	25	6	2	2	35
Count Total	0	10	5	6	21	0	4	4	4	12	71	99	5	55	230
Peak Hour	0	5	3	5	13	0	0	3	2	5	23	62	0	22	107

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Driveway				1st Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	3	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	4	0
4:30 PM	0	0	0	0	0	1	0	2	0	0	0	0	0	0	2	0	5	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	13
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	12
5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	10
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	7
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	8
Count Total	0	0	0	0	0	3	0	7	1	0	1	3	0	2	4	0	21	0
Peak Hour	0	0	0	0	0	2	0	3	1	0	1	1	0	2	3	0	13	0

Two-Hour Count Summaries - Bikes																		
Interval Start	Driveway			1st Ave			S Ellsworth Ave			S Ellsworth Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0				
4:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	2	0				
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4				
5:15 PM	0	0	0	1	0	0	0	0	1	0	0	0	2	4				
5:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	3	5				
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	7				
Count Total	0	0	0	4	0	0	0	2	2	0	4	0	12	0				
Peak Hour	0	0	0	0	0	0	0	2	1	0	2	0	5	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



**Two-Hour Count Summaries**

Interval Start		1st Ave				1st Ave				S Claremont Ave				S Claremont Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	12	2	0	0	12	4	1	13	10	1	0	2	15	4	76	0
7:15 AM		0	1	9	10	0	0	9	2	0	7	7	2	0	0	15	6	68	0
7:30 AM		1	1	12	7	0	1	15	1	0	12	8	2	0	4	9	2	75	0
7:45 AM		0	1	8	4	0	3	9	2	0	16	12	4	0	1	28	4	92	311
8:00 AM		0	1	12	9	0	3	11	2	0	17	22	0	0	2	18	3	100	335
8:15 AM		0	2	12	7	0	1	14	1	0	15	18	1	0	0	25	1	97	364
8:30 AM		0	3	13	8	0	2	12	1	0	16	24	3	0	4	11	2	99	388
8:45 AM		0	3	17	8	0	1	19	3	1	12	17	4	0	1	5	1	92	388
Count Total		1	12	95	55	0	11	101	16	2	108	118	17	0	14	126	23	699	0
Peak Hour	All	0	7	45	28	0	9	46	6	0	64	76	8	0	7	82	10	388	0
	HV	0	0	1	1	0	0	1	0	0	5	1	0	0	1	0	0	10	0
	HV%	-	0%	2%	4%	-	0%	2%	0%	-	8%	1%	0%	-	14%	0%	0%	3%	0

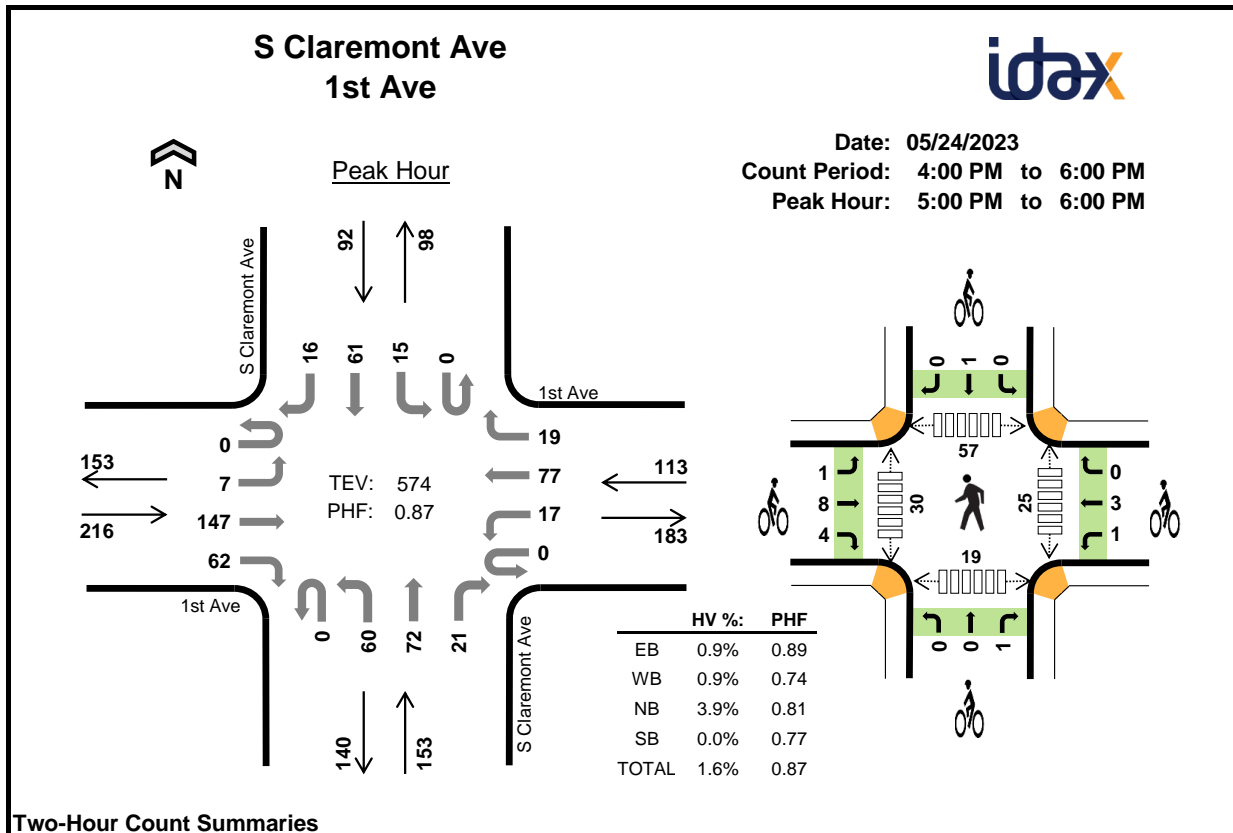
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	0	1	1	0	0	1	2	2	3	3	2	10
7:15 AM	0	0	1	1	2	1	1	3	0	5	2	4	9	2	17
7:30 AM	1	0	1	1	3	1	0	0	1	2	3	5	12	7	27
7:45 AM	0	0	3	0	3	0	2	0	1	3	2	10	7	0	19
8:00 AM	1	0	0	1	2	0	1	0	0	1	0	5	8	2	15
8:15 AM	1	1	1	0	3	0	1	0	1	2	4	2	11	0	17
8:30 AM	0	0	2	0	2	3	4	1	0	8	2	3	11	6	22
8:45 AM	2	1	2	0	5	0	2	2	1	5	0	8	8	6	22
Count Total	5	3	10	3	21	6	11	6	5	28	15	40	69	25	149
Peak Hour	2	1	6	1	10	3	8	1	2	14	8	20	37	8	73

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	1st Ave				1st Ave				S Claremont Ave				S Claremont Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0
7:30 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	3	0
7:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	9
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	10
8:15 AM	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	3	11
8:30 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	10
8:45 AM	0	0	2	0	0	0	1	0	0	2	0	0	0	0	0	0	5	12
Count Total	0	0	4	1	0	0	2	1	0	9	1	0	0	0	2	0	21	0
Peak Hour	0	0	1	1	0	0	1	0	0	5	1	0	0	0	1	0	10	0

Two-Hour Count Summaries - Bikes																	
Interval Start	1st Ave			1st Ave			S Claremont Ave			S Claremont Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	1	0	0	0	0	0	0	0	0	1	0	2	0			
7:15 AM	0	0	1	0	1	0	2	1	0	0	0	0	5	0			
7:30 AM	1	0	0	0	0	0	0	0	0	0	1	0	2	0			
7:45 AM	0	0	0	0	2	0	0	0	0	0	1	0	3	12			
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	11			
8:15 AM	0	0	0	0	1	0	0	0	0	0	1	0	2	8			
8:30 AM	0	1	2	0	4	0	0	1	0	0	0	0	8	14			
8:45 AM	0	0	0	0	2	0	2	0	0	0	0	1	5	16			
Count Total	1	2	3	0	11	0	4	2	0	0	4	1	28	0			
Peak Hour	0	1	2	0	8	0	0	1	0	0	2	0	14	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		1st Ave				1st Ave				S Claremont Ave				S Claremont Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
	4:00 PM	0	3	32	33	0	7	19	3	0	10	26	2	0	3	14	3	155	0
	4:15 PM	0	3	28	17	0	3	26	0	0	17	19	4	0	3	14	2	136	0
	4:30 PM	0	0	29	11	0	4	17	4	0	10	22	7	0	2	18	2	126	0
	4:45 PM	0	1	21	18	0	1	14	1	0	13	10	2	0	3	19	3	106	523
	5:00 PM	0	1	41	19	0	3	12	5	0	15	16	6	0	6	14	4	142	510
	5:15 PM	0	0	43	18	0	8	21	9	0	21	21	5	0	2	11	6	165	539
	5:30 PM	0	2	24	17	0	2	24	4	0	14	21	2	0	3	24	3	140	553
	5:45 PM	0	4	39	8	0	4	20	1	0	10	14	8	0	4	12	3	127	574
Count Total		0	14	257	141	0	32	153	27	0	110	149	36	0	26	126	26	1,097	0
Peak Hour	All	0	7	147	62	0	17	77	19	0	60	72	21	0	15	61	16	574	0
	HV	0	0	1	1	0	0	1	0	0	5	0	1	0	0	0	0	9	0
	HV%	-	0%	1%	2%	-	0%	1%	0%	-	8%	0%	5%	-	0%	0%	0%	2%	0

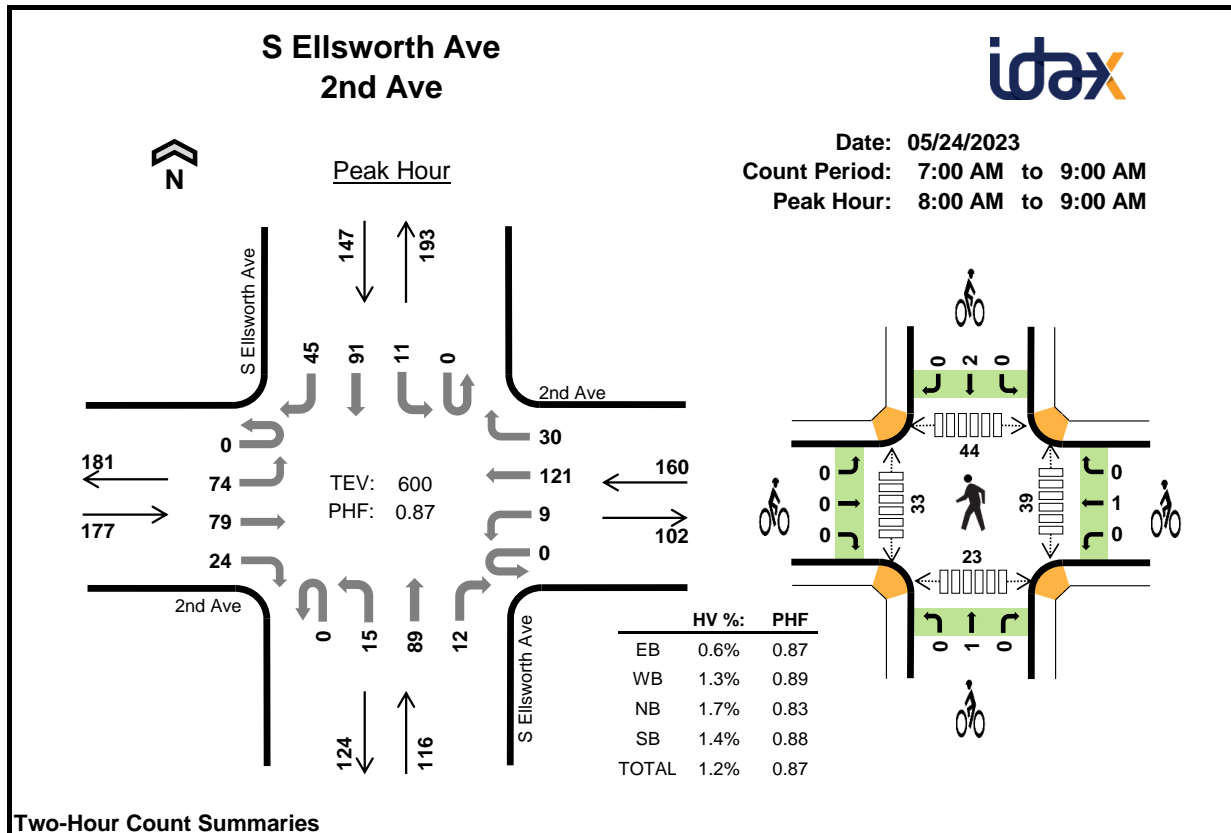
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	2	0	4	1	1	0	0	2	0	6	11	1	18
4:15 PM	0	1	0	0	1	0	0	1	0	1	3	7	9	2	21
4:30 PM	1	0	2	0	3	3	1	0	0	4	14	2	11	1	28
4:45 PM	0	0	0	0	0	1	0	1	0	2	3	3	9	10	25
5:00 PM	1	0	1	0	2	6	0	1	1	8	4	6	15	4	29
5:15 PM	0	0	2	0	2	1	2	0	0	3	3	8	11	5	27
5:30 PM	0	0	1	0	1	6	0	0	0	6	8	10	19	5	42
5:45 PM	1	1	2	0	4	0	2	0	0	2	10	6	12	5	33
Count Total	5	2	10	0	17	18	6	3	1	28	45	48	97	33	223
Peak Hour	2	1	6	0	9	13	4	1	1	19	25	30	57	19	131

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	1st Ave				1st Ave				S Claremont Ave				S Claremont Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0	0	4	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:00 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	6
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	7
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	5
5:45 PM	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	4	9
Count Total	0	0	2	3	0	0	2	0	0	8	1	1	0	0	0	0	17	0
Peak Hour	0	0	1	1	0	0	1	0	0	5	0	1	0	0	0	0	9	0

Two-Hour Count Summaries - Bikes																		
Interval Start	1st Ave			1st Ave			S Claremont Ave			S Claremont Ave			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0				
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0				
4:30 PM	0	3	0	1	0	0	0	0	0	0	0	0	4	0				
4:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	2	9				
5:00 PM	1	4	1	0	0	0	0	0	1	0	1	0	8	15				
5:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3	17				
5:30 PM	0	3	3	0	0	0	0	0	0	0	0	0	6	19				
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	2	19				
Count Total	1	13	4	2	4	0	1	1	1	0	1	0	28	0				
Peak Hour	1	8	4	1	3	0	0	0	1	0	1	0	19	0				

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		2nd Ave				2nd Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	10	8	3	0	0	10	1	0	1	7	2	0	0	8	7	57	0
7:15 AM		0	9	9	4	0	2	13	5	0	3	3	6	0	0	11	9	74	0
7:30 AM		0	17	11	2	0	4	15	1	0	3	12	0	0	1	19	9	94	0
7:45 AM		0	14	14	4	0	2	37	7	0	3	12	2	0	1	22	19	137	362
8:00 AM		0	12	18	4	0	5	22	9	0	3	17	1	0	2	25	15	133	438
8:15 AM		0	16	23	7	0	1	32	5	0	3	19	5	0	0	19	18	148	512
8:30 AM		0	25	16	5	0	0	31	10	0	3	26	4	0	3	20	3	146	564
8:45 AM		0	21	22	8	0	3	36	6	0	6	27	2	0	6	27	9	173	600
Count Total		0	124	121	37	0	17	196	44	0	25	123	22	0	13	151	89	962	0
Peak Hour	All	0	74	79	24	0	9	121	30	0	15	89	12	0	11	91	45	600	0
	HV	0	1	0	0	0	0	2	0	0	0	2	0	0	1	1	0	7	0
	HV%	-	1%	0%	0%	-	0%	2%	0%	-	0%	2%	0%	-	9%	1%	0%	1%	0

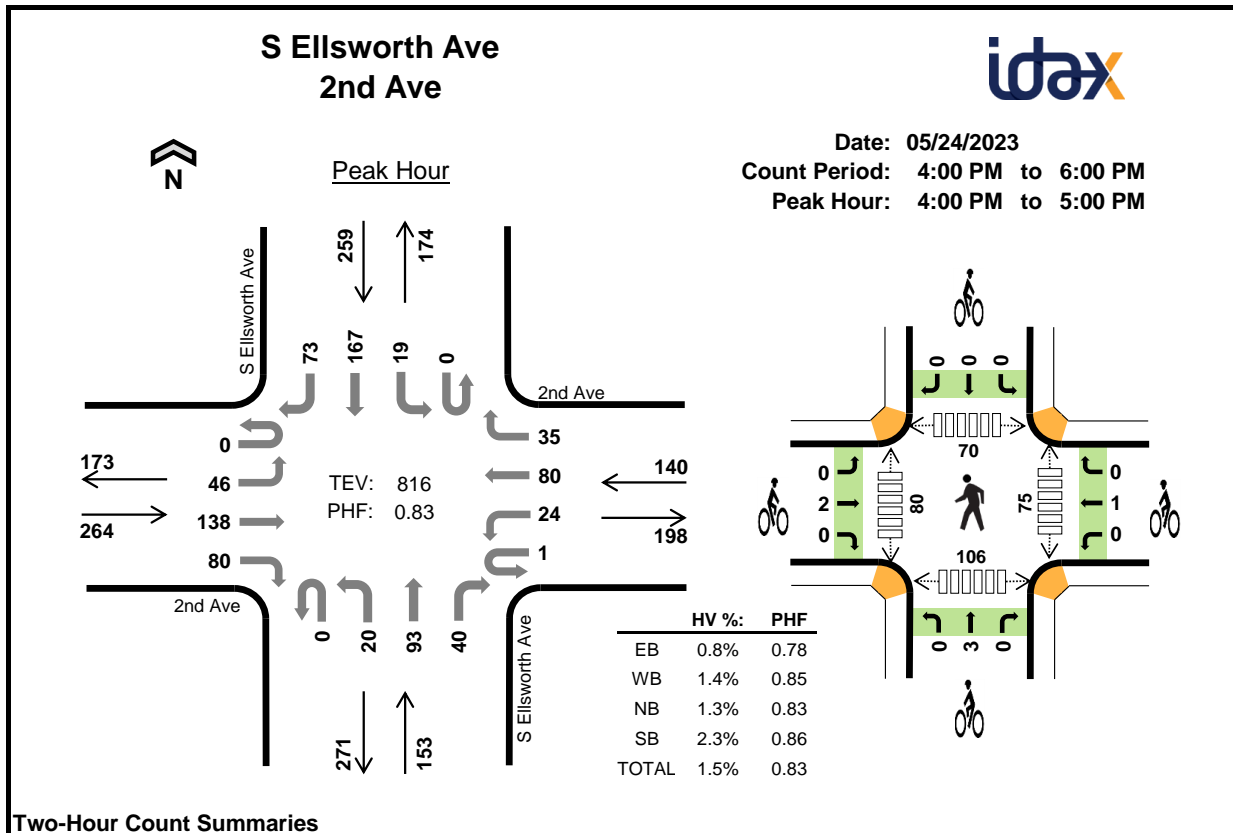
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	1	1	3	0	1	0	0	1	4	3	6	3	16
7:15 AM	1	1	1	1	4	0	0	0	1	1	6	3	6	3	18
7:30 AM	0	2	0	0	2	0	0	1	1	2	5	11	8	5	29
7:45 AM	0	0	0	1	1	1	1	1	1	4	4	3	9	6	22
8:00 AM	1	1	2	1	5	0	1	1	0	2	2	6	5	4	17
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	11	11	3	27
8:30 AM	0	1	0	0	1	0	0	0	2	2	16	9	9	8	42
8:45 AM	0	0	0	1	1	0	0	0	0	0	19	7	19	8	53
Count Total	2	6	4	5	17	1	3	3	5	12	58	53	73	40	224
Peak Hour	1	2	2	2	7	0	1	1	2	4	39	33	44	23	139

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	2nd Ave				2nd Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	3	0
7:15 AM	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	4	0
7:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	10
8:00 AM	0	1	0	0	0	0	1	0	0	0	2	0	0	0	1	0	5	12
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7
Count Total	0	2	0	0	0	1	4	1	0	0	4	0	0	1	3	1	17	0
Peak Hour	0	1	0	0	0	0	2	0	0	0	2	0	0	1	1	0	7	0

Two-Hour Count Summaries - Bikes																	
Interval Start	2nd Ave			2nd Ave			S Ellsworth Ave			S Ellsworth Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0			
7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0			
7:45 AM	0	1	0	0	1	0	0	1	0	0	1	0	4	8			
8:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	2	9			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	8			
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	8			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
Count Total	0	1	0	0	3	0	0	3	0	0	4	1	12	0			
Peak Hour	0	0	0	0	1	0	0	1	0	0	2	0	4	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

Interval Start		2nd Ave				2nd Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	14	48	23	0	4	29	8	0	7	30	8	0	5	46	24	246	0
4:15 PM		0	7	36	18	0	6	20	15	0	3	20	8	0	5	39	18	195	0
4:30 PM		0	13	26	25	1	5	11	4	0	4	19	8	0	3	43	17	179	0
4:45 PM		0	12	28	14	0	9	20	8	0	6	24	16	0	6	39	14	196	816
5:00 PM		0	10	42	8	0	4	20	7	0	3	19	3	0	7	44	12	179	749
5:15 PM		0	17	49	8	0	12	19	8	0	3	21	9	0	4	49	15	214	768
5:30 PM		0	16	37	9	0	5	19	12	0	4	21	12	1	6	39	15	196	785
5:45 PM		0	18	38	14	0	10	14	6	0	5	22	12	0	3	23	13	178	767
Count Total		0	107	304	119	1	55	152	68	0	35	176	76	1	39	322	128	1,583	0
Peak Hour	All	0	46	138	80	1	24	80	35	0	20	93	40	0	19	167	73	816	0
	HV	0	2	0	0	0	0	0	2	0	1	1	0	0	0	3	3	12	0
	HV%	-	4%	0%	0%	0%	0%	0%	6%	-	5%	1%	0%	-	0%	2%	4%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

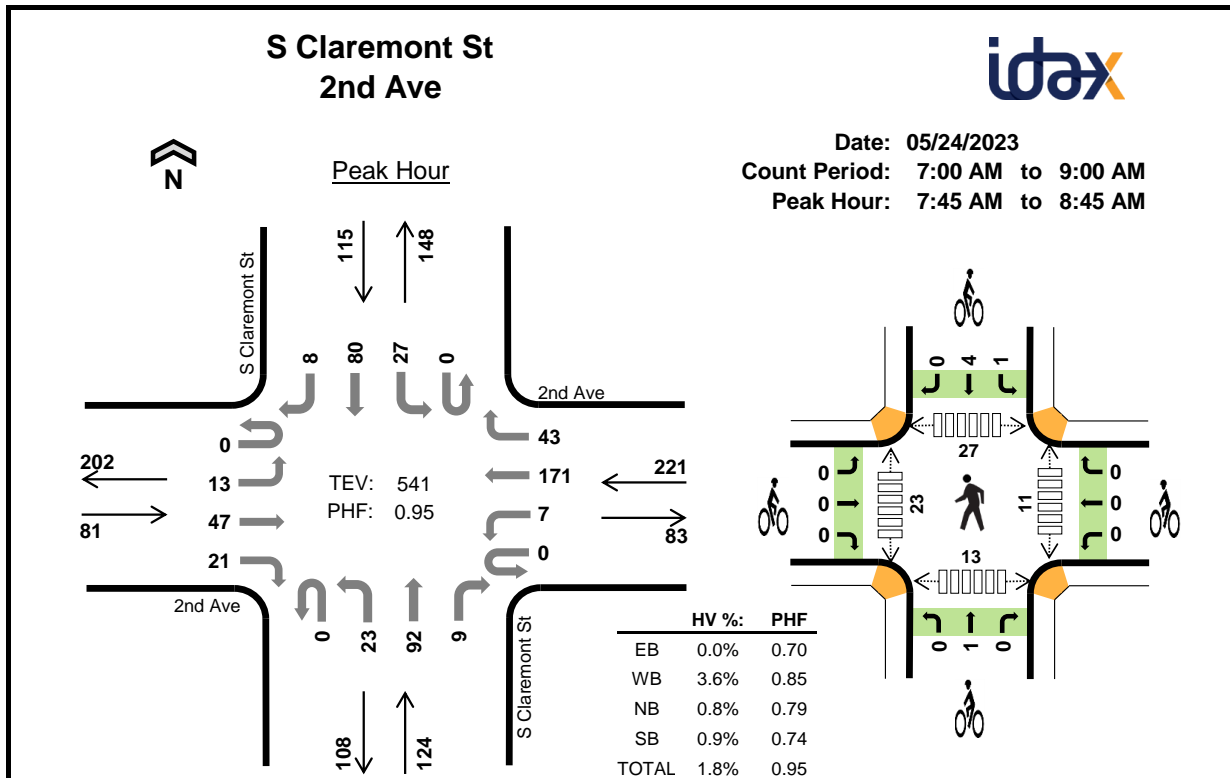
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	1	0	0	1	9	22	13	26	70
4:15 PM	0	2	1	2	5	1	0	3	0	4	15	14	9	19	57
4:30 PM	0	0	0	3	3	0	0	0	0	0	15	11	13	25	64
4:45 PM	1	0	1	1	3	1	0	0	0	1	36	33	35	36	140
5:00 PM	0	0	0	0	0	0	0	0	0	0	16	17	18	32	83
5:15 PM	0	0	0	0	0	0	0	0	1	1	15	18	18	28	79
5:30 PM	1	0	1	2	4	1	0	0	3	4	25	15	15	28	83
5:45 PM	1	0	1	1	3	0	0	0	2	2	30	9	17	31	87
Count Total	4	2	4	9	19	3	1	3	6	13	161	139	138	225	663
Peak Hour	2	2	2	6	12	2	1	3	0	6	75	80	70	106	331

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	2nd Ave				2nd Ave				S Ellsworth Ave				S Ellsworth Ave				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
4:15 PM	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	2	0	5	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3	12
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:30 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	4	7
5:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3	7
Count Total	0	3	0	1	0	0	0	2	0	1	3	0	0	1	3	5		19	0
Peak Hour	0	2	0	0	0	0	0	2	0	1	1	0	0	0	3	3		12	0

Two-Hour Count Summaries - Bikes																	
Interval Start	2nd Ave			2nd Ave			S Ellsworth Ave			S Ellsworth Ave			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
4:15 PM	0	1	0	0	0	0	0	3	0	0	0	0	4	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	6			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	2			
5:30 PM	0	1	0	0	0	0	0	0	0	0	2	1	4	6			
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	7			
Count Total	0	3	0	0	1	0	0	3	0	0	5	1	13	0			
Peak Hour	0	2	0	0	1	0	0	3	0	0	0	0	6	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



**Two-Hour Count Summaries**

Interval Start		2nd Ave				2nd Ave				S Claremont St				S Claremont St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	1	3	5	0	3	13	8	0	3	13	1	0	8	11	0	69	0
7:15 AM		0	1	4	1	0	1	26	8	0	3	6	0	0	7	17	2	76	0
7:30 AM		0	5	5	1	0	3	16	12	0	3	10	1	0	4	11	2	73	0
7:45 AM		0	2	8	2	0	3	44	12	0	7	16	1	0	9	28	2	134	352
8:00 AM		0	2	17	10	0	1	38	8	0	3	28	0	0	5	15	1	128	411
8:15 AM		0	5	12	2	0	0	44	6	0	8	26	5	0	8	24	2	142	477
8:30 AM		0	4	10	7	0	3	45	17	0	5	22	3	0	5	13	3	137	541
8:45 AM		0	4	9	5	0	2	54	14	0	4	16	2	0	4	12	2	128	535
Count Total		0	24	68	33	0	16	280	85	0	36	137	13	0	50	131	14	887	0
Peak Hour	All	0	13	47	21	0	7	171	43	0	23	92	9	0	27	80	8	541	0
	HV	0	0	0	0	0	1	2	5	0	0	1	0	0	0	1	0	10	0
	HV%	-	0%	0%	0%	-	14%	1%	12%	-	0%	1%	0%	-	0%	1%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	1	1	5	5	6	0	16
7:15 AM	0	2	0	0	2	0	1	2	1	4	5	3	3	7	18
7:30 AM	0	2	1	0	3	0	1	0	0	1	4	0	5	1	10
7:45 AM	0	4	0	0	4	0	0	0	1	1	5	4	9	5	23
8:00 AM	0	1	0	1	2	0	0	0	0	0	0	10	6	2	18
8:15 AM	0	0	1	0	1	0	0	0	1	1	4	2	5	4	15
8:30 AM	0	3	0	0	3	0	0	1	3	4	2	7	7	2	18
8:45 AM	1	4	0	0	5	0	0	2	0	2	1	3	9	5	18
Count Total	1	16	3	1	21	0	2	5	7	14	26	34	50	26	136
Peak Hour	0	8	1	1	10	0	0	1	5	6	11	23	27	13	74

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	2nd Ave				2nd Ave				S Claremont St				S Claremont St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3	0
7:45 AM	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	4	10
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	11
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	10
8:30 AM	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	10
8:45 AM	0	0	1	0	0	2	0	2	0	0	0	0	0	0	0	0	0	5	11
Count Total	0	0	1	0	0	4	3	9	0	2	1	0	0	0	1	0	0	21	0
Peak Hour	0	0	0	0	0	1	2	5	0	0	1	0	0	0	1	0	0	10	0

Two-Hour Count Summaries - Bikes																	
Interval Start	2nd Ave			2nd Ave			S Claremont St			S Claremont St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0			
7:15 AM	0	0	0	0	0	1	0	2	0	1	0	0	4	0			
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	7			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6			
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	3			
8:30 AM	0	0	0	0	0	0	0	1	0	0	3	0	4	6			
8:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2	7			
Count Total	0	0	0	0	1	1	0	5	0	2	5	0	14	0			
Peak Hour	0	0	0	0	0	0	0	1	0	1	4	0	6	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

## S Claremont St 2nd Ave

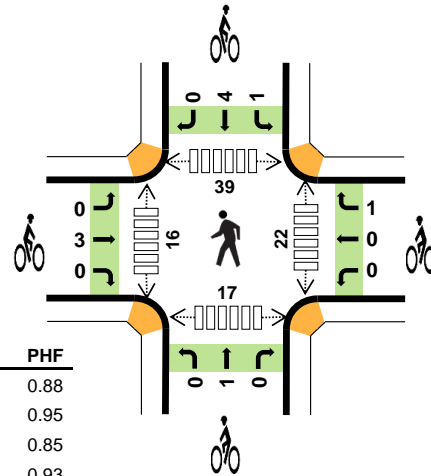
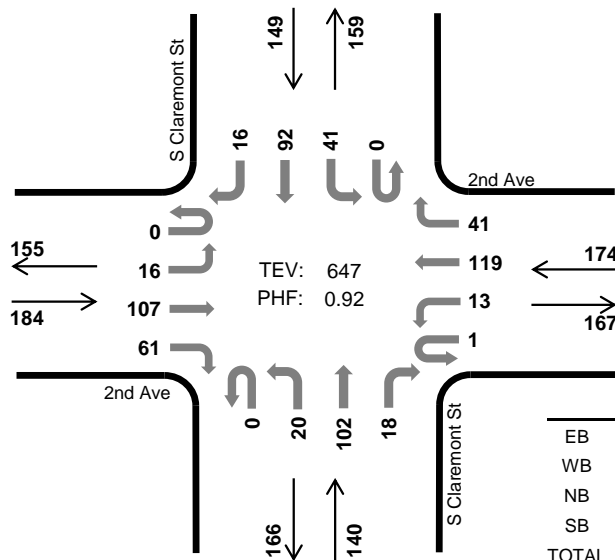


Peak Hour

Date: 05/24/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.0%	0.88
WB	2.3%	0.95
NB	0.0%	0.85
SB	0.0%	0.93
TOTAL	0.6%	0.92

### Two-Hour Count Summaries

Interval Start		2nd Ave				2nd Ave				S Claremont St				S Claremont St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	41	12	0	2	22	17	0	9	24	6	0	11	37	7	190	0
4:15 PM		0	3	23	14	0	3	29	14	0	7	24	0	0	12	18	1	148	0
4:30 PM		0	0	19	9	0	0	29	9	0	5	23	4	0	9	21	3	131	0
4:45 PM		0	2	21	21	1	5	29	7	0	3	22	3	0	9	24	4	151	620
5:00 PM		0	3	28	13	0	5	32	9	0	4	25	7	0	11	23	2	162	592
5:15 PM		0	3	37	12	0	1	31	14	0	7	31	3	0	11	22	3	175	619
5:30 PM		0	8	21	15	0	2	27	11	0	6	24	5	0	10	23	7	159	647
5:45 PM		0	3	14	15	0	4	35	11	0	2	21	3	0	7	15	2	132	628
Count Total		0	24	204	111	1	22	234	92	0	43	194	31	0	80	183	29	1,248	0
Peak Hour	All	0	16	107	61	1	13	119	41	0	20	102	18	0	41	92	16	647	0
	HV	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0
	HV%	-	0%	0%	0%	0%	0%	0%	10%	-	0%	0%	0%	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	3	1	2	6	0	1	0	0	1	1	2	9	6	18
4:15 PM	0	1	0	0	1	1	0	2	1	4	8	3	8	6	25
4:30 PM	0	1	0	1	2	0	0	1	1	2	6	0	13	3	22
4:45 PM	0	0	0	0	0	1	1	0	0	2	5	6	6	5	22
5:00 PM	0	1	0	0	1	1	0	1	2	4	5	5	8	4	22
5:15 PM	0	2	0	0	2	0	0	0	0	0	2	3	15	4	24
5:30 PM	0	1	0	0	1	1	0	0	3	4	10	2	10	4	26
5:45 PM	0	1	1	1	3	0	1	1	1	3	6	3	5	2	16
Count Total	0	10	2	4	16	4	3	5	8	20	43	24	74	34	175
Peak Hour	0	4	0	0	4	3	1	1	5	10	22	16	39	17	94

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	2nd Ave				2nd Ave				S Claremont St				S Claremont St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	1	1	6	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	5
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	3	7
Count Total	0	0	0	0	0	0	1	9	0	0	1	1	0	0	2	2	16	0
Peak Hour	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0

Two-Hour Count Summaries - Bikes																	
Interval Start	2nd Ave			2nd Ave			S Claremont St			S Claremont St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0			
4:15 PM	0	1	0	0	0	0	0	2	0	0	1	0	4	0			
4:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0			
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	2	9			
5:00 PM	0	1	0	0	0	0	0	1	0	0	2	0	4	12			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	8			
5:30 PM	0	1	0	0	0	0	0	0	0	1	2	0	4	10			
5:45 PM	0	0	0	0	1	0	1	0	0	0	1	0	3	11			
Count Total	0	4	0	0	2	1	1	4	0	1	7	0	20	0			
Peak Hour	0	3	0	0	0	1	0	1	0	1	4	0	10	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Location:** 2  
**Date Range:** 5/24/2023 - 5/24/2023  
**Site Code:** 1st Ave, East of S B St

Time	Wednesday		
	5/24/2023		
	EB	WB	Total
12:00 AM	6	9	15
1:00 AM	3	0	3
2:00 AM	4	0	4
3:00 AM	1	2	3
4:00 AM	5	11	16
5:00 AM	7	17	24
6:00 AM	40	47	87
7:00 AM	69	99	168
8:00 AM	101	111	212
9:00 AM	104	116	220
10:00 AM	91	103	194
11:00 AM	126	110	236
12:00 PM	174	130	304
1:00 PM	147	148	295
2:00 PM	153	123	276
3:00 PM	138	118	256
4:00 PM	141	152	293
5:00 PM	206	171	377
6:00 PM	188	177	365
7:00 PM	191	178	369
8:00 PM	123	121	244
9:00 PM	84	76	160
10:00 PM	62	54	116
11:00 PM	31	17	48
<b>Total</b>	<b>2,195</b>	<b>2,090</b>	<b>4,285</b>
<b>Percent</b>	<b>51%</b>	<b>49%</b>	-

1. Mid-week average includes data between Tuesday and Thursday.

Location: 1  
 Date Range: 5/24/2023 - 5/24/2023  
 Site Code: S B St, North of 1st Ave

Time	Wednesday		
	5/24/2023		
	NB	SB	Total
12:00 AM	5	4	9
1:00 AM	3	5	8
2:00 AM	1	5	6
3:00 AM	1	2	3
4:00 AM	9	2	11
5:00 AM	12	8	20
6:00 AM	23	28	51
7:00 AM	56	59	115
8:00 AM	47	64	111
9:00 AM	62	76	138
10:00 AM	60	86	146
11:00 AM	87	94	181
12:00 PM	101	135	236
1:00 PM	101	112	213
2:00 PM	76	133	209
3:00 PM	78	105	183
4:00 PM	90	108	198
5:00 PM	107	127	234
6:00 PM	137	159	296
7:00 PM	141	170	311
8:00 PM	79	107	186
9:00 PM	49	68	117
10:00 PM	28	57	85
11:00 PM	12	27	39
<b>Total</b>	<b>1,365</b>	<b>1,741</b>	<b>3,106</b>
<b>Percent</b>	<b>44%</b>	<b>56%</b>	-

1. Mid-week average includes data between Tuesday and Thursday.

## Intersection Operations Summary

Intersection	Control Type	LOS Threshold	Peak Period	Existing		Opening Year		Opening Year Plus Project		Cumulative		Cumulative Plus Project	
				Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS
Balwin Avenue and South B Street	All Way Stop	E	AM	8	A	8	A	8	A	8	A	8	A
			PM	8	A	8	A	8	A	9	A	9	A
1 <sup>st</sup> Avenue and South B Street	Signalized	Mid-D (45 Secs)	AM	11	B	11	B	11	B	12	B	12	B
			PM	13	B	13	B	13	B	14	B	14	B
1 <sup>st</sup> Avenue and South Claremont Street	All Way Stop	E	AM	8	A	8	A	8	A	9	A	9	A
			PM	10	A	10	A	10	A	13	B	13	B
2 <sup>nd</sup> Avenue and South Ellsworth Avenue	Signalized	Mid-D (45 Secs)	AM	16	B	16	B	16	B	18	B	18	B
			PM	18	B	18	B	19	B	26	C	26	C
2 <sup>nd</sup> Avenue and South Claremont Street	All Way Stop	E	AM	9	A	9	A	9	A	11	B	12	B
			PM	10	A	10	A	10	A	14	B	14	B

Note: Intersections with unacceptable operations are **bolded**

Source: Fehr & Peers, 2023

